



**A CRITIQUE OF FOOD EDUCATION IN IRISH PRIMARY  
SCHOOLS:  
EXPLORING THE POTENTIAL TO INTRODUCE KEY  
ELEMENTS OF INTERNATIONAL MODELS TO THE IRISH  
CONTEXT**

*by*

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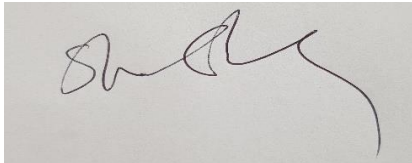
**Date of Submission:**

**28<sup>th</sup> August 2020**

## DECLARATION OF ORIGINALITY

I declare that this dissertation is the result of my own independent work. Where material other than my own has been used, it is appropriately acknowledged and referenced in the text.

Signed

A rectangular box containing a handwritten signature in black ink. The signature is cursive and appears to read 'Shane Sheedy'.

Shane Sheedy

Date 28/08/2020

## **ABSTRACT**

This study aims to explore the possibility of Irish primary schools introducing key elements of international food education models to the primary school curriculum in a bid to developing positive healthy eating behaviours in Irish primary school pupils and to contribute to lowering childhood obesity figures in Ireland. The objectives are to examine the policies on food education in Irish primary schools; to evaluate the school policies and teachers' perspectives on food education in Galway city and county and to assess the possibility of drawing on particular international models to enhance Irish food education. Whilst there have been previous studies on international models being introduced into the Irish context, examining the health promoting schools' initiative and the Food Dudes Healthy Eating programme separately, the researcher has identified a gap in the literature; this study seeks to discover the current position of food education in Irish primary schools' and to determine if key practices of three international models, the Finnish School Meal System, the Japanese School Lunch Program, and the Stephanie Alexander Kitchen Garden Project, would benefit food education in Irish primary schools.

An interpretivist paradigm was taken for this study. The research choice is mixed methods, taking a broadly qualitative approach with elements of quantitative data. The research strategy used to identify the current position of food education in Irish primary schools was a survey. An online questionnaire and web-based documentary analysis were chosen as the research instruments.

The main findings suggest that whilst there has been some success with food education initiatives in Irish primary schools, there are a myriad of challenges to implementing food education successfully, including insufficient time, resources, funding, and experience. What is set out in theory is not followed through in practice. Recommendations going forward include the designation of food education as a specific mandatory subject in the primary school curriculum; a larger scale study to identify the best practices of the Stephanie Alexander Kitchen Garden Project when developing the Irish primary school food education programme; and increased funding for food education.

**KEYWORDS:** Food Education, Healthy Eating, Irish Primary Schools'

## **DEDICATION**

To my wife, for her endless support and love, and to my son, for making me smile every day.

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## **LIST OF ABBREVIATIONS**

DES – Department of Education and Skills

ENHPS – European Network for Health Promoting Schools

FDHEP – Food Dudes Healthy Eating Programme

FDQED – Food Dudes Quick Eating Diaries

FSMS – Finnish School Meal System

GMIT – Galway Mayo Institute of Technology

HPS – Health Promoting School

JSLP – Japanese School Lunch Program

PDST – Personal Development Service for Teachers

SAKGP – Stephanie Alexander Kitchen Garden Project

SPHE – Social, Personal and Health Education

UCD - University College Dublin

WHO – World Health Organisation



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# CHAPTER ONE: INTRODUCTION

## 1.1 CONTEXT

This research aims to contribute towards healthy eating and combating childhood obesity in primary school pupils by providing a critique of food education in Irish primary schools and exploring the potential to introduce key elements of international models into the Irish context. A study by the National Nutrition Surveillance Centre, UCD, reported that childhood obesity levels in Ireland are stabilising, at least one child in five in Ireland is overweight or obese (Bel-Serrat, et al., 2015). This is a major concern that could have significant impacts on these children later in life if not tackled immediately. Marcella Corcoran-Kennedy, Minister of State for Health Promotion, has asserted 'the unfortunate truth is that we are on course to become the most obese nation in Europe, unless we take action now. Tackling childhood obesity is a key priority' (Ireland, HSE, 2017, Sec. 2).

Food education has been variously described. Benne (2014) interprets 'food literacy' as an objective of food education, suggesting that it is aimed at self-efficacy and empowerment in relation to food and nutrition. Contento et. al., (1995, p. 3) define 'nutrition education' as 'any set of learning experiences designed to facilitate the voluntary adoption of eating and other nutrition-related behaviours conducive to health and well-being'. Piscopo (2019) suggests that 'nutrition education' has a comprehensive vision including environmental supports and pedagogical strategies to promote embracing healthier, sustainable food choices and eating patterns. For this research study, the researcher has defined 'food education' as an experiential pedagogical learning experience to facilitate the education of nutrition and healthy eating behaviours.

The researcher is a lecturer in Culinary Arts in Athlone Institute of Technology and has a strong interest in food education in Irish primary schools. He has completed a Bachelor of Business in Culinary Arts, a Bachelor of Arts in Hotel Management and a Postgraduate Diploma in Teaching and Learning. In conjunction with this, the researcher has had many past experiences of developing and teaching food education workshops to children and adolescents that connect him to this research study.

The first food education initiative in Irish primary schools was launched in 1993 (Ireland, Dáil debates, 1993, June 1). This developed as a result of recommendations that emerged at an international conference on health education and cancer prevention in Schools held in Dublin in 1990 (Ireland, Dáil debates, 1993, June 1). The recommendations linked with how schools could support and encourage pupils to adopt a healthy lifestyle. In 1991, a national conference was held on the same topic where additional recommendations were made in relation to health promotion in schools. In response to this, Health and Education Departments collaborated and in 1993, Ireland became involved with the European Network for Health Promoting Schools (ENHPS), which led to a pilot phase of the Health Promoting School (HPS) initiative being introduced to forty Irish school's (twenty primary and twenty post primary) between 1993 – 1997 (Nic Gabhainn, O'Higgins, & Barry, 2010).

In 1999, Social, Personal & Health Education (SPHE) was introduced to the primary school curriculum (Ireland, SPHE, 1999). SPHE focuses on the personal development, health, and wellbeing of children and includes a syllabus to support a whole school approach to health promotion (Nic Gabhainn, O'Higgins, & Barry, 2010). Micheál Martin, then Minister for Health and Children suggested that

The primary school setting provides an excellent health promotion arena for reaching large sections of the population – children, teachers, families, and the surrounding community – in an effective and efficient way. Schools, through the SPHE, provide opportunities to promote lifelong healthy eating as well as encouraging physical activity (Ireland, Dáil debates, 2003, December 16, Sec 4).

The SPHE curriculum was a result of the phased introduction of the HPS initiative to Irish primary schools (Ireland, Dáil debates, 2003, December 16; O'Beirne, 2020).

The next major contribution to food education was the introduction of the Food Dudes healthy eating programme in 2004, a programme that encourages increased fruit and vegetables consumption for school pupils. After this, the Incredible Edibles programme was developed in 2008 by Agri Aware. This project introduced school gardens to primary schools and encouraged pupils to grow, cook and eat the fruit and vegetables they produce in the garden (Ireland, DES, 2016).

At the time of this research study, the HPS initiative, the FDHEP and the Incredible Edibles initiative were functioning in Irish primary schools. Rossi & Kirk (2020) suggest

that schools often resort to external sources to broaden the curriculum experience for pupils or to compensate for a lack of expertise within a school. Examining renowned international food education models could add value to what has already been promoted in Irish primary schools.

The international models utilized in this research study are the Finnish School Meal System (FSMS), the Japanese School Lunch Program (JSLP), and the Stephanie Alexander Kitchen Garden Project (SAKGP). The models were chosen based on their contribution to food education and fight against childhood obesity in their countries. Each initiative is the subject of academic research examining its effectiveness. The FSMS is an educational vehicle used to educate pupils on nutrition and healthy eating in Finland (Finnish National Board of Education, 2008). Finland is recognised globally as a pioneer in food education (ELO, 2018). In 1948, Finland became the first country in the world to introduce mandatory free school meals to all of its primary schools (ELO, 2018). Similarly, the JSLP has been recognised internationally as a highly effective food education model: meals are provided in 99% of elementary schools in Japan (Thi, et al., 2019). The model is focused on culture, health, hygiene and etiquette where dietitians teach food education in schools (Tanaka & Miyoshi, 2012; Thi T. , et al., 2019).

The SAKGP is an Australian non-profit charity organisation that provides support, inspiration, resources, and professional development for educators to deliver food education to Australian school pupils (Block, et al., 2019). The project enables pupils to gain experience and competencies in environmentally sustainable gardening while also cooking healthy meals using the ingredients from the garden (Gibbs, et al., 2013a). This is taught in an enjoyable pedagogical manner to further engage the pupils. Extensive research has been carried out on the SAKGP (Johnson & Block, 2009; Townsend, et al., 2012; Block, et al., 2012; Gibbs, et al., 2013a; Gibbs, et al., 2013b; Block, Gibbs, Macfarlane, & Townsend, 2015; Block, et al., 2019). This model has grown successfully in a sustainable way since its first introduction in 2004.

From an educational research perspective, it is hoped that this research study will encourage healthy eating behaviours amongst primary school pupils and contribute to the fight against childhood obesity in Ireland. The study concludes with recommendations for food education in Irish primary schools going forward.

## **1.2 AIMS & OBJECTIVES**

The aim of this study is to explore the possibility of Irish primary schools introducing key elements of international food education models to the primary school curriculum.

The objectives are:

1. To examine the policies on food education in Irish primary schools.
2. To evaluate the school policies and teachers' perspectives on food education in primary schools in Galway city and county.
3. To consider the possibility of drawing on particular international models to enhance Irish food education.

## **1.3 RESEARCH METHODOLOGY**

The research strategy utilized is a survey, to discover if Irish primary schools would be likely to introduce key elements of international food education models to the primary school curriculum. The research choice is mixed methods. The data collection instruments are web-based documentary analysis and an online questionnaire. Web-based documentary analysis assesses government policies as well as school policy on healthy eating in Galway primary schools. The online questionnaire evaluates school policies and teachers' perspectives of healthy eating in primary schools in Galway.

## **1.4 SCOPE & LIMITATIONS**

The focus of this study is to critique food education in Irish primary schools exploring the potential to introduce key elements of international models into the Irish context. There were certain limitations involved with this study. Time was a major factor. In respect of sourcing primary research, the questionnaire was limited to principals and staff in primary schools in Galway only; this ensured that the time schedule was realistic and met. Further research in this field, engaging with school pupils and the wider community, would involve a larger scale study. There would be potential going forward to implement a pilot food education programme in the Irish primary school

curriculum based on the results from this study and the efficacy of the model been tested.

## **1.5 THESIS STRUCTURE**

This thesis consists of five chapters. Chapter one introduces the thesis topic and sets the context. Chapter two conducts a critique of the literature in relation to national and international food education models. Chapter three discusses the research framework and methods underpinning this study. Chapter four presents the findings of the surveying process, the questionnaire results, and the outcome from the web-based documentary analysis on school food policy on healthy eating. This chapter discusses the findings, considers the results of the research aligning with the chosen research topic. Chapter five summarises, reflects, and makes recommendations for food education in Irish primary schools going forward. A bibliography and appendices conclude this study.

## CHAPTER TWO: LITERATURE ANALYSIS

### 2.1 INTRODUCTION

Chapter two reviews the literature in relation to food education models in Ireland, Finland, Japan, and Australia. The aim of this chapter is to determine the perceptions of food education in Irish primary schools while also discovering the relevance of key practices of international food education models to the Irish context. Selected Irish food education models are reviewed: the Health Promoting School (HPS) initiative, the Food Dudes Healthy Eating Programme (FDHEP), and the Incredible Edibles initiative. Critiques of three international food education programmes are then reviewed. These are the Finnish School Meal System (FSMS), the Japanese School Lunch Program (JSLP), and the Stephanie Alexander Kitchen Garden Project (SAKGP). Finally, key themes that emerged in the literature amongst the Irish and international food education models are discussed.

### 2.2 FOOD EDUCATION INITIATIVES IN IRISH PRIMARY SCHOOLS

In a Dáil Éireann debate in 2003, Micheál Martin, then Minister for Health and Children, stated that ‘eating habits throughout life are established at a young age. Therefore, learning to choose and enjoy different foods in childhood provides the foundation for healthy food choices in adulthood’ (Ireland, Dáil debates, 2003, December 16, Sec. 5). Similarly, Corepal (2018) suggests health behaviours often start at a young age and lead into adulthood. This section explores literature on Irish food education initiatives. Section 2.2.1 discusses Health Promoting Schools.

#### 2.2.1 HEALTH PROMOTING SCHOOLS

The World Health Organisation (WHO) (2020), defines a health promoting school (HPS) as a school that is continuously strengthening its position as a healthy place in which to work, live and learn. The first international conference for health promotion took place in 1986 in Ottawa, Canada. The Ottawa Charter for health promotion was adopted at this conference. The HPS initiative was originally inspired by the Ottawa



Charter which facilitated changing the framework for health promotion significantly (Turunen, Sormunen, Jourdan, Von Seelen, & Buijs, 2017). In the study, *Obesity prevention and the health promoting schools framework: essential components and barriers to success*, Langford, Bonell, & Jones (2015) recognise that the HPS initiative utilizes a universal approach to establishing school environments that are favourable to health and healthy activities. Langford et al (2015), suggest that the HPS initiative has proved to be significant in reducing obesity, Type II diabetes and cardio-vascular disease.

According to Turunen et al. (2017), the Schools for Health in Europe (SHE) framework, originally recognised as the European Network for Health Promoting Schools (ENHPS) until 2009, was introduced by WHO in 1992 in conjunction with the Council of Europe and the European Commission. The aim of SHE is to encourage good health for children in Europe by reducing health inequalities specifically focusing on schools. Turunen et al (2017), suggests that the SHE framework has developed into a valuable platform for school health promotion in the European region. In each member state the Ministry of Health and the Ministry of Education appoint a SHE national coordinator to be responsible for the national HPS initiative (SHE, 2020a).

The HPS initiative recognises the essential link between health and education: healthy children accomplish greater educational results which, in turn, are correlated with better health later in life (Langford, Bonell, & Jones, 2015). Magnab, Gagon & Stewart (2014) suggest that the HPS initiative offers an innovative approach to increase the probability for the next generation in developing awareness of useful ways to positively impact their future well-being. Yet Langford et al, (2015) argue that greater alliances between health and education are relevant for the success of the HPS initiative. Likewise, Simovska (2012, p. 3) suggests

Health promotion in schools needs to be linked with the core task of the school – education, and the values inherent to education, such as inclusion, democracy, participation and influence, critical literacy, and action competence in relation to health.

The current national coordinator for HPS is Mèabh McGuinness of the Irish Health Services (SHE, 2020b). The HPS team is comprised of pupils, parents, and staff from the whole school community (Ireland, HSE, 2015). The initiative is evaluated internally by each school. It is only encouraged by the HPS team and is not mandatory (Ireland, HSE, 2015). O'Beirne (2020) reports that the implementation of HPS must compete against numerous other demands already pressing on a limited amount of school time. Simovska (2012), argues that health promotion in schools should relink with the traditions of pedagogical theory developing innovative forms of practices and interventions in the face of intricate societal challenges concerning health and health promotion.

In 2016 the University of Limerick conducted independent research on examining the extent of implementation of Health Promoting Schools in 704 Irish post primary schools (Moynihan, Jourdan, & Mannix McNamara, 2016). A questionnaire was administered and achieved a response rate of 56% (n=704) (Moynihan, Jourdan, & Mannix McNamara, 2016). The study is important to this research study as it produced the first national baseline data available for evaluating HPS in Ireland, providing a valuable starting point from which further research with schools in this field can be conducted. The study found that there had been success in the area of curriculum, learning and environment but planning, policy and partnerships require more attention (Moynihan, Jourdan, & Mannix McNamara, 2016). The study illustrated only 35% of these schools had a HPS supportive development team in place and interestingly only 36% of the participants in the study knew of a school policy to support HPS suggesting that a more comprehensive approach to implementing the HPS initiative is necessary (Moynihan, Jourdan, & Mannix McNamara, 2016).

The most recent research on HPS in Ireland was conducted by O'Beirne (2020), in a PhD study entitled, *An exploration of the development of a Network of Health Promoting Schools in the Mid-west region of Ireland 2005-2015: a complex adaptive systems approach*. Although, the research focused on the Mid-west only (Limerick, Clare, and Tipperary North), it is a major academic study and is significant to this research study in determining the position of the HPS framework in Ireland. It determines supports and barriers to developing the HPS concept and process within school communities. Four cases were presented, including one on

the Health Promoting Partnership which is responsible for the strategic direction and governance of the framework and the three remaining cases focus on individual school sites. One key finding is that participation and engagement were essential for successful implementation of the initiative. Barriers discovered included time constraints, external pressures, the voluntary nature of the initiative, the initial demanding period of work involved and a lack of parental engagement.

O'Beirne (2020) argues that whole school participation and engagement is vital to successful implementation of the HPS concept. O'Beirne (2020), further reported that several teachers initially integrated with the HPS initiative due to the rising concern of childhood obesity noted in the media.

Macnab, Gagnon & Stewart, (2014) argue that successful HPS initiatives are generally those that are relevant, relate with pupils and involve school communities where they choose to 'own' and sustain their initiative. Similarly, Bartelink & Bessems (2020) suggest that a school is a dynamic organisation and implementing the HPS framework is a continuous process where flexibility is essential for its success. Langford, Bonell & Jones, (2015) assert that a lack of institutional support and emphasis on academic subjects are barriers to implementing the HPS initiative. A 'one-size-fits-all' HPS approach does not exist (Bartelink & Bessems, 2020). Simovska's (2012) article, *What do health promoting schools promote? Processes and outcomes in school health promotion*, referring to HPS in Europe, argues that health promoting schools in Europe should reconnect with educational theory traditions and cultivate pioneering forms of educational practices in the face of intricate societal challenges concerning health and health promotion. Section 2.2.2 discusses the Food Dudes Healthy Eating Programme.

### **2.2.2 THE FOOD DUDES HEALTHY EATING PROGRAMME**

The Food Dudes Healthy Eating Programme (FDHEP) has had a significant impact on increasing the fruit and vegetable consumption of primary level pupils in Ireland. Food Dudes is an incentivised evidence based programme developed by the Food and Activity Research Unit at Bangor University, Wales, (Ireland, DES Circular, 2016). The programme aims to increase sustained fruit and vegetable

consumption amongst primary school pupils through the delivery of repeated tasting of fruit and vegetables in schools (Martin, Concannon, Bel-Serrat, Heinen, & Murrin, 2017). The European Union School Fruit and Vegetables Scheme is employed nationally to primary schools through the FDHEP (Martin, et al., 2017). Each year €150 million is set aside for the supply of fruit and vegetables to schools in Europe (European Commission, 2018). The aim of this scheme is to encourage healthy eating habits among children in Europe (European Commission, 2018).

The FDHEP uses positive role-models (Food Dudes Heroes), small rewards and repeated tasting factors to aid behavioural change in children’s eating habits (Ireland, Department of Agriculture Food and the Marine, 2017). This is recorded using classroom wall charts measuring each pupils’ progress in their own time (Food Dudes, 2020b). The healthy eating programme is conducted in three phases as indicated in table 1.

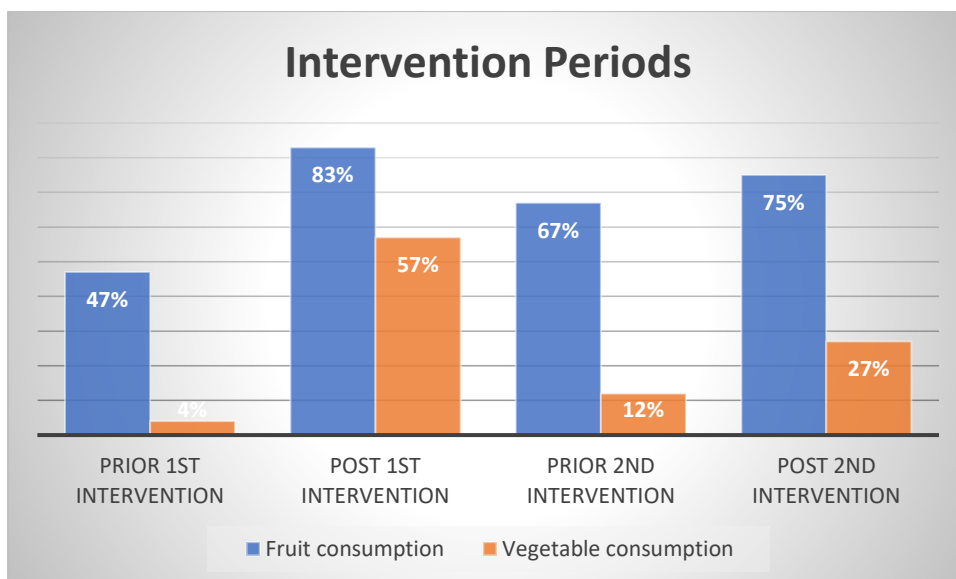
**TABLE 1 FOOD DUDES PHASES OF IMPLEMENTATION (FOOD DUDES, 2020B)**

	<b>Aim</b>	<b>Strategy</b>
<b>Phase One</b>	A sixteen-day school-based intervention (see appendix one)	Repeated tastings of fruit and vegetables. Pupils watch a DVD featuring the heroic Food Dudes; rewards are then produced for eating fruit & vegetables.
<b>Phase Two</b>	A home focused post intervention period	Maintenance of long-term consumption of fruit & vegetables, extending to home environment, and encouragement of parents and children to bring fruit & vegetables to school each day in the Food Dudes lunch box.
<b>Phase Three</b>	Maintenance	Tasting days, a healthy eating passport and short informative video clips are utilized to maintain long term post intervention engagement.

In 2004, the FDHEP was introduced to primary schools in Ireland (Ireland, Dáil debates, 2006, November 29). It was initially launched to 120 primary schools over a three-year period (Ireland, Dáil debates, 2006, November 29). National rollout then began in 2007 (Food Dudes, 2020c). Since the national rollout, 98% (n=3300) of all Irish primary schools completed the programme (Ireland, DES

Circular, 2016). Mary Coughlan, Minister for Agriculture and Food in 2007, told the Dáil that €4 million was allocated for the initial roll out (Ireland, Dáil debates, 2007, March 7). Michael Creed, Minister for Agriculture, Food and Marine in 2017, stated that Food Dudes has positive long-term effects on primary schools' pupils with research completed to show its effectiveness (Ireland, Department of Agriculture Food and the Marine, 2017). However, Martin et al., (2017), found that the positive short-term impact of the Food Dudes Healthy Eating Programme is not sustained over a long period of time with a significant decrease in consumption of fruit and vegetables evident.

Bord Bia, on behalf of the Department of Agriculture, Food and Marine, commissioned University College Dublin (UCD) to conduct a long-term evaluation of the Food Dudes programme between 2010-2016. The research was carried out by Principal Investigator Celine Murrin; Project Manager, Silvia Bel-Serrat; and Research Assistants, Maire Conacannon, Caroline Martin and Deirdre O'Connor of the National Nutritional Surveillance Centre, UCD (UCD, 2016). The data for the evaluation was compiled using the Food Dudes Quick Eating Diaries (FDQED). This is a teacher-administrated instrument and was used to collect data in relation to fruit, vegetable, and snack consumption of pupils (Martin, et al., 2017). Questionnaires for children, teachers and parents involved were also utilized in conjunction with data collected by nutritionists evaluating the school lunch boxes (UCD, 2016). First an evaluation over a twelve month period between 2010-2011 was conducted followed by an evaluation of a boost programme in 2016 (UCD, 2016). Figure 1 compares these results in graph form.



**FIGURE 1 FOOD DUDES INTERVENTION PERIODS**

The 2010-2011 evaluation found that before any Food Dudes intervention that 47% of students consumed fruit at school, after the intervention this increased to 83% (UCD, 2016). The findings also suggest that only 4% of students consumed vegetables in school, this increased to 57% after the sixteen day fruit and vegetable intervention (UCD, 2016). The consumption of snack food such as crisps, sweets, soft drinks and chocolate bars remained the same (UCD, 2016). The original Food Dudes Programme was completed in 2014 (UCD, 2016).

However, in 2016, a Food Dudes boost programme was implemented in order to encourage the new intake of primary level pupils the same opportunities for creating healthy eating habits (UCD, 2016). An evaluation of this suggested that since the original programme the consumption of fruit and vegetables had decreased over time (UCD, 2016). The UCD study reported that consumption of fruit had decreased by 16% and vegetable consumption had decreased by 45%, suggesting that short term improvements were not sustained over a long period of time (UCD, 2016). This reflects the findings of Greenhalgh et al, (2009) study, *Positive- and negative peer modelling effects on young children's consumption of novel blue foods* which reported that positive peer modelling effects on young children's behavioural change when tasting of fruit and vegetables are only effective for up to one year after intervention. Similarly, Taylor (2017) contends that a key challenge post intervention was sustaining healthy eating behaviours.

Nevertheless, Martin et al, (2017) argue that the programme may have long-term behavioural change outcomes independent of intervention periods.

The boost programme illustrated an increase of 8% in fruit consumption levels, still not as high as the original levels of the first programme. Vegetable consumption increased by only 15%; this is not as significant as the original study that indicated an increase of 53% (UCD, 2016). Interestingly, in a publication from the Department of Agriculture Food and Marine (2017), based on the long term evaluation of the Food Dudes programme 2010-2016, the authors suggest that the results for the consumption of vegetables were more significant than the previous study yet the UCD evaluation clearly states a decrease in consumption of vegetables of 45% (UCD, 2016). This decrease could be due to the innate flavour of the vegetables, disliked tastes and the low energy density they provide (Bouhal, 2014).

The number of students who brought snacks to school before the boost programme remained the same after the boost intervention (UCD, 2016). The report also suggested that pupils who liked the programme brought fruit to school four to five times a week compared to those who disliked it, who never brought fruit to school (UCD, 2016). Behavioural incentives used by Food Dudes can encourage healthier eating. Reviewing international studies on the FDHEP could give insight to the researcher from another perspective.

Charlotte Taylor's (2017) PhD study, *A Socio-ecological Perspective on the Food Dudes Healthy Eating Programme*, based on the mid-land region of the UK reported that the Food Dudes Healthy Eating Programme was effective in increasing fruit and vegetable consumption in the short term only and the programme is most effective on pupils who consume school provided lunches as opposed to those provided from home. It reported that there were difficulties implementing the model as part of the school day and transferring to the home environment. Laureati (2014) found that this programme is effective in reducing poor food choices in children. However, Upton, Upton & Taylor (2013) argue that this programme has limited impact in delivering even short-term changes in pupils' fruit and vegetable consumption and suggest further development is necessary to ensure the short- and long-term efficacy of interventions. Taylor (2017) would

agree, reporting that sustaining healthy eating behaviours post intervention was a key challenge. The next section addresses the Incredible Edibles initiative.

### **2.2.3 INCREDIBLE EDIBLES**

Incredibles Edibles is a healthy eating programme for primary school children in Ireland (Agri Aware, 2018). Launched in 2009, the programme encourages pupils to grow fruit and vegetables at their schools while increasing their knowledge of food origins and the importance of a healthy balanced diet through the consumption of seven fruit and vegetables a day (Ireland, DES Circular, 2016). This healthy eating framework is run by Agri Aware and is rolled out annually to schools that have registered an interest in the initiative (Agri Aware, 2018). Patrons include the Department of Education and Skills, the Department of Health, the Department of Agriculture, Food and Marine and Bord Bia (Irish Farmers Association, 2017). Weissinger (2013) reported that these government entities intend to improve people's awareness to increase fruit and vegetable consumption through the Incredible Edibles initiative. This initiative has not yet been academically evaluated (Greene, 2020). Nonetheless, international studies have mentioned relevant points for this approach.

In the study, *Constructionism in practice: designing, thinking and learning in a digital world*, Resnick & Kafai (1996) suggest that pupils are most likely to interpret new ideas when they are actively engaged in some form of external activity. Similarly, Fisker & Clausen (2017) have argued that school gardens support and facilitate interactive learning, identifying that time spent in the school garden provides pupils with valuable knowledge of food origins as well the experience of consuming fruit and vegetables they have grown themselves. Dyg & Wistoft (2018) concur, suggesting that gardening provides pupils with a sense of self-confidence and an opportunity to create new friendships across class divides thus encouraging and enhancing social abilities.

Of the three food education initiatives discussed in this research study, Incredible Edibles is the only original Irish initiative. The HPS framework and the FDHEP are internationally influenced, which indicates that Ireland has looked elsewhere for inspiration in developing food education in Irish primary schools. Interestingly, the most recent initiative, Incredible Edibles, was developed in 2009 after the



internationally influenced food education models. In 2012, information on the Incredible Edibles project was presented at the Obesity Governance Stakeholder Conference in Brussels with a view to promoting the initiative to assist in the fight against childhood obesity across Europe (Horticulture Connected, 2012).

Perhaps the Incredible Edibles initiative did not develop any further due to a lack of research evaluating the effectiveness of this model. Eleven years since its introduction, yet no academic research to date has been carried out on this initiative to evaluate its effectiveness (Greene, 2020). This suggests that more could be done to address food education in Irish primary schools.

Nic Gabhainn, O'Higgins & Barry (2010) identify that health education for school pupils is mandated by the Irish education system. Traditionally, food education comes under this umbrella (Ireland, Government of Ireland, 1999). Sustainability in the Irish Food Education programmes is an issue with research identifying that some of these initiatives lose impact over time once this initial intervention concludes (Upton, Upton, & Taylor, 2013; Martin, Murrin, Serrat, & Concannon, 2016; Taylor, 2017). There is much that could be learnt from renowned international food education models.

### **2.3 INTERNATIONAL FOOD EDUCATION MODELS**

International food education models that are discussed in this section are the Finnish School Meal System, the Japanese School Lunch Program 'Shokuiku' and the Stephanie Alexander Kitchen Garden Project. These models were selected based on their commitment to food education and obesity prevention in their countries. This section identifies when each model was first rolled out, the context, the stated aims, how these were perceived by others and the strengths and challenges identified by scholars.

The models were chosen based on their contribution to food education and fight against childhood obesity in their countries. Each initiative is the subject of support by academic research examining its effectiveness.

### **2.3.1 FINNISH SCHOOL MEAL SYSTEM**

The Finnish School Meal System (FSMS) is a pedagogical tool used to educate school pupils on healthy eating habits and nutrition (Finnish National Board of Education, 2008). According to Raulio, Roos & Prattala (2010), the FSMS was introduced because of food shortages following the Second World War, which led to social and public health concerns regarding children's nutrition. Mikkola (2008), notes that the FSMS was developed in conjunction with workplace meal services where the aim was to offer support to workers and pupils activities through health and nutrition. The initiative is funded through Finnish income tax (Løes & Nölting, 2009).

The FSMS operates in schools as a mandated element of the curriculum. It is compulsory for each municipality to develop a strategy for pupil welfare (Finnish National Board of Education, 2008). Each strategy identifies the core principles for organising school meals and establishes the objectives for health and nutrition education (Finnish National Board of Education, 2008). As part of this, the food plate model must be followed by school caterers when preparing school meals (Tikkanen, 2009a). The food plate model offers national nutritional recommendations on building a nourishing meal recommending half of the pupils' plate is filled with raw or cooked vegetables, one quarter with meat, fish or egg and one quarter of the plate is reserved for potatoes, pasta or rice (Tikkanen, 2009a). The aim of the food plate model in schools is to maintain and enhance pupils' health and well-being, providing them with energy for their school work (Finnish National Board of Education, 2008).

School lunches in Finland must equate to one third of a child's daily food intake (Finnish National Board of Education, 2008). Meals received in schools represent regular home cooked food and are understood to influence food consumption patterns offering a versatile diet (Mikkola, 2008). Anderson, Bar & Wirtanen (2018) concur, suggesting that school meals root ideas about healthy eating and suitable home meals, an example being the use of fresh vegetables in school meals.

Personal guidance from teachers, and the food plate model promote healthy eating habits, encourages pupils to make sensible nutritional choices, teaches table etiquette and empowers social interaction skills (Finnish National Board of

Education, 2008). School menus are based on dietary requirements by the national nutritional council (Mikkola, 2008). Tikkanen (2009a) argues that additional supervising is needed in schools in order to teach pupils' the importance of nutritious habits and good food choices suggesting that pupils knowledge on school meals and their connection to good health needs to be increased in schools. The study *Pupils' and parents' suggestions for developing school meals in Finland* (Tikkanen, 2009b), identified that pupils do not consume all the items on the plate model. This led to parental recommendations that Finnish school meals include greater variety, additional favourite dishes and greater salad options (Tikkanen, 2009b). Mikkola (2008) reported that parents would prefer better quality meals to be served in schools. Anderson, Bar & Wirtanen (2018) suggest that Finnish pupils with a good socioeconomic position have better food choices than those from less affluent backgrounds.

Finnish school meal options rotate on six-week intervals and cater for different diets where a medical certificate is presented by pupils (Mikkola, 2008). Heli (2015) suggests that the mindset and ambitions of the school meal producers can have a stark impact on the food served. Those involved in the preparation of school meals do not deem themselves as educators (Heli, 2015). Individuals who are responsible for planning the school meals focus on the product itself as opposed to the importance of the holistic dining experience provided for the pupils suggesting that a system could be developed using a more holistic approach working in partnership with all parties involved (Heli, 2015).

Health and nutrition in Finland are built through qualitative food education in their school system which has formed an integral part of the Finnish culture and leads to better food choices later in life (JAMK, n.d). The Foundation for the Promotion of Finnish Food Culture (ELO) claim, Finland is recognised internationally as a forerunner in food education (ELO, 2018). JAMK, the University of Applied Sciences, Finland, concurs, suggesting Finland is 'a world leader in nutritional expertise' (JAMK, n.d, Sec 1). Yet, according to WHO (2015), this was not always the case. In 2009, one in five year olds in a major Finnish city were considered to be overweight or obese, where it was recognised that while schools were providing a free lunch, these were not always the most nutritious (WHO, 2015). Monitoring and evaluating the FSMS is the responsibility of the municipalities (Finnish National

Board of Education, 2008). Since 2009, many of the government departments in the municipalities of Finland have worked in conjunction with each other to ensure all schools provide the same quality nutritional service. This resulted in the proportion of five year olds recognised as being overweight or obese being halved (WHO, 2015). Interestingly, Maki, et al., (2017) identify that 20% of school-aged children are still overweight. Makela & Rautavirta (2018) argue that among Finland's greatest challenges is the prevalence of obesity.

Finland's Government recognises that the benefits are far greater when these departments work together and influence one another (WHO, 2015). The pupils learn to cook healthy food through various school subjects such as home economics and health education while also been educated on the effects of food on health, the environment, economy, and culture. School meals form an important part of the school curriculum (Sarlio-Lahteenkorva & Manninen, 2010). WHO (2015, p. 3), states that 'national policies require that schools provide obligatory health education classes, physical education and nutrition and cooking lessons'.

The FSMS is well established with a long history, however deeply rooted school meal systems can be difficult to change (Mikkola, 2008). Løes & Nölting (2009) suggest that the FSMS is utilized to attain more sustainable consumption patterns and healthier food choices, anticipating that good habits established during youth will develop into adulthood. Yet according to Sarlio-Lahteenkorva & Manninen (2010), continuation to provide free school lunches to Finnish school pupils is regularly debated in the media. Makela & Rautavirta (2018) suggest that the sustainability of Finland's food systems requires attention. The next section discusses Japan's school lunch programme.

### **2.3.2 JAPAN'S SCHOOL LUNCH PROGRAM 'SHOKUIKU'**

'*Shokuiko*', meaning 'food and nutrition education', is the name given to Japan's School Lunch Program (JSLP), which is a crucial part of Japanese children's early education (Tanaka & Miyoshi, 2012). According to Thi, et al., (2019), 'Shokuiko' is provided to 99% of pupils in elementary schools in Japan and is recognised internationally as a highly successful food education model.

In 1954, the school lunch programme was first rolled out (Tanaka & Miyoshi, 2012). Developed because of the Second World War, where the Japanese suffered great hunger, a national school lunch law was established (Thi T. , et al., 2019). The main focus was to 'promote the healthy development of the minds and bodies of school children' (Tanaka & Miyoshi, 2012). Borovoy & Roberto (2015), suggest that school lunches were not only recognised as meals, but also as pedagogical vehicles to educate pupils about manners, health, hygiene and culture. In 1977, schools began to standardise optimal nutritional intake for each nutrient and total calories (Borovoy & Roberto, 2015). Yet, despite these measures, childhood obesity still became an important health concern (Miyoshi, Tsuboyama-Kasaoka, & Nishi, 2012). Miyoshi et al., (2012) suggest that this could be due to inappropriate dietary habits such as skipping breakfast, insufficient vegetable intake and excessive fat consumption. Harlan (2013) states that Japan struggles with childhood eating disorders yet Weller (2017) reported that Japan's obesity level is below global average in conjunction with having one of the highest life expectancies' in the world. According to Pike, Yamamiya & Konishi (2011), historically Japan's obesity prevalence has been much lower than other countries yet rising prevalence led to the Government taking measures to address this. This resulted in revising the original school lunch act.

The 'Basic Law on Shokuiku' was enacted in 2005. This was the first law to regulate ones diets and eating habits (Miyoshi, Tsuboyama-Kasaoka, & Nishi, 2012). According to Thi et al. (2019), the JSLP has developed from only satisfying hunger needs to achieving several objectives in relation to the health of Japanese elementary school pupils. Once a child in Japan begins their school education, they come to understand that what they consume in their body makes a significant difference to how they feel or think throughout the day and to their life in general

(Weller, 2017). The revised aim of the JSLP was to promote ‘Shokuiku’. Through ‘Shokuiku’, many new aims were added to the JSLP, where they were given increased significance in Japanese education. Table 2 identifies these.

**Table 2 Shokuiku Aims adapted from Miyoshi, Tsuboyama-Kasaoka & Nishi (2012)**

Shokuiku Aims
Sustaining and improving health through proper nutrition
Fostering understanding, decision-making and eating habits for an appropriate diet
Livening school life and encouraging an actively social and considerate spirit
Furthering appreciation of the gifts of nature that support us, fostering respect of life and nature and encouraging a spirit of environmental conservation
Acknowledging how the food industry is supported by the activities of many people and respecting their hard work
Furthering understanding of Japan’s and the local region’s traditional cuisine
Leading a correct understanding of the mechanisms of food production, transportation, and consumption

The JSLP is managed by school dietitians, many of whom provide nutrition education through school lunch (Thi T. , et al., 2019).

Miyawaki, Lee & Kobayashi (2019) identify that ‘Shokuiku’ includes a uniform menu comprising of staple food provided to school pupils each day. Except for those that suffer food allergies or other health concerns, the children have no choice regarding menu and lunches from home are prohibited. Parents pay for the food materials only, thus contributing to a greater variety of ingredients (Thi T. , et al., 2019). Thi et al. (2019) note that food materials cost is reduced when locally grown foods are available. However, Omori, Inoue, Ito & Kaneko (2009) argue that locally grown food is often inadequate and expensive for school lunches. Dietitians involved with the JSLP anticipated that using locally grown food would improve the taste as well as pupils’ interest and appreciation for food (Omori, et al., 2009). Yet dietitians reported that they were not easily able to select and purchase local food for the school lunch (Omori, et al., 2009). Omori, et al., (2009) contend that better financial support is needed for system reforms to increase usage of locally grown food.

The 'Shokuiku' initiative meant that the program itself became a pedagogical experience where the children ate their meals in class with their teacher, learning about table etiquette, the importance of a balanced diet and food culture (Tanaka & Miyoshi, 2012). Pupils were also responsible for clearing dishes (Tanaka & Miyoshi, 2012). Borovoy & Roberto (2015) concur, suggesting that school lunches involve a greater regime of socialisation involving aesthetics, ecology, hygiene, manners and identification with one's community. School Pupils assist in serving meals so they may feel closer to the food preparation process (Borovoy & Roberto, 2015). Weller (2017) agrees, suggesting that Japanese school pupils reinforce a culture of self-sufficiency by serving one and other.

Harlan (2013) identifies that 'Shokuiku' teaches Japanese children about the importance of culture and to eat what they are served as Japan heavily invests in cultivating this mindset. Borovoy & Roberto (2015, p. 63) suggest that:

The success Japan has had to date in staving off population weight gain may be partially explained by powerful discourses of cultural homogeneity, standardization of recommended health and body metrics, pervasive and reinforcing social norms (how one behaves in response to social beliefs and situational factors) and public health education. The Japanese approach seeks to shape mentalities and preferences and promotes standardized metrics as shared goals.

Japanese schools invest heavily in educating its citizens to be aware of their health and diet. Socialisation is introduced early where schools unite food with culture (Borovoy & Roberto, 2015).

The concept of 'Shokuiku' expands much further than this supporting food culture as well as improving the Japanese food environment which is achieved by offering information to school's on suitable diets (Miyoshi, Tsuboyama-Kasaoka, & Nishi, 2012). Borovoy & Roberto (2015) argue that the JSLP can provoke shame and stigma. Pupils who struggle with controlling their weight may be stigmatised where doctors appear to be doubtful about the connection of genetics to daily behavioural decisions (Borovoy & Roberto, 2015). Greenlough (2012), in her article, *Weighty subjects: the biopolitics of the U.S. war on fat*, suggests that stigma against those who are obese and overweight can have adverse effects including self- abjection and social isolation. Moffat and Gendron (2019) concur,

suggesting that while culture is important, there is a lack of food choices for school pupils who are not originally Japanese, therefore could lead to those pupils been socially excluded. Section 2.3.3 identifies and discusses the Australian food education model; the Stephanie Alexander Kitchen Garden Project.

### **2.3.3 THE STEPHANIE ALEXANDER KITCHEN GARDEN PROJECT**

The Stephanie Alexander Kitchen Garden Project (SAKGP) was developed to enable children to gain knowledge and skills in environmentally sustainable gardening and cooking healthy dishes with the harvested ingredients from their gardens (Gibbs, et al., 2013a).

According to the Stephanie Alexander website, the foundation was established by Stephanie Alexander in 2004, based on the success of a garden pilot programme at Collingwood College Melbourne, Victoria, that commenced in 2001 (Stephanie Alexander AO, n.d(b)). Stephanie Alexander is regarded as one the greatest food educators in Australia, earning her reputation through thirty years as a chef owner of several restaurants and her contribution to food education in Australia (Stephanie Alexander AO, n.d(a)). The motivation for the foundation developed as a result of Alexander's awareness of the growing childhood obesity issue in Australia (Block, et al., 2019). The aim of the Stephanie Alexander Kitchen Garden Project (SAKGP) is for school pupils to develop self-confidence, life skills and a healthy relationship with food through experiential learning that is integrated with the school curriculum (Block, et al., 2019). Nelson, Corbin, & Nickolas-Richardson (2013), suggest that developing cookery skills offers pupils a unique opportunity for experiential learning that can foster positive behavioural change with healthy eating.

Originally developed for primary level schools in Australia, the SAKGP now supports almost two thousand early childhood centres, primary, secondary, and special schools in delivering the kitchen garden project (Block, et al., 2019). The original model has been modified to allow greater flexibility for the SAKGP to be translated appropriately for early childhood and secondary school environments (Block, et al., 2019). This development has been funded by health insurance company, Medibank, which has supported the SAKGP since 2012 and has enabled the development and expansion of the programme over time (SAKGP, n.d(a)).



Ozer (2007), referring to school gardens in the United States, generalizes that there is no factual evidence that school garden programmes improve pupils' learning in social, academic and health-related fields suggesting that little rigorous research has been conducted on the effects of school gardens. Gibbs, et al., (2013b) concur, suggesting that school cooking and garden programmes have increased internationally; yet, there is limited evidence to their effectiveness.

Since 2009, a cohort of researchers has focused on evaluating the SAKGP extensively (Johnson & Block, 2009; Townsend, et al., 2012; Block, et al., 2012; Gibbs, et al., 2013a; Gibbs, et al., 2013b; Block, Gibbs, Macfarlane, & Townsend, 2015; Block, et al., 2019). This has greatly contributed to this research study in determining the position of the SAKGP in Australia and in envisioning how this could theoretically be applied to Irish primary schools.

The report *Evaluation of the Stephanie Alexander Kitchen Garden Program* on the Victoria region of Australia by Johnston & Block (2009) was the first evaluation of the SAKGP programme. This identified the main challenges to the programme as securing funding, recruitment of experienced volunteers and working the programme into an already overcrowded curriculum. The findings suggest that while the challenge of securing funding and donations was a concern, it played a positive role in enhancing community engagement. The recruitment of experienced volunteers was identified as an ongoing concern as the study discovered that volunteers with the necessary expertise in areas such as gardening and nutritious cooking had a much greater influence on the children than less experienced volunteers. Henryks (2011), identifies that there were positive effects on volunteers associated with the project. Many of these were unexpected where the volunteers felt a sense of satisfaction and pleasure in watching something grow (Henryks, 2011). Townsend, et al., (2012) and Johnston & Block (2009) suggest that an obstacle for the SAKGP was not linking volunteers' needs and motivations to the roles they are involved in, suggesting that this would support greater recruitment of experienced volunteers and contribute to the sustainability of the programme. Nonetheless, the use of volunteers improved communication between teachers and families of pupils involved with the SAKGP (Townsend, et al., 2012).

Numerous parents and teachers expressed concern that the focus area of the schools should remain on core curriculum areas such as numeracy and literacy. This was addressed by working the programme into the curriculum where numeracy and literacy were also achieved through food education (Johnson & Block, 2009).

The initiative is designed so it can be incorporated into the learning framework or curriculum and suggests food education not only delivers educational benefits but also positive social benefits (Johnson & Block, 2009). This growing and healthy eating educational initiative promotes teamwork, collaborative cooking experiences, increased levels of observation and critical thinking proving the efficacy of this model (Block, et al., 2012). Pupils involved in the programme had an increased capacity to describe food as a means of demonstrating food knowledge and sharing experiences (Gibbs, et al., 2013a). Each week forty-five minutes' minimum is spent in the garden and ninety minutes in the kitchen preparing the fresh ingredients (Johnson & Block, 2009).

In 2019, The Centre of Health Equity of the University of Melbourne published the first report on the long-term effectiveness of the SAKGP. The research carried out by Block et al. (2019) was funded by Medibank. The evaluation demonstrated that the students had a willingness to experiment with new foods with a greater appreciation for diverse and healthy foods (Block, et al., 2019). This report also identified that many of the pupils consumed less junk food and more fruit and vegetables (Block, et al., 2019). The study also discovered that pupils from the SAKGP schools compared to the other schools enjoy cooking more frequently (Block, et al., 2019). Evidence suggested that pupil's competence to use knives embedded trust and skill (Block, et al., 2019). There was an increase in the pupil's knowledge and confidence in gardening and cooking (Block, et al., 2019). It also found the programme particularly beneficial to less academic pupils and those who had more challenging behaviours (Block, et al., 2019). This result is similar to the 2015 study, *Promoting appreciation of cultural diversity and inclusion with the Stephanie Alexander Kitchen Garden Program* (Block, Gibbs, Macfarlane, & Townsend, 2015) identifying evidence of positive experiences of pupils transferring cooking skills into the home environment. This highlighted one of the most important outcomes of the study; the link that was created between the school and the community (SAKGP, 2018).

Overall, principals and stakeholders reported that the SAKGP was worth the time required to continue with it. The SAKGP has become more integrated into the school curriculum (SAKGP, 2018). Henryks (2011) also identified that stakeholders feel pride and pleasure for the community developing new friendships and unexpected experiences. These are all factors contributing to the long-term sustainability of the programme that involves parents, teachers, pupils, and the whole community that could have an impact to the Irish context.

The FSMS, the JSLP and the SAKGP have made significant contributions to food education in their countries. Introducing elements of these evaluated international models into the Irish context could develop food education immensely. In the next section key observations are identified amongst the Irish and international models.

#### **2.4 NATIONAL AND INTERNATIONAL FOOD EDUCATION MODELS: KEY OBSERVATIONS**

Despite their ongoing challenges, the Finnish School Meal System (FSMS) and the Japanese School Lunch Program (JSLP) have proven successful in their countries. However, the degree of their relevance to food education in Irish primary schools is questionable. Both models offer a nutritious year-round school meal. In Japan, the school meal is heavily focused on culture and there is no choice available for meals utilizing a uniform menu (Miyawaki, Lee, & Kobayashi, 2019). This would not work in an Irish context considering the multinational cultures in Irish primary schools. Additionally, it can provoke stigma and shame on pupils that are not originally Japanese (Borovoy & Roberto, 2015). The FSMS relies on the school plate model as a recommendation for pupils to consume their lunch yet reports have indicated that an ongoing concern was pupils not finishing their lunches with greater efforts needed to tackle this (Tikkanen, 2009b).

There is still much that Irish primary schools can learn from the FSMS and the JSLP. Finland has a unique and versatile food education program that has grown around the school lunch where school meals are part of education (ELO, 2018). Finland's School Meal System illustrates that their school pupils learn to cook nutritious food through a variety of different subjects (ELO, 2018). The use of onsite dietitians in Japanese schools to manage and teach 'Shokiuko' and the use of dietitians for school meal

recommendations in Finland would be beneficial to the Irish context in so far as this could transfer the responsibility from the teacher to the dietitian or professional. This is similar to the Stephanie Alexander Kitchen Garden Project (SAKGP) use of experienced volunteers in schools. Both the FSMS and the JSLP instil food education as a mandated element of the curriculum and are proven to be sustainable. Like the SAKGP, they are focused on reducing obesity levels for children in their countries.

Ireland could be considered relatively young in comparison when relating to food education in Irish primary schools. Not all the common threads associated with the FSMS and the JSLP apply to Irish primary schools as food education is not culturally connected in Ireland. Forming a mandatory element of the school curriculum would be beneficial to developing food education in Ireland. One child in five in Ireland is obese or overweight (Bel-Serrat, et al., 2015). The measures the international initiatives have taken to fight against obesity could further assist Ireland against becoming the most obese nation in Europe while also addressing the concern of long-term sustainability with the Irish models which the literature in this chapter has demonstrated.

The SAKGP mirrors the FDHEP in terms of introducing children to fruit and vegetables thus increasing their consumption, yet it goes a step further by introducing diverse healthy foods through the growing and cooking of the produce which reflects some aspects of the Incredible Edibles initiative.

The key differences between the SAKGP and the Incredible Edibles is that responsibility for Incredible Edibles falls on the teacher (Incredible Edibles, n.d(b)) as opposed to the SAKGP where the use of volunteers with expertise in gardening or cooking, has a greater impact on the pupils (Johnston & Block, 2009). Incredible Edibles operate from April – June each year (Bord Bia, 2011) in comparison to the SAKGP which operates all the school year (SAKGP, 2018). Interestingly, taking some of the onus away from the teacher is practiced by all three international food education models.

The SAKGP has many similar elements of the Irish initiatives, yet it is brought to the next level by introducing food education into the school curriculum through a fun experiential learning style suggesting that it can be incorporated into any curriculum such as numeracy, science, literacy and more in an enjoyable manner (SAKGP, n.d). This framework could be useful in combating food education in Irish primary schools.

Key observations identified in this section illustrate that international models provide suitable components in developing food education in Irish primary schools. An adaptation of elements from international models into the Irish context would provide missing elements from the Irish initiatives such as sustainability, cultural significance in relation to health and wellbeing, use of dietitians and experienced volunteers. Ireland has previously adapted international food education models such as the HPS initiative (1993) and the FDHEP (2004). One could argue that it is time to develop food education in Ireland once more and introduce a new international food education model to Irish primary schools. Section 2.5 concludes this chapter.

## **2.5 CONCLUSION**

This chapter reviewed the literature in relation to food education initiatives in primary schools. It explored the position of selected food education programmes in Ireland, Finland, Japan, and Australia. While there are many studies on food education, few specific models relate to introducing international food education models to the Irish primary school curriculum. Food education models in Irish primary schools were assessed and it has been shown that Ireland has previously introduced international models to the Irish context. These are the Health Promoting School (HPS) initiative and the Food Dudes Healthy Eating Programme (FDHEP). The literature discovered that participation and engagement are vital for the success of the HPS initiative. Challenges to the initiative included external pressures, time constraints and the voluntary nature of the framework. Similarly, the FDHEP has proven success in increasing fruit and vegetable consumption during intervention periods but the literature has identified that a major challenge post intervention was sustaining healthy eating behaviours. This has also been noted in studies conducted on the FDHEP in the UK. The third initiative that was assessed was the Incredible Edibles. No academic research to date has been carried out on this initiative. Irish food education initiatives are not mandated by the Government and the onus is on the teacher in each school to implement them. The literature discovered that Irish initiatives lacked sustainability and continuity when compared to the international models (The Finnish School Meal System, The Japanese School Lunch Program and the Stephanie Alexander Kitchen Garden Project). The international models mirror aspects of the Irish initiatives, yet all programmes are proven to be more effective and sustainable. The chapter concludes

that food education in Irish primary schools could theoretically benefit further from key elements of international models being introduced to the primary school curriculum.

Chapter three describes and validates the research methodology used and is focused on primary schools in county Galway.

## CHAPTER THREE: RESEARCH METHODOLOGY & METHODS

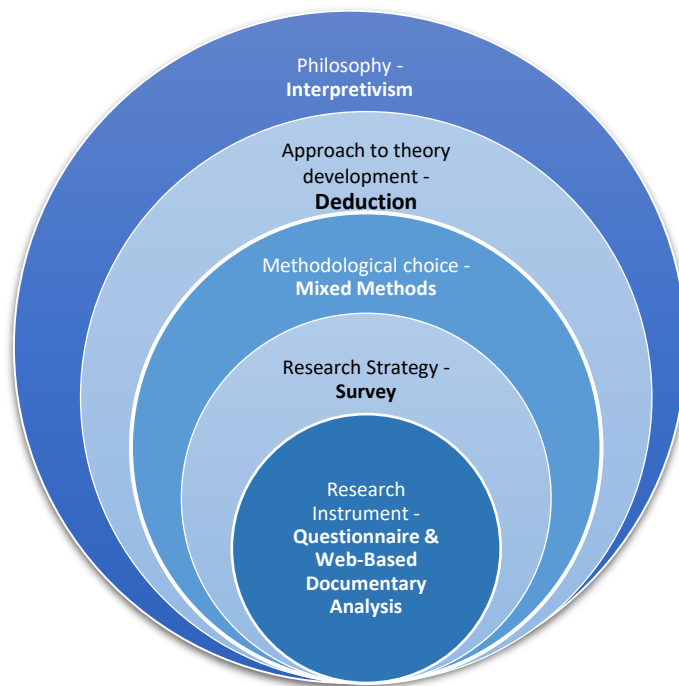
### 3.1 INTRODUCTION

This chapter describes the research methodology used to address the aim of this research study, namely, to explore the possibility of Irish primary schools introducing key elements of international food education models to the primary school curriculum. This is achieved through the set objectives which are; 1) to examine the policies on food education in Irish primary schools; 2) to evaluate the school policies and teachers' perspectives on food education in Galway city and county and; 3) to assess the possibility of drawing on particular international models to enhance Irish food education.

This chapter is divided into two main sections, the research methodology and the research methods. The research methodology involves a discussion on ontology, epistemology and axiology, and the paradigm taken followed by the research strategy. The research methods include a survey of primary schools in Galway city and county which is achieved through web-based documentary analysis and an online questionnaire. Research ethics are considered, and reflexivity is discussed. Section 3.2 discusses the research design framework.

### 3.2 RESEARCH DESIGN

The research design is a framework for the gathering and evaluation of data that addresses the research topic and meets the research objectives justifying the choice of sources, collection methods and analysis of techniques used (Saunders, Lewis, & Thornhill, 2016). Figure 2 illustrates the research design onion utilised for this research study.



**FIGURE 2 RESEARCH DESIGN ONION**

Figure 2 illustrates the process of the research design that has been employed for this study. The researcher has chosen an interpretivist paradigm taking a deductive approach. A mixed methods position has been taken for this study applying the survey method as the research strategy. Utilising the survey method, the research instruments employed are an online questionnaire and web-based documentary analysis.

### **3.3 RESEARCH METHODOLOGY**

The research methodology is concerned with the theory of how research should be carried out, including the hypothetical and philosophical assumptions upon which research is based and the outcomes of these for the methods used (Saunders, Lewis, & Thornhill, 2016).



### 3.3.1 ONTOLOGY

According to Cohen, Manion & Morrison (2018, p. 3), ontological assumptions are concerned 'about the nature of reality and the nature of things'. Questions of ontology are concerned with whether the reality of things to be examined is an objective entity, which is exterior to the person, or else an object of one's consciousness. Creswell and Plano (2011) suggest that there are four paradigms: Post-positivism; constructivism; transformative; and pragmatism. Punch & Oancea (2014, p. 18) further consider this to be 'wider terminology' suggesting that paradigms are defined differently by different writers where their main thoughts are generally categorised as positivism, interpretivism and constructivism. Constructivism, similar to interpretivism, considers the individual in a place in which subjectivity is essential, where the central premise is that people create the world as they actively experience it (Eriksen & McAuliffe, 2011). Creswell (2009, p. 8) suggest that 'interpretivism is directed at understanding phenomenon from an individual's perspective, investigating interaction among individuals.' Individual concepts are elicited and recognized through interaction between researchers and participants (Guba & Lincoln, 1994). Interpretivists believe that rich insights into humanity are lost if such complexity is reduced completely to a universal set of laws. O'Donoghue (2007) also identifies that interpretivists' focus on the behaviour, value and meanings people bring to situations which they use to comprehend their world.

The ontological position taken for this study is one of relativism. Relativism is of the belief that reality is subjective and differs from person to person (Guba & Lincoln, 1994). In conjunction with this, an interpretivist approach has been taken. Saunders, Lewis and Thornhill (2016, p. 718) define interpretivism as 'a philosophical stance that advocates humans are different from physical phenomena because they create meanings.' In their view, interpretivism 'argues that human beings and their social worlds cannot be studied in the same way as physical phenomena due to the need to take account of complexity (Saunders, Lewis, & Thornhill, 2016, p. 718).

This relates to this study through the researcher's approach to understanding participants' views and experiences on food education in Irish primary schools. This next section discusses epistemology and the epistemological position taken in this research project.

### **3.3.2 EPISTEMOLOGY**

Cohen, Manion and Morrison (2018), write that epistemology is concerned with the connection between the inquirer and the known. Epistemological assumptions focus on the bases of knowledge – its form and nature and how it can be communicated to and acquired by other human beings. Hughes (1990, p. 5) states that ‘epistemological questions are questions, among other things, about what are to count as facts’. Punch & Oancea (2014, p. 17) suggest the question asked with epistemology is ‘what is the relationship between the knower (or the researcher) and what can be known (the researched)?’. For the researcher, epistemology asks, ‘how do we know? and ontology asks, ‘what do we know?’. From an epistemological perspective, the research begins with research questions already identified. The epistemological position taken for this study is one of subjectivism. This research is context specific and requires a phenomenological rather than a positivist methodology. This research study focuses on exploring the possibility of Irish primary schools introducing key elements of international food education models to the primary school curriculum. A questionnaire was administered to primary schools posing quantitative and qualitative questions to teachers so the researcher could understand their interests, opinions, and experiences on food education in Irish primary schools.

### **3.3.3 AXIOLOGY**

Axiology poses the question ‘what is the role of values in research?’ (Saunders, Lewis, & Thornhill, 2016, p. 129) suggesting that it is concerned with values and ethics within the research process, incorporating questions about how researcher’s deal with their own values as well as those of the research participants (Saunders, Lewis, & Thornhill, 2016). Heron (1996) argues that researchers validate the use of axiological skill by been able to articulate their own values as a source for making decisions about the type of research that they are conducting and how they go about undertaking it, further suggesting that our values are the guiding reason for all human action. One’s values are reflected in their chosen philosophy as well as the choice for data collection techniques (Saunders, Lewis, & Thornhill, 2016). An example found in this study is the use of a questionnaire as a survey method to attain information. The researcher

selected this method as he values the views of the participants expressed through an anonymous questionnaire which, he believes, will produce more reliable information than an interview process where personal interaction with the participants would be favoured more. In the next section, the paradigm taken for this dissertation will be identified and justified.

### **3.3.4 PARADIGM**

A paradigm is the set of assumptions about the world, defined as the view in which the researcher sees the world and, it governs the research methodology that will be used and how the data is analysed (Kivunja & Kuyini, 2017). Similarly to this, Denzin and Lincoln (1994, pp. 107-109) describe a paradigm as:

A set of basic beliefs that deals with ultimate's or first principles. It represents a worldview that defines, for its holder, the nature of 'the world,' the individual's place in it, and the range of possible relationships to that world and its parts.

Paradigms address three fundamental questions in the research; the ontological question (What do we know); the epistemological question (How do we know); and the methodological question (how can the researcher go about discovering what can be known) (Punch & Oancea, 2014).

An interpretivist paradigm is used in this study taking a deductive approach. The interpretivist researcher focuses on richness, complexity, multiple interpretations and meaning making of the information that is collected from participants; therefore, this philosophy is explicitly subjectivist (Saunders, Lewis, & Thornhill, 2016). The deductive approach allows the researcher to explore the phenomenon of reintroducing international food education models to the Irish context by collecting data identifying themes and patterns. The rationale for choosing this position is informed by the research topic which seeks to discover if renowned international food education models could enhance food education in Irish primary schools. Scotland (2012, p. 12), suggested, 'Interpretive methods yield insight and understandings of behaviours, explain actions from the participant's perspective and do not dominate the participant.'

In the PhD study *An exploration of the development of a Network of Health Promoting Schools in the Mid-west region of Ireland 2005-2015: a complex adaptive systems*

*approach*, O'Beirne (2020), suggests that an assumption of interpretivism is that the 'whole' needs to be explored so one can understand a phenomenon. O'Beirne (2020), citing the work of Anderson, Crabtree, Steel & McDaniel (2005) notes that institutions and organizations like schools are often viewed in a traditional organizational theory setting that work as 'machine like' that have replaceable parts. Mennin (2010), cited in O'Beirne's (2020) study, identifies that this approach would have the researcher break a system into smaller pieces, explore these pieces of the picture and then put back together to draw conclusions about the whole. It would assert that if managers and administrators were sensible and lead a 'well-oiled machine' then the organisation would be successful. This would indicate in the educational setting, interventions such as mandated policy changes, monetary incentives, and best practice frameworks would improve outcomes (O'Beirne, 2020). O'Beirne (2020) notes that interpretivists emphasise the analysis in its entirety. This viewpoint fits very well with the holistic nature of this research study, seeking to explore the position of Irish food education initiatives in order to determine if renowned international models could develop food education in Irish primary schools. Denzin and Lincoln (1994) suggest that the constructivist facet of the interpretivist tradition signifies the belief that humans construct reality both individually and collectively. This research study aims to understand the phenomenon of food education in Irish primary schools and to consider the possibility of introducing core elements of international food education models into the Irish context. This is achieved through the meanings that people assign to the concepts, values, and development of food education in Irish primary schools. The next section identifies the research methods utilised for this study.

### **3.3.5 RESEARCH METHODS**

A mixed methods approach is used to support the research topic. This section identifies qualitative and quantitative methods. O'Leary (2010, pp. 104-105) defines this as:

Qualitative data - data represented through words, pictures, or icons analysed using thematic exploration; and quantitative data – data represented through numbers and analysed using statistics.

Arguably, there is a qualitative and quantitative divide that exemplifies an array of assumptions that dichotomize methods limiting researcher's potential for holistic understandings (O'Leary, 2010). Brannen (2016) would concur with this suggesting that the distinction between these methods is of no use and would argue that this may be of danger to the researcher. For example, quantitative research can frequently be categorized as an objective positivist quest for truths relying on theories, statistics, variables, and is most often large scale without much depth (Cavana, Delahaye, & Sekaren, 2001). Qualitative research in comparison would reject this notion of positivist rules and focuses on multiple realities by studying a minor number of in-depth cases. However, this process is often suspected of being value laden and subjective (Cavana, Delahaye, & Sekaren, 2001). To facilitate in addressing the research topic, the researcher found it necessary to use elements of both methods. In addition to using the mixed methods approach, Creswell & Plano Clark (2011) have identified the manner in which qualitative and quantitative research is combined which has led to a number of variations of mixed methods research. These are known as sequential mixed methods, concurrent mixed methods, and embedded mixed methods. This study took a concurrent embedded design approach to mixed methods using a broadly qualitative approach with elements of quantitative data. This is evident in this study by using a questionnaire utilizing both short answer and open-ended questions to gather both concise and rich meaningful information. Embedded mixed methods research is the recognised term when one methodology supports the other (Creswell & Plano Clark, 2011).

Qualitative tradition in social science would argue the value of depth over quantity and works on social complexities to really explore and understand lived experiences, belief systems of individuals, cultural groups, interactions and processes, therefore suggesting that delving into qualitative methods would mean conducting research in more natural settings focusing on small numbers and rich qualitative data (O'Leary, 2010). Quality information via a questionnaire, exploring individual teachers' perspectives on food education in Irish primary schools was used to establish patterns and trends; this is an example of the mixed method approach in this research study. Similarly, a web- based documentary analysis assessed school policy on healthy eating in all schools in Galway city and county. This sought to determine how many schools displayed a healthy eating policy. A quantitative method will be used in

gathering information from the web-based documentary analysis while the qualitative method will be used in finding out why these results were achieved. This justifies the use of a mixed methods approach.

The next section will discuss the research strategy and explains the rationale for choosing survey as the strategy.

### **3.3.6 RESEARCH STRATEGY**

The research strategy is a 'general plan of how the researcher will go about answering the research question' (Saunders, Lewis, & Thornhill, 2016, p. 726) The research strategy chosen for this study is a survey. Justification for this is provided in the next section.

#### **3.3.6.4 SURVEY**

Surveys are characterised by a structured or systematic set of data, which according to de Vaus (2001), entails the accumulation of information about the same variables of at least two instances resulting in a data matrix. There are four main categories of surveys: phone, face-to-face, mail and web-based (Saunders, Lewis, & Thornhill, 2016). The word 'survey' has no set meaning; often it is used to describe any research that collects quantitative or qualitative data from a sample of people (Punch & Oancea, 2014). Aldridge & Levine (2001) argue that each survey is unique and that the list of strengths and challenges are too inflexible suggesting that a solution to one survey may not always work with another. Bell (2010) states that the aim of a survey in social science is to obtain information, which can be examined, patterns extracted and comparisons made. In the case of this research study, the researcher achieved this through the research instruments.

De Leeuw, Hox & Dillman (2008) identify that surveys involve identifying a particular group and gathering data to gain an understanding into what that group does or think. However, they caution that although surveys may be deceptively simple, choosing the correct data collection method warrants thorough consideration as some methods may be better at data collection than others. The next section discusses the web-based

documentary analysis and an online questionnaire as the research instruments using the survey strategy as this allows the sourcing of invaluable data and information.

### **3.4 RESEARCH INSTRUMENTS**

The integrity of any research depends heavily on the quality of the data collection tools therefore constructing effective questioning tools forms a significant phase in the development of the research process (Saunders, Lewis, & Thornhill, 2016). Each with strengths and limitations.

#### **3.4.1 RESEARCH DATA**

The literature discussed in Chapter two has suggested that there are many challenges to implementing food education in Irish primary schools such as time, external pressures and sustaining healthy eating behaviours (Upton, Upton, & Taylor, 2013; UCD, 2016; O'Beirne, 2020).

The researcher seeks to discover if what is been suggested in the literature is evident in practice and to determine if schools in Galway would be open to developing food education by introducing elements of international models in their school. A gap in the literature was recognised for an evaluation of food education as a whole in Ireland with a view to introducing elements of successful international food education models to the Irish context. The geographical location of the schools was chosen based on the researcher's experience on working with food education in the Galway region. Table 3 identifies research objectives used and their aims in this study.

**TABLE 3 OBJECTIVES AND AIMS**

	Objectives	Aims
1)	To examine the policy on food education in Irish primary schools.	To determine the policies for food education and healthy eating set out by the Irish Government.
2)	To evaluate the school policies and teachers' perspectives on food education in Galway primary schools.	To learn about respondents understanding and views of food education policies and initiatives in primary schools in Galway.
3)	To assess the possibility of drawing on particular international models to enhance Irish food education.	To ascertain if schools in Galway would be interested in implementing elements of international model to the Irish context.

These objectives were refined as a result of the literature in Chapter two, noting that food education in Ireland is not mandated by the Government and an array of obstacles still exist to implementing food education successfully in Irish primary schools.

### **3.4.2 WEB-BASED DOCUMENTARY ANALYSIS**

According to Grix (2010), it is important to distinguish between primary and secondary document sources. Cohen, Manion & Morrison (2018) suggest that primary documentary research is an interpretation of raw materials, whereas secondary documentary research is an interpretation of an assessment of the interpretations of others. Punch & Oancea (2014) define documentary analysis as 'research that uses documentary data, either as the main data sources for a study in its own right or as a component of broader education research projects'. O'Leary (2010), suggests that documentary analysis, like textual analysis is a form of indirect data collection.

Web-based documentary analysis relates to objective one. The researcher examined Government policies on food education in primary schools in Ireland by assessing online Government documents and publications. Healthy eating policies were then reviewed in primary schools in Galway city and county (n=119) through each school's official website. The list of schools for Galway city and county was taken from the



Department of Education and Skills official list of Irish primary schools (Ireland, DES, 2019).

For the assessment of Galway schools' healthy eating policy via their official website, the researcher first documented if the school has an official website, then if the school has a healthy eating policy in place, followed by the year this was last updated and common themes that emerged from each policy. The information was recorded using an excel spreadsheet. It was then compared against the policies set for healthy eating in schools by the Government and responses from question seven in the questionnaire which examined healthy eating policies in schools in Galway city and county.

#### **3.4.2.1 LIMITATIONS TO DOCUMENTARY ANALYSIS**

Cohen, Manion & Morrison (2018) citing Scott (1990) identify four potential challenges to documentary analysis: authenticity, credibility, typicality and meaning. Firstly, are the documents being analysed authentic, who has written them and for whom, and whether the document is public or private, forced, or voluntary. The identity of the author is not always apparent. The second potential challenge is credibility, meaning whether the documents being analysed are reliable, honest, and precise. For a document to be credible, we need to understand the original purpose of the document. Thirdly typicality, whether the document is representative. Assessing the typicality involves determining if we are looking at a unique view or if the document represents a typical view of the time in which it was constructed. Finally, attention needs to be paid to the meaning of the documents. This involves three aspects: the intended content, the received content, and the internal meaning of a text. Stanford (1994), recommends that it is critically important to check how the data has been produced, what has been considered, how correctly, by whom, when, where, and why. The documents analysed for this study were official Government documents presenting policies on food education, as well as healthy eating policies that were accessed through the school's official website. A limitation discovered using web-based documentary analysis was the fact that a considerable number of schools did not have an official website. This presented challenges in drawing on clear conclusions.

### **3.4.1.2 STRENGTHS TO DOCUMENTARY ANALYSIS**

Considering the limitations to using web-based documentary analysis, one also needs to consider the strengths to justify this process, particularly, in the case of this research study. The digitalisation of documents and the creation of online archives such as Government publications have increased the scope for the researcher to use documentary analysis (Saunders, Lewis, & Thornhill, 2016). This method is not as geographically restricted as other methods of inquiry; therefore, it will suit the time frame of the study considering that every primary school in Galway city and county (n=119) is being assessed. Bell (2010), quoting Johnson (1984, p. 23) suggests that documentary analysis of educational documents can prove to be an exceptionally valuable alternative source of data. In the case of this research study, documentary analysis is used as a complimentary research tool to an online questionnaire. This will assist in determining the reliability of the information gathered from web-based documentary analysis. In the next section, the online questionnaire is discussed.

### **3.4.2 ONLINE QUESTIONNAIRE**

An online questionnaire is the collection of data through a self-administrated electronic set of questions on the internet which automates the paper questionnaire process so that responses are instantaneously submitted into a database and ready for evaluation (Archer, 2007).

The questionnaire questions sought to discover the position of food education in primary schools in Galway city and county. Objective two is an evaluation of the policies and perspectives on healthy eating in Galway primary schools. Questions one to ten in the questionnaire inquired about food education initiatives implemented in Galway schools, respondents' understanding of food education and healthy eating, challenges associated with implementing it, time allocation and facilities regarding food education in participating schools. Policies for food education and healthy eating were also assessed and compared with the results from the web-based documentary analysis.

Objective three is an assessment of the attitudes towards implementing elements of international models. Questions eleven, twelve and thirteen inquired about respondents' views on whether food education needs to be improved in primary

schools, if they were familiar with any of the international models in this study, and if they would be interested in implementing a pilot model based on elements of international models (active school garden, nutritious cooking classes and food education). How the data was attained is discussed in the next section.

### **3.4.2.1 DATA COLLECTION**

The questionnaire was emailed to all schools' in Galway city and county (n=119) where they had the opportunity to take part in it anonymously. This resulted in the final number of schools involved in the online questionnaire as eleven involving thirty-five participants. This was achieved in three phases.

#### Phase One (16/12/2019)

The questionnaire was emailed to 119 schools' in Galway city and county for staff to complete. The initial response rate was very low, receiving just five responses.

#### Phase Two (06/01/2020)

The researcher sent a reminder email to all schools in Galway to complete the questionnaire including the link to the questionnaire. This brought the total number of participants to twelve.

#### Phase Three (13/01/2020)

In the third and final phase, the researcher sent out a gentle reminder email to all schools in Galway once again in a final bid to receive more participants for the study. This phase proved to be successful, bringing the final number of participating schools to eleven which include thirty-five respondents from these schools.

The results of the questionnaire were recorded and analysed using excel spreadsheets and google forms. This is a self-administrated questionnaire allowing for it to be more cost effective.

### **3.4.2.2 SAMPLE**

Sampling is an important element of the research as it impacts its quality. Sampling decisions can determine the nature, reliability, validity, and generalisability of the data collected (Cohen, Manion, & Morrison, 2018). The purpose of this study is not to generalise from a statistical perspective; but to use a smaller sample to produce in depth, rich information so the researcher can interpret the sample's opinions and views of food education models in Irish primary schools while cross-checking this with other samples for reliability.

The researcher has chosen a purposive sample for this study. In purposive sampling, researchers select the cases to be included in the study, based on their judgement of their typicality or possession of a characteristic being sought (Cohen, Manion, & Morrison, 2018). In this research the purposive sample includes principals and staff in primary schools in Galway city & county. The participating schools consisted of four urban and seven rural equating to 13% of schools in Galway city and county that were randomly distributed throughout Galway, therefore could be considered a fair representation of schools in Galway. Four out of eleven schools had more than one participant. The greatest response from a single school consisted of eleven respondents from an urban school. After this, a rural school contributed eight responses.

Although the strength lies in accuracy of data and speed, online questionnaires are not without its limitations to any researcher. The next section identifies the advantages and limitations of online questionnaires.

### **3.4.2.3 ADVANTAGES AND LIMITATIONS OF ONLINE QUESTIONNAIRES**

Using an online questionnaire will benefit the researcher in terms of it being cost effective, speedy, precise with data collection and the ease of access and contact with the participants. The commercial questionnaire product used in this research is Google Forms. It proves to be cost effective as it is a complementary product to use that includes full technical support and advanced questionnaire development functions (Guay, 2016). The use of this type of questionnaire in terms of contact is very important to this study. If the researcher had chosen a face-to-face approach, garda vetting

would be required for each school visited, which would pose a major time constraint and inconvenience to the study. The literature analysis identifies that this has been a common method of enquiry for similar research in the field, for example, a questionnaire was a method used in determining the effectiveness of the Food Dudes Healthy Eating Programme (UCD, 2016). It was also an essential component in the recent review of the Stephanie Alexander Kitchen Garden Project in Australia (SAKGP, 2018), therefore, this demonstrates the importance of using this method for this research study.

Online questionnaires inevitably will have limitations, especially in comparison to conventional questionnaires (Cohen, Manion, & Morrison, 2018). Cohen, Manion & Morrison (2018) argue that many of the positive assertions made for online questionnaires are debatable. De Leeuw, Hox & Dillman (2008) suggest that there is little evidence in the literature that online questionnaires achieve higher response rates than conventional questionnaires. However, Saunders, Lewis & Thornhill (2016) claim that a good response rate in online questionnaires is dependent on the recipient being motivated to answer the sample and to return it back suggesting that one way to achieve this is having good visual appearance that is attractive as the designer and responders may see different images displayed on their screens. Conversely, Fleming & Bowden (2007) identified no significant difference in responses in online questionnaires compared to mail questionnaires.

To circumvent many of the limitations of online questionnaires, the researcher used Google Forms. This was chosen as it has a clear, distinctive, and user-friendly layout that has been designed to be attractive to the respondents to achieve a high response rate. Considering that the questionnaire was sent to principals & staff of all primary schools in Galway city and county, issues concerning emails being delivered as spam was avoided as this questionnaire was conducted by sending an email with an introductory letter to principals and/or secretaries of each school with the link attached to allow them to access the questionnaire via Google Forms which was then distributed to staff. The email also contained an attachment file that included the participant information leaflet.

A common theme in the literature is that having a good response rate for any questionnaire is essential to generalise the results as failing this leads to a problem of

non-response error (Archer, 2007). There are two types of non-response errors in questionnaires: unit response: the failure to obtain any information from a potential respondent, and item response: the failure to obtain fully completed questionnaires or unanswered questions (De Leeuw, Hox, & Dillman, 2008). A solution to this is making use of the questionnaire design. This is a key advantage to using online based questionnaires as this will enable the researcher to design the questionnaire so that the participants are unable to progress onto many of the next questions without answering the current question posed to them and where necessary the software will prompt the participant to review questions left unanswered (Cohen, Manion, & Morrison, 2018). Computer literacy varies from person to person and on their willingness to participate and complete the questionnaire accurately, respondents may not have the necessary expertise to complete the questionnaire (Cohen, Manion, & Morrison, 2018). In a bid to avoid this and to secure a good response rate, clear, easy to understand instructions were given on how to answer the questionnaire. These common concerns are examined when testing the questionnaire for this study.

#### **3.4.2.4 REVIEWING AND PILOTING THE QUESTIONNAIRE**

A well-designed and well-tested questionnaire is the foundation for reducing measurement error (De Leeuw, Hox, & Dillman, 2008). It is for the researcher to test the efficacy of the instruments. Arguably, a good questionnaire always takes several drafts.

##### **3.4.2.4.1 VALIDITY AND RELIABILITY**

Pilot testing is conducted to improve the questionnaire so that there should be no issues in recording the data. This will allow the researcher to obtain some assessment of the questions' validity and the likely reliability of the information that will be posed (Saunders, Lewis, & Thornhill, 2016). Validity is defined as 'the extent to which data collection method or methods accurately measure what they intend to measure' (Saunders, Lewis, & Thornhill, 2016, p. 730). Reliability refers to the quality of measurement and its consistency (Bell & Waters, Doing Your Research Project, 2014). Evaluating the reliability of research findings involves researchers making judgements in relation to the usefulness of the information, the accuracy of the

research in relation to the application, the relevance of the methods performed and the integrity of the findings. Validity is ensured in this study by first reviewing the questionnaire, then piloting it to determine if it produces useful data to address the research topic.

### 3.4.2.4.2 TESTING THE EFFICACY OF THE INSTRUMENT

Bell & Waters (2014) propose while testing the efficacy of the research instrument to consider the following criteria illustrated in table 4.

**Table 4 Testing the efficacy of the research instrument adapted from Bell & Waters (2014)**

Use an additional short questionnaire to check:
The amount of time the questionnaire takes to complete
Clarity of instructions
Any questions that are unclear or ambiguous
Any questions the respondents felt uneasy about answering
If there are any major topic omissions
If the layout is attractive and clear
Any other additional comments

Using the recommended criteria by Bell & Waters (2014), testing the efficacy of the instrument has been completed in two strands.

Firstly, the questionnaire was reviewed to test its efficacy by asking two educational professionals from two different backgrounds to examine the questionnaire, one culinary lecturer and one primary school teacher. These individuals were chosen based on their interest and contribution to food education workshops for primary school pupils as well as for their extensive experience in their educational field. The reason for testing the questionnaire was to identify any errors or ambiguity derived from the questions posed ensuring the validity of the questionnaire. This also helped to distinguish any variations in language, terminology, clarification of questions and response options ensuring reliability. The layout and sequencing of questions were also analysed, which resulted in the elimination of one question which was originally part C of question nine: 'how much time does the garden leader spend in the garden weekly?'. This question was not relevant to the objectives relating to the questionnaire.

There was also the reordering of four questions with some minor changes to the wording and terminology used. After four redrafts, the questionnaire was then ready for the second strand of testing which included been piloted out to two primary schools.

The questionnaire was then piloted by two principals of primary schools in Galway city. These individuals were chosen based on their experience of working in education and interest in food education. The valued feedback achieved from this included eliminating one question based on identity which was not relevant for this questionnaire. The respondents felt eliminating these could help achieve a higher response rate and the questionnaire was reconstructed accordingly. The information achieved from this was not included in the main data set as they would not be considered valid responses. In the next section, research ethics for this study are considered.

### **3.5 RESEARCH ETHICS**

Researchers have a responsibility not only to their profession in their search for knowledge but, more importantly, to the participants they rely on for their study and must take into account the effects participation may have (Cohen, Manion, & Morrison, 2018). Cohen, Manion & Morrison (2018) referring to Farrimond (2013) suggest that internet research covers three main types: passive, active; and online traditional forms. Online traditional forms of internet research concern the other form of data collection used for this study which is online questionnaires. Informed consent is essential before any participant takes part in a study. This was addressed in the informed consent form and as the first question in the questionnaire referred to informed consent and introduced the study's aims and objectives very clearly. The participant was only able to continue with the questionnaire once they gave their consent to take part. Similarly, to this, confidentiality and anonymity needs to be addressed using these data collection methods. This was also highlighted in the participation information leaflet ensuring that confidentiality and anonymity were respected. In conjunction with this the online questionnaire was anonymous, therefore confidentiality and anonymity were addressed.



### 3.6 REFLEXIVITY

Saunders, Lewis & Thornhill (2016, p. 725) suggest that reflexivity is

Self-examination, evaluation and interpretation of your attitudes and beliefs, reactions to data and findings, and reactions with those who take part in the research and acknowledgement of the way these affect both the processes and outcomes of the research.

Finlay (2002) argues that reflexivity in social science is a common practice in qualitative research as the researcher is very much part of the research. It is important for the researcher to acknowledge the reflexivity of one's own work. Due to the interpretative nature of this research and the fundamental role of the researcher, the issue of reflexivity requires proper attention in terms of acknowledging that the possible predetermined ideas and philosophies could possibly influence the study and generation of themes (Brocki & Wearden, 2006) However, the aim is not to minimise these, but rather to accept the inevitability of bringing one's own perspective to bear on the research. In the case of this research study, the researcher selected a topic that he is passionate about. Previously the researcher completed an undergraduate dissertation on the subject of food education in Irish primary schools. He developed and operated several food education workshops for school pupils in Galway city and county; therefore, this determined the location as it is an area of interest to the researcher. That study created the assumption that food education in Irish primary schools required further development. The literature suggests that the position of food education in Ireland was better than the initial hypothesis of the researcher; he did not realise that Ireland had introduced international models into the Irish context previously. A presumption when choosing this research topic was that international models would help improve the situation. However, the literature also illustrated that food education in Irish primary schools would benefit from further development and the researcher is of the opinion that Ireland could still learn from other international models. The researcher took an interpretivist paradigm so he could understand the interpretations, opinions and values of participants' involved in the research study believing that this would contribute to the holistic nature of this research and to the overall aim of the study. Having researched other strategies, he believed the best way to understand participants' information was taking a mixed method approach therefore he could delve into both qualitative and quantitative data, receiving rich meaningful

results as well as numerical data. This was achieved through web-based documentary analysis and an online questionnaire.

### **3.7 CONCLUSION**

This chapter has described and justified the research methodology and framework used in addressing the research topic. The researcher is using an interpretivist paradigm. The methodological framework is a mixed methods approach using the survey strategy. The tools used under the survey strategy include school web analysis and an online questionnaire taking a broadly qualitative approach with elements of quantitative data which aligns with the interpretivist paradigm taken.

The data collection methods used in this study that are justified and deemed the most suitable research instruments to achieve the aims and objectives are web-based documentary analysis and an online questionnaire. Web-based documentary analysis was conducted on Government policies on food education and on all primary schools in Galway city and county, assessing their school food policy on healthy eating. An online questionnaire was then used to delve into this further. To conclude the chapter, ethical considerations and reflexivity for the research were discussed.

## **CHAPTER FOUR: RESEARCH FINDINGS AND DISCUSSION**

### **4.1 INTRODUCTION**

This chapter reports the main findings of research on food education in Ireland with particular reference to Galway city and county. The chapter is divided into three sections, which align to the objectives of the study. These are: 1) To examine the policy on food education in Irish primary schools; 2) to evaluate school policies and teachers' perspectives on food education in Galway primary schools; 3) to assess the possibility of drawing on particular international models to enhance Irish food education. For this study, the researcher has defined 'food education' as an experiential pedagogical learning experience to facilitate the education of nutrition and healthy eating behaviours. In the case of Galway primary schools, this involves the implementation of SPHE guidelines; food education initiatives; and the provision of working vegetable gardens and cooking facilities.

The researcher conducted a web-based documentary analysis of food education policies in Irish primary schools and assessed healthy eating policies in schools in Galway city and county. A questionnaire was administered posing questions on the practice of and perspectives of food education. It assessed the respondents' understanding of national and international food education models while also identifying their awareness of school food policy on healthy eating. Table 5 provides an overview of the links between the objectives of the study and the research instruments adopted (web-based documentary analysis and questionnaire questions). The section following the table reports research results in relation to the first objective of this study.

**TABLE 5 AN OVERVIEW OF OBJECTIVES AND INSTRUMENTS**

Objectives	Instruments
1) To examine the policy on food education in Irish primary schools	Web-Based Documentary Analysis
2) To evaluate the school policies and teachers' perspectives on food education in primary schools in Galway city and county	Questionnaire Questions 1,2,3,4,5,6,7,8,9,10
3) To assess the possibility of drawing on particular international models to enhance Irish food education	Questionnaire Questions 11,12,13

## **4.2 TO EXAMINE THE POLICY ON FOOD EDUCATION IN IRISH PRIMARY SCHOOLS**

This section examines the policies of food education in Irish primary schools. As noted in Chapter one, Ireland's first food education initiative, Health Promoting Schools (HPS) was launched in 1993 as a result of recommendations set by the Government on how schools could support and motivate pupils to adopt a healthier lifestyle (Nic Gabhainn, O'Higgins, & Barry, 2010). In 1999 the Department of Education and Skills introduced Social Personal and Health Education (SPHE) to the primary school curriculum. O'Beirne (2020) suggested that this was introduced in response to the phased introduction of the HPS initiative. In 2004, the Food Dudes Healthy Eating Programme (FDHEP) was introduced to primary schools (Ireland, Dáil debate, 29<sup>th</sup> November, 2006). Following this, the Incredible Edibles initiative was launched in 2009 (DES Circular, 2016).

### **4.2.1 POLICY ON IRISH FOOD EDUCATION INITIATIVES**

The national policies relate to the existing food education initiatives, the healthy eating policy and the SPHE curriculum practiced in Irish primary schools. Irish food education initiatives are, the Health Promoting School (HPS) initiative, the Food Dudes Healthy

Eating Programme (FDHEP), and the Incredible Edibles initiative. The three initiatives are implemented by Government entities: HSE, Bord Bia, and Agri Aware.

#### **4.2.1.1 HEALTH PROMOTING SCHOOLS**

According to the Health Service Executives (HSE) *National framework document for developing a health promoting school*, in 1993, the Department of Education and Skills (DES) and the Department of Health and Children (DHC) developed an inter-departmental group to lead the development of the national framework for HPS in Ireland. The Irish national framework document suggests that the Health Promoting Schools (HPS) take an international view of health encompassing physical activity, nutrition, and mindfulness (Ireland, HSE, 2015). This is achieved through the four key elements: the environment; curriculum and learning; policy and planning, and partnerships (Ireland, HSE, 2015). According to a DES circular (2016, p. 2), *The Promotion of Healthy Lifestyles in Primary Schools*, the aims of the HPS initiative are to:

- ❖ Foster the healthy development of the whole school community.
- ❖ Provide a framework for developing health promotion initiatives in a way that supports and enhances the implementation of the curriculum.
- ❖ Support the planning, implementation, and evaluation of health-related activities under school self-evaluation, and school development planning processes.
- ❖ Enhance the links between schools and their communities.

In a Dáil debate, Brendan Howlin, then Minister for Health, informed the Dáil that the main aim of the HPS initiative is to 'foster healthy environments conducive to the promotion of health' (Ireland, Dáil debates, 1993, June 1).

Health Promoting Schools are recommended to teach nutrition in a secure environment where the whole school community is encouraged to take responsibility for their own health and to promote making healthy choices which can be achieved through the curriculum and learning (Ireland, HSE, 2015). Damien English, then Minister of State for Skills, Research and Innovation, stated that health promotion officers are allocated regionally to ensure schools are supported in meeting the health requirements of school pupils (Ireland, Dáil debates, 2015 December 9). He further suggested that the department's responsibility is to provide the guidance, supports and policies to support the HPS framework not to implement these, which is the

responsibility of each individual school involved (Ireland, Dáil debates, 2015, December 9). In section 2.2.1, However, O'Beirne (2020) reported that the implementation of HPS must compete against numerous other demands already pressing on a limited amount of school time.

In a Dáil debate, Micheál Martin, then Minister for Health and Children emphasized:

Teachers play a valuable role in communicating and supporting the healthy eating message, especially through the adoption of a whole school approach to healthy eating. Within a health promoting school consistent messages about healthy eating are communicated through all aspects of school life – the classroom, the curriculum, school breaks, school lunches and physical activity (Ireland, Dáil debates, 2003, December 16).

Interestingly, a DES Circular (2016) reported only 40% (n=3300) of Irish primary schools were taking part in the HPS initiative. In section 2.2.1 Simovska (2012) argued that health promotion in schools should relink with the traditions of pedagogical theory developing innovative forms of practices and interventions in the face of intricate societal challenges concerning health and health promotion.

#### **4.2.1.2 THE FOOD DUDES HEALTHY EATING PROGRAMME**

In Ireland, the Food Dudes Healthy Eating Programme (FDHEP) is managed by Bord Bia and funded by the Department of Agriculture, Food and the Marine, and the EU School Fruit and Vegetable Scheme. According to the FDHEP website; 'Food Dudes is an award winning curriculum-linked evidence-based healthy eating programme' (Food Dudes, 2020a, Sec 1) The aim of the programme is to encourage pupils to eat more fruit and vegetables at school and at home (DES Circular, 2016). The programme is based on repeated tasting of fruit and vegetables to encourage healthy food choices. This is achieved using positive role models (Food Dudes, 2020a). The Food Dudes website suggests that evaluations of the programme consider it to be a practical approach to healthy eating at an early age (Food Dudes, 2020a). However, much of the evaluations identified in Chapter two reported this model to only be effective in the short term (Martin, Concannon, Bel-Serrat, Heinen, & Murrin, 2017; Taylor, 2017). After intervention periods, the consumption of snack foods such as sweets, chocolate, soft drinks and crisps remained the same (UCD, 2016). Interestingly, in comparison, results

from a report on the SAKGP by Block, et al., (2019) identified that many of the pupils consumed less junk food and more fruit and vegetables as a result of participation in the programme.

#### **4.2.1.3 INCREDIBLE EDIBLES**

The Incredible Edibles initiative is operated by Agri Aware and supported by Bord Bia, the Department of Agriculture, Food and Marine, the Department of Education and Skills and the Department of Health (Ireland, DES Circular, 2016). Incredible Edibles is a healthy eating initiative for primary school pupils (Incredible Edibles, n.d(b)).

The DES Circular identifies the aim of the initiative as follows:

To educate pupils about growing fruit and vegetables and to increase their knowledge of food origin and quality. It also highlights the important role that fresh produce plays in a healthy balanced diet and the importance of consuming at least seven portions of fruit and vegetables each day (Ireland, DES Circular, 2016, p. 5).

In a Dáil debate, Brendan Smith (2010, November 4), then Minister for Agriculture, Fisheries and Food, ascertained that the aim of the Incredible Edibles is to educate pupils about how to grow fresh fruit and vegetables and what is involved in transferring it from field to fork. Simon Coveney (2011, May 25), then Minister for Agriculture, Fisheries and Food, told the Dáil that students develop an understanding of growing skills focusing on the need to increase the fabrication of fruit and vegetables.

According to the DES Circular:

Incredible Edibles encourages primary schools across Ireland to get busy in the garden and/or classroom. Participating schools are supplied with grow packs, with seeds, to grow a variety of healthy foods, such as potatoes, carrots, lettuce, strawberries, and turnips. Downloadable curriculum-linked activity sheets, growing guides, recipes, and logbooks allow pupils to take these important messages with them for life and to their homes and wider communities (Ireland, DES Circular, 2016, p. 5).

In 2010, Ciarán Cuffe, then Minister of State of the Department of the Agriculture, Fisheries and Food, suggested that 'we need such initiatives at a time when there is

a growing focus on the impact of obesity not just on older people but also on our children' (Ireland, Dáil debates, 2010, October 21, Sec. 9).

Interestingly, this healthy eating programme is only recommended by the supporting authorities for primary schools to take part; it is not a mandated initiative (Ireland, DES Circular, 2016). In 2009, 2,200 (n=3300) schools registered for the initiative (Sargent, 2009). Similarly, Smith (2010, November 4), informed the Dáil that 2,607 (n=3300) schools participated in the Incredible Edibles programme. In 2016, only 1,320 (n=3300) of schools across Ireland registered for the initiative (Irish Farmers Association, 2017). However, in February 2020, just 550 (n=3300) schools registered (Bord Bia, 2020). This indicates that participation for this model has declined by 75% since the first roll out. Chapter two, section 2.2.3 identified that there has not been any academic research carried out on this initiative to date (Greene, 2020).

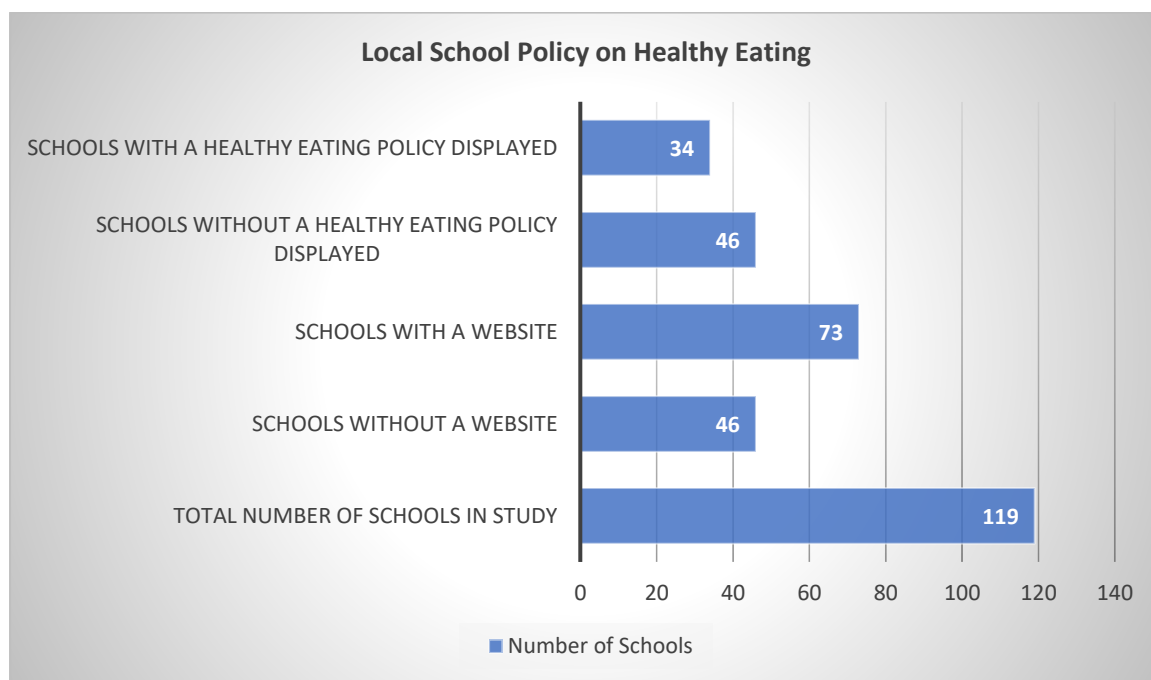
#### **4.2.2 POLICY ON HEALTHY EATING IN PRIMARY SCHOOLS**

A healthy eating policy for primary schools in Ireland is a recommendation as part of the SPHE curriculum. According to the Department of Education and Skills (2019, p. 3) 'Schools have worked on devising healthy lunch policies as part of Social, Personal and Health Education and Physical Education'. *The Lifeskills Survey*, (2017, p. 16), which sets out to provide information on healthy eating in schools, identified that 92% of primary schools have a healthy eating policy in place, 3% reported to be in the process of developing a policy on healthy eating and 5% reported not having a healthy eating policy in place. In 2017, Minister Catherine Byrne, referring to primary schools in Ireland stated that they have 'published new Healthy Eating Guidelines and a revised Food Pyramid earlier this year, and these were recently sent to every school in the country' (Ireland, Department of Health, 2017, p. 7). The food pyramid can be viewed in appendix three. According to the DES Circular (2016, p. 4), 'schools healthy eating policies should outline how the school supports healthy eating practices through the promotion of healthy lunches and healthy snacks and by other means'.



#### 4.2.2.1 POLICY ON HEALTHY EATING IN PRIMARY SCHOOLS IN GALWAY

Policy on healthy eating was assessed in Galway primary schools (n=119). This was achieved through an analysis of school websites to discover if they had a policy on healthy eating in place. Common threads that emerged in schools' policy were also documented. These results are presented in figure 3.



**Figure 3 Local Policy on Healthy Eating**

The research found that, seventy-three schools had an official school website at the time of this study (March 2020). Of these seventy-three, thirty-four of these schools displayed a healthy eating policy on their school website, and forty-six of these schools had not displayed a healthy eating policy on their official school website. Additionally, forty-six of these schools did not have an official website, which made it more difficult to assess the healthy eating policy in these schools.

Common points that were noted in the schools' policies on healthy eating included a rationale for healthy eating, aims of the policy, foods encouraged by the schools and foods prohibited by the school. This would imply that the schools who displayed their healthy eating policy on their website were following the instructions set out by the DES circular noted in section 4.2.1.4.

Unsurprisingly, out of the thirty-four schools (n=119) that had a healthy eating policy displayed, five of these had updated their policy in 2017. As noted in section 4.2.1.4 this was the same year as the updated healthy eating guidelines were published (Ireland, Department of Health, 2017). This is higher than any other year and would suggest only minor engagement with the updated guidelines sent out to primary schools. Twelve schools did not have any date attached to the policy so it could not be indicated if or when these were updated.

The web-based documentary analysis identified that out of the 61% (n= 73 of 119) of schools that had an official website at the time of this study, only 47% of these displayed their healthy eating policy on their official school website. In the questionnaire below, section 4.3, question 7(a) revealed that only two (n=11) schools displayed their healthy eating policy on their school website, yet all schools reported to having one. This led to difficulties in drawing on clear conclusions. Interestingly, *The Lifeskills Survey* (2017), completed in 2015, discovered that 92% of primary schools in Ireland had a healthy eating policy in place. Minister for Education and Skills, Richard Bruton, in his foreword for the survey, provided an interesting statement on inducement for schools to participate in the survey (Ireland, DES, 2017). The rationale for this is evident when just 53% (n=3300) of primary schools took part in the survey in 2015, 15% less than the *Lifeskills Survey* 2012 (Ireland, DES, 2017). One could deduce from these findings that the *Lifeskills Survey* could be mandated for schools in Ireland. Interestingly in section 2.2.3, Nic Gabhainn, O'Higgins & Barry (2010) identify that health education for school pupils is mandated by the Irish education system. However, the poor response rate to the *Lifeskills Survey* would suggest different.

The findings from the web-based documentary analysis are drawn from examining each school's official website only, therefore there are limitations to what can be learnt from this and it may not be a complete analysis of the schools that have a healthy eating policy in place. One could observe from these findings that healthy eating policy in these primary schools is not seen as a priority. The next section reports the findings in relation to school policies and teachers' perspectives on food education.

### **4.3 TO EVALUATE THE SCHOOL POLICIES AND TEACHERS' PERSPECTIVES ON FOOD EDUCATION IN PRIMARY SCHOOLS IN GALWAY CITY AND COUNTY**

This section reports the findings from the questionnaire in relation to the school policies and teachers' perspectives on food education in Galway primary schools. This involved thirty-five respondents representing eleven schools. Policies were assessed to determine if the policies that were put in place by the Government on healthy eating and food education were followed through in practice. This was further cross checked with the findings from the web-based documentary analysis on healthy eating policy in section 4.3.1.5. As indicated in Chapter three by O'Leary (2010), when using qualitative data, one must really explore and understand the lived experiences, interactions and processes the participants involved. This questionnaire focused on receiving rich qualitative data using open-ended questions, gathering respondents' opinions, views, and experiences, recognising the interpretivists paradigm. Quantitative measures were utilised to receive concise numerical data. This was achieved through short-answer questions.

Question 1(a) questioned respondents' interest in food education. 94% of the thirty-five respondents were interested in food education in primary schools. Question 1(b) asked if respondents had a background in food education. Responses indicated that 86% did not have a background in food education in Irish primary schools. Question 1(c) then asked why the remaining 14% of respondents were interested in food education. Results reported here included:

- ❖ 'Health for our children'
- ❖ 'Under the SPHE curriculum it is important to educate children about the different food groups and their nutritional value. It is vital that they realise which foods are healthy for them and which foods are not so that they can make wise decisions and help educate their parents on good nutritional food when they are shopping for and preparing/cooking food at home. It is also important to teach them how to prepare food safely and healthy ways of cooking also'.
- ❖ 'It forms part of the SPHE curriculum'
- ❖ 'I feel that food education is an important part of the overall health and wellbeing education we are striving to provide to children in our schools. It is

important that we look after and educate the whole child, and this should include social, emotional and physical health and wellbeing’.

- ❖ ‘Children need to be aware of what they are eating and the impact of their food choices’.
- ❖ ‘It is important information to pass on to children’.
- ❖ ‘I’m interested in cooking and I would like to pass on my love of cooking to the children that I teach. Also, I appreciate the importance of healthy eating and feel that this is something that in many cases needs to be taught in school as children are not necessarily getting the required information at home. Poor knowledge about the food pyramid and generally food preparation, leads in many situations to poor diet and problems such as obesity’.

This is rich valuable information received from primary school teachers that enables the researcher to understand the lived experiences of the respondents and their interest in food education. Just 14% responded to Question 1(c), nonetheless, it is clear that that they have a strong interest in food education, and most would suggest that food education needs greater attention in primary schools.

Question 2(a) questioned whether respondents (n=35) taught food education in their schools. The results reported that 74% of respondents teach food education in their schools, although, as part of the SPHE curriculum, all primary school teachers must teach about the importance of a healthy diet and the food pyramid which would be considered food education (Ireland, Government of Ireland, 1999). Question 6(a) questioned participants awareness of the guidelines for food and nutrition provided by the SPHE curriculum 1999. The results indicated that 74% of participants were aware of these teaching guidelines. As noted in section 4.2.1.4 above, updated guidelines for healthy eating and the food pyramid were issued by the Government in 2017 (Ireland, Department of Health, 2017). However, there is no training provided on this other than the recommended guidelines provided through the SPHE curriculum. It has been twenty-one years since the SPHE curriculum was last updated (Ireland, SPHE, 1999). One could argue that there was a very positive interest in food education; therefore, an updated SPHE curriculum incorporating better training for teachers supported by best practice international models would contribute to improved food education and healthy eating habits in Irish primary schools.

Question 3(a) asked if respondents teach about a balanced diet in their school. 97% of respondents do so. Question 3(b) questioned respondents interpretation of the key components of a balanced diet. The most common trend here was 'the food pyramid' (Appendix 3). This mirrors aspects of the SPHE curriculum guidelines for food and nutrition education. It could be argued that the Irish initiatives, particularly the FDHEP, use positive role models to introduce the key components of a balanced diet as opposed to the recommended guidelines in the SPHE curriculum.

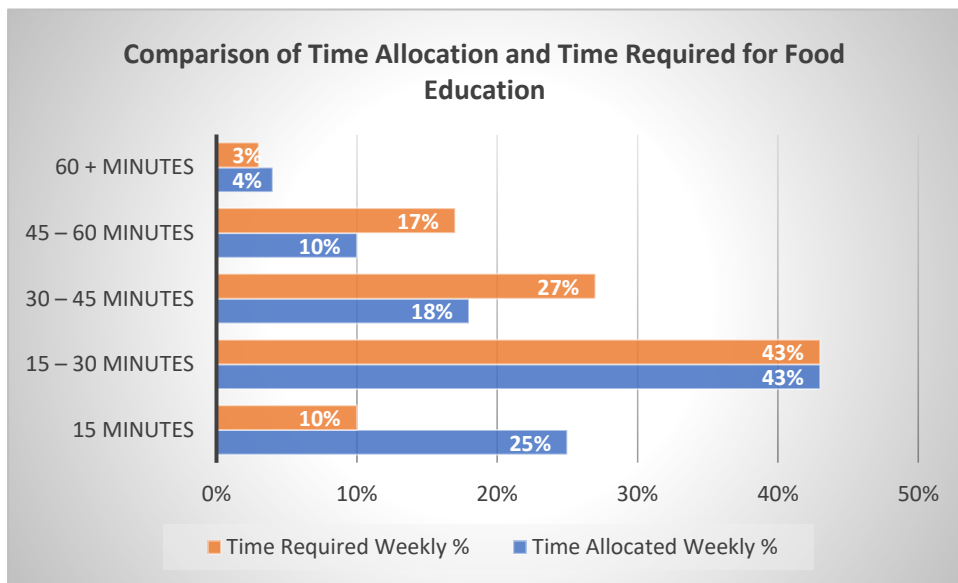
Question 6(b) asked how respondents implement the guidelines for food and nutrition education provided by the SPHE curriculum in their class, responses included:

- ❖ 'Teaching the importance of a balanced diet, teaching the various food groups, teaching healthy food habits'
- ❖ 'We teach the curriculum as required but the curriculum is outdated and there should be more focus on it, including cooking'
- ❖ 'In a limited way we are coming up against life at home'
- ❖ 'Food choices are praised if they are good and if there is too much sugar or processed food in lunches. I would point it out'
- ❖ 'Daily when eating lunches and keeping the school lunch policy. Also, during SPHE'
- ❖ 'We have a healthy lunch policy which we use to encourage pupils to eat a proper balanced diet. We make pupils aware of the importance of the different food groups'

Whilst this is very useful, it is acknowledged that teaching about various food groups and the importance of a balanced diet is an essential component of food education delivery, it could be argued that the absence of the use of support mechanisms for delivery such as the FDHEP, Incredible Edibles and the HPS initiatives could affect the success of delivery. In conjunction with this, in section 2.2, Corepal (2018), identified that health behaviours often start at a young age and lead into adulthood. Therefore, an observation would be to link these initiatives more so with the SPHE curriculum.

Question 2(b) questioned the amount of time allocated to teaching food education weekly. Responses indicated that 68% of respondents spend less than 15 minutes weekly teaching food education in class.

Question 8(b) questioned the amount of time allocated to food education initiatives by teachers, and question 8(c) queried the amount of time respondents felt should be allocated to them. Figure 4 compares the amount of time that was allocated to food education initiatives in participating schools and the amount of time they felt was required to implement these initiatives successfully in their schools.



**Figure 4 Comparison of Time Allocation and Time Required for Food Education**

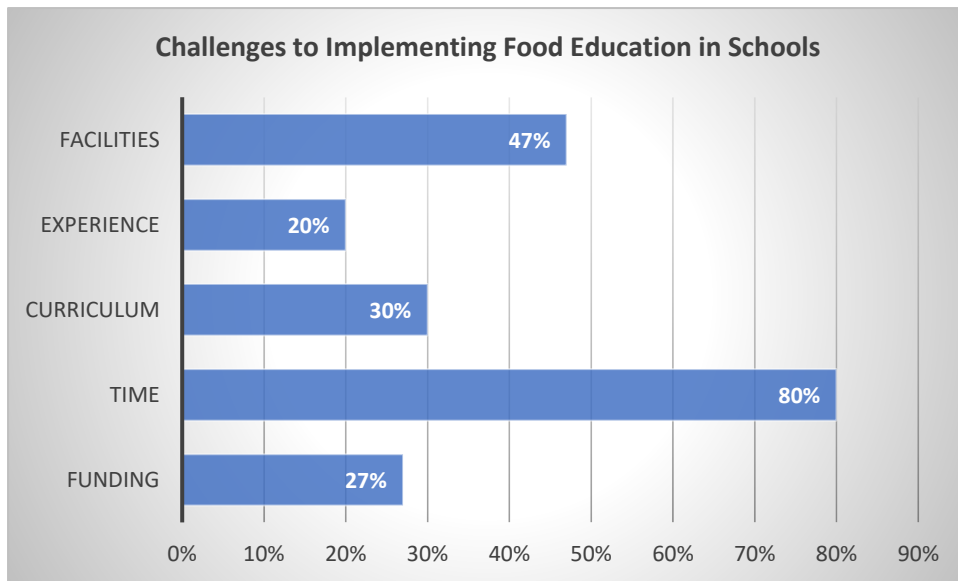
The average amount of time spent on food education weekly (43%) and the average amount of time required weekly (43%) is the same: 15 – 30 minutes. Figure 4 also reports that only 3% of respondents considered 60+ minutes necessary and only 4% allocated 60+ minutes.

There are many questions to be considered if Irish primary schools adopt the food education initiatives and the recommendations by the SPHE curriculum; two separate identities in terms of food education delivery in Irish primary schools. The Department of Agriculture Food and the Marine (2017) recommended that in order to implement Food Dudes successfully, 10–30 minutes daily is necessary, not taking into account the HPS initiative or Incredible Edibles. O’Beirne (2020) points out that the HPS initiative already competes with a limited amount of school time due to various other demands. One could argue that in order to develop food education, an increase in time allocation is a necessity. There are challenges to successfully implementing these

initiatives in Irish primary schools and it could be contended that recommended guidelines for these initiatives are not been followed appropriately.

Question 8(a) asked about food education initiatives implemented in participant schools. The findings illustrate that out of the eleven schools', the FDHEP was the most commonly implemented in all of the schools. The HPS initiative returned a result of 66% (n=11), followed by Incredible Edibles initiative at 22% (n=11). This reflects the findings in the literature in discussing these initiatives: since 2007, the FDHEP has been rolled out nationally to 98% of schools (Ireland, DES Circular, 2016). This was followed by an intervention program in 2016 (University College Dublin, 2016). The DES circular, *The Promotion of Healthy Lifestyles in Primary Schools* (2016), identified that just 40% of schools participate in the HPS initiative. Bord Bia (2020) highlighted that 18% of schools participated in the Incredible Edibles initiative in 2020. Section 4.2.1.3, identified that Ciaran Cuffe (2010, October 21, Sec 9), then Minister of State of the Department of the Agriculture, Fisheries and Food, had suggested that 'we need such initiatives at a time when there is a growing focus on the impact of obesity not just on older people, but also on our children'. Yet there has being a decrease of 75% since its original roll out in 2009 (Bord Bia, 2020). Unlike the FDHEP, involvement in the Incredible Edibles is still optional. Similarly to the HPS initiative, schools must register their interest and this is not mandated by the DES (Ireland, HSE, 2015). This is suggesting that this could be the rationale for lower participation rates of the Incredible Edible and the HPS initiatives in schools. One could argue that these initiatives will always be less significant than the FDHEP if these are not mandated by the Government.

Question 5 examined the challenges to implementing food education. Thirty respondents (n=35) selected one or more challenges, figure 5 reports these results.



**FIGURE 5 CHALLENGES TO IMPLEMENTING FOOD EDUCATION IN SCHOOL**



Figure 5 summarises the responses to challenges when implementing food education in participating schools illustrating the greatest challenge was time: 80% of respondents mentioned this. Experience (20%) was reported to be the least challenging factor to implementing food education.

HPS initiative, FDHEP and Incredible Edibles are Government sponsored initiatives, yet 27% still reported funding to be the greatest challenge. The *Promotion of Healthy Lifestyles in Primary Schools* (2016) acknowledges that there are challenges for young people to achieve a healthy lifestyle, good health and wellbeing in Ireland. Similarly, Greenhalgh (2009), Martin et. al (2017) and, Upton, Upton & Taylor (2013) suggested that the FDHEP has proved to be very effective but only in the short term after intervention periods. Taylor (2017) asserts that a key challenge post intervention was maintaining healthy eating behaviours. This is suggesting that these challenges are not been met in Irish primary schools. Evidence to support this includes the result that 30% (n=29) considered curriculum to be the greatest challenge to implementing food education. This is not surprising as the SPHE curriculum has not been updated since 1999 (Ireland, Government of Ireland, 1999).

Question 7(a) queried if participating schools had a healthy eating policy in place. The results indicated that all participating schools had a healthy eating policy. Based on these results, this would imply that many of these schools did not display their healthy eating guidelines on their school website. Interestingly, the findings from section 4.2.1.5 reported 37% (n=119) of schools did not have an official school website at the time of this study. Of the participating schools in the questionnaire, just 2 (n=11) displayed there healthy eating policy on their website. However, *The Lifeskills Survey* (2017) reported that 92% of school has a healthy eating policy in place.

Question 7(b) asked respondents' interpretation of the strengths and challenges associated with implementing a policy on healthy eating in primary schools. Table 6 reports respondents' interpretation of the most common strengths and challenges to implementing a healthy eating policy.

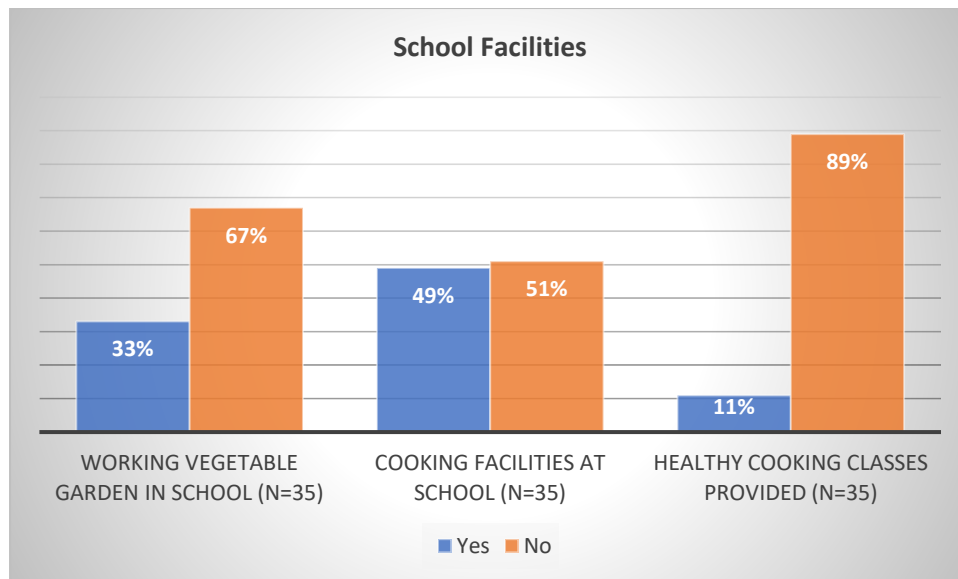
**TABLE 6 STRENGTHS AND CHALLENGES TO IMPLEMENTING SCHOOL POLICY ON HEALTHY EATING**

Strengths	Challenges
'Greater pupil engagement'	'Time constraints'
'Concentration is better in class'	'Parents not following the guidelines'
'Daily fruit and vegetable intake is promoted'	'Educating parents'
'Most families encourage and keep to the policy'	'Monitoring lunch boxes'
'Allows for a ban on unhealthy foods'	'Children get board of lunches easily'
'No sugar highs'	'Food advertisements'

It could be argued that not having an official school website could hinder the implementation of school food policy in terms of preventing parents from accessing their schools healthy eating policy online as well as indicating a lack of resources for communication for parents in many of the participating schools.

The findings have suggested that there are concerning issues regarding policy on healthy eating in Irish primary schools. The government has made recommendations only as part of the SPHE curriculum to incorporate a healthy eating policy in Irish primary schools (Ireland, DES, 2019). The evidence has shown, that while there are strengths attached to the healthy eating policy, successful implementation of the policy presents challenges, mainly concerning time constraints which have proved to be a reoccurring issue when implementing both food education models and healthy eating policy. This is also recognised in the results of question 8(a) above, regarding implementing food education models in Irish primary schools. The government have set out policies (section 4.2.1) to tackle implementing food education in primary schools through food education initiatives and the SPHE curriculum, yet the results report that the time and resources to implement these effectively have not been allocated.

Question 9(a) asks participants (n=35) if they have a working vegetable garden to educate students on healthy eating. Figure 6 illustrates the results in relation to school facilities at participants schools.



**FIGURE 6 SCHOOL FACILITIES**

Figure 6 illustrates that 33% have a working vegetable garden. Question 9(b) questions the amount of time pupils spend in the garden weekly. Of this 33%, the average amount of time spent is less than fifteen minutes weekly. It could be observed that school visits be arranged to the schools with a working vegetable garden for pupils and staff to learn and experience the value of a school garden with a view to developing their own school garden. This could be formed as part of a collaborative project between schools and communities. This would not only inspire schools to develop their own garden, it would also encourage interest and motivation for the schools with a garden. However, one could argue that the different geographical locations of urban and rural schools may present its own challenges including a lack of green space and facilities to facilitate a school garden. This is evident in the results to the questionnaire as four out of seven rural schools have a working vegetable garden in comparison to one of four urban schools. It could be suggested that a more creative approach to a school garden could be taken such as a roof top garden or collaborating with a local fruit and vegetable farmer to include regular site visits to the farm.

Figure 6 also reports the results from question 10(a), that asked if respondents had cooking facilities in their schools. 49% had cooking facilities. An interesting result

noted was the urban/rural divide regarding cooking facilities. Of the eleven participating schools, just one (n=4) urban school provided cooking facilities, yet four (n=7) rural schools had cooking facilities. An observation would be that there are better school facilities in rural schools. This is also evident in the result to question 9(a) regarding school gardens. Question 10(b) reported that 89% did not provide healthy cooking class for their pupils. Yet, the Incredible Edibles initiative which was incorporated in 31% (n=29) of respondents' schools aims to encourage teachers and pupils to grow fruit and vegetables then to cook these where possible (Ireland, DES Circular, 2016). This suggests that what is recommended in theory, is not being followed through in practice. This is evident as 47% of respondents in question 5 above reported facilities as the greatest challenge to implementing food education in their school. Question 10(c) asked which class groups use this facility. The results indicated that cooking facilities are shared intermittently amongst all class groups. Nelson, Corbin, & Nickolas-Richardson (2013), suggested in Chapter 2, section 2.3.3, that developing cookery skills offers pupils a unique opportunity for experiential learning that can foster positive behavioural change with healthy eating.

The findings suggest that if the average amount of time allocated to food education weekly is up to fifteen minutes, it is not possible for teachers to follow the SPHE guidelines on healthy eating, implement a healthy eating policy successfully, take part in food education initiatives incorporating working school gardens, healthy lunches and nutritional cooking classes. It could be maintained that greater time allocation and training is needed to address this concern. Recommendations to discuss this issue are discussed in Chapter five. There is no set recommended amount of weekly time to be spent on food education in primary schools by the DES. Nonetheless, question 4 illustrated that 94% (n=35) of respondents reported that food education was an important part of the primary school curriculum.

#### **4.4 TO ASSESS THE POSSIBILITY OF DRAWING ON PARTICULAR INTERNATIONAL MODELS TO ENHANCE IRISH FOOD EDUCATION**

There is much that Ireland can learn from international models. Chapter two identified Finland's School Meal System (FSMS) is a mandated element of the curriculum. Every municipality must develop a strategy for pupil welfare (Finnish National Board of Education, 2008). Using the food plate model is an essential part of the FSMS (Tikkanen, 2009a). This ensures that nutritional guidelines are followed. Finnish school meals root ideas about healthy eating (Anderson, Bar, & Wirtanen, 2018). Similarly, the Japanese School Lunch Program 'Shokuiku' (JSLP) provides nutritious school lunches that are more of an educational activity than just a lunch time meal. During this time, the students are educated on food culture, nutrition, and table etiquette where the students serve lunch to one another (Tanaka & Miyoshi, 2012). The benefits of the Stephanie Alexander Kitchen Garden Project (SAKGP) was discussed in Chapter two, identifying that this programme forms part of the school curriculum, enhancing student's food education experience, observation skills, critical thinking, community engagement, cooking and gardening skills (Block, et al., 2012).

There is much insight that Ireland can gain from international models. However, these are not without their challenges. Mikkola (2008) noted that parents would like better quality lunch meals to be served in schools. Borovoy & Roberto (2015) argue that the JSLP can provoke humiliation and shame. Challenges facing the SAKGP were identified as securing on going funding and recruiting experienced volunteers. Nonetheless, all these models have been academically evaluated demonstrating their success. The SAKGP could be considered still in its infancy compared to the FSMS and the JSLP that are deeply rooted in their history and culture.

This section evaluates Galway teachers' perceptions towards introducing elements of international models into the Irish context as indicated in responses to the questionnaire. There are lessons that can be learnt for Irish promoters of food education from international models.

Question 11 (a) asked if participants (n=35) felt food education needed to be improved in primary schools. The results illustrate that 71% of participants believe that it did need to be improved, 9% believed that it did not need to be improved and 20% of participants didn't know if food education needed to be improved or not in primary schools.

Question 11 (b) questioned respondents' interpretation of how food education could be improved in Irish primary schools. Individual perceptions of the respondents are highlighted here:

- ❖ 'Cooking, food economics and gardening should be a compulsory part of the curriculum'.
- ❖ 'Getting parents on board is essential. The children can only do so much. If they are taught about it, the message needs to be reinforced at home otherwise very little can be achieved. Parent classes would be helpful'.
- ❖ 'Children are used to processed foods. I think cooking classes and cooking facilities should be provided in the school. This will mean they are educated on healthy alternatives'.
- ❖ 'Revised curriculum, reflecting the modern diet and common foods available. There has been a big change, even the types of food and veg, and carbs, etc. that people eat in the last 20 years. Schools need appropriate facilities'.
- ❖ 'I feel that the tools/programmes are all there for teachers to provide the education. However, our curriculum is very overloaded and the biggest challenge facing all teachers in delivering all areas of the curriculum is time'.
- ❖ 'More facilities – kitchen. Resources – models, facilitators from the HSE to come to schools who have expertise in this area. Currently there is no one available to come to schools in Galway city. Funding to provide children/parents opportunities to try healthy cooking, new fruits and vegetables they haven't already tasted'.
- ❖ 'The problem is TIME. Food education would be wonderful, but we are simply overloaded with work and would find it very difficult to do any more than the element that is covered in SPHE'.

A pattern that has emerged, suggests that time allocation and management for these initiatives to be effective is compromised. Other trends from the results indicate that better facilities, an improved curriculum, and enhanced resources needs to be addressed for food education to be improved in Irish primary schools. Interestingly, in the HSE (2017) article, *Childhood obesity levels stabilising but remain an issue in Ireland*, identifies that Ireland is on course to becoming the most obese nation in Europe unless immediate action is taken. The results of Question 11(a) suggest that most respondents (71%) believed that food education did not need to be improved.

Interestingly, Question 11(b), identified individual perceptions that suggested that respondents believe food education does need to be improved revealing the challenges to implementing food education successfully. It could be contended that the introduction of elements of international models once again could address many of these challenges. A noteworthy observation of chapter 2 is the fact that Ireland has previously looked internationally for inspiration regarding food education models. The next questions look at the possibility of introducing elements of the international models into the Irish context.

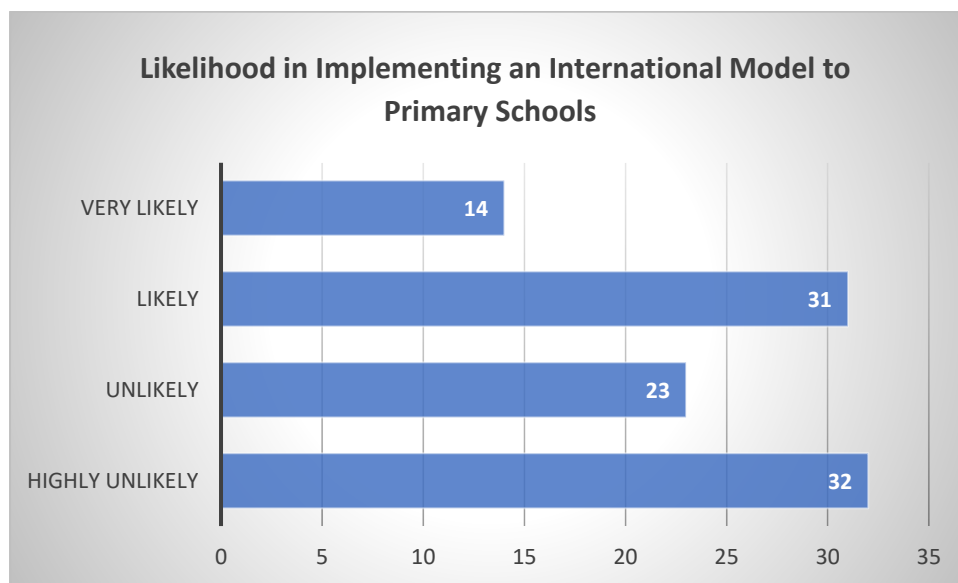
Question 12 asked whether participants (n=35) were familiar with three different international food education models discussed in this study, namely, the SAKGP, the FSMS, and the JSLP. The results indicated that 6% (n=2 of 35) were familiar with both the SAKGP and the FSMS, 9% (n=3 of 35) were familiar with the JSLP whereas 91% (n=32 of 35) of respondents were not familiar with any of the food education initiatives. These food education models mirror many aspects of the Irish initiatives in place in a more sustainable manner. The FSMS and the JSLP are recognised as being the international forerunners' in food education (ELO, 2018; Thi, et al., 2019) and Stephanie Alexander, founder of the SAKGP is regarded as the greatest food educator in Australia (Stephanie Alexander AO, n.d(a)); therefore, one observation would be the absence of teachers' knowledge in relation to renowned international food education models.

The HPS initiative includes communities in developing policies (Ireland, HSE, 2015). Yet, Moynihan (2016) identified that only 35% (n=704) of the schools involved in the study, *An Examination of Health Promoting Schools in Ireland* had a HPS supportive development team in place and only 36% of the participants in the study knew of a school policy (section 4.2.1.1) to support HPS, suggesting that a more comprehensive approach to implementing the HPS initiative is necessary. In Ireland, schools still must express an interest in the HPS initiative for them to be considered by the HPS team (Ireland, HSE, 2015).

The SAKGP is not unlike these initiatives as it relies on communities and schools for its daily operations but differ in its use of local experienced volunteers, thus contributing to community engagement (SAKGP, 2018). For the Irish initiatives, the responsibility falls back onto each teacher to implement it. SAKGP incorporates two

and a half hours of food education each week. Food Dudes recommend on average one hour weekly to implement their model, yet the findings of question 8(a) reported that 15 – 30 minutes weekly is all that is been incorporated into the primary school curriculum. This suggests that incorporating such models would alleviate the respondents' concerns when implementing food education in Irish primary schools.

Following on from this, question 13(a) asked about the likelihood of an international food education model consisting of an active school garden, nutritious cooking classes and food education being introduced into participants schools. Figure 7 illustrates these results.



**FIGURE 7 LIKELIHOOD IN IMPLEMENTING AN INTERNATIONAL MODEL TO PRIMARY SCHOOLS**

Figure 7 indicates that the greatest results on the likelihood of this being implemented in respondents school was 31% were likely and 32% highly unlikely. Question 13(b) queried if respondents' were interested in implementing a pilot model in their school based on international standards. 74% (n=35) of respondents were positively interested. However their estimation of the likelihood of introducing the model is not positive. One could deduce from these findings that the negative response to the likelihood could be connected with the individual perceptions discovered in question 11(b) that suggested time, resources, facilities and curriculum all require attention to develop food education.



## **4.5 STUDY LIMITATIONS**

The interpretivist paradigm used in this study allowed the researcher to interpret the participants' views and opinions in a meaningful and holistic manner. This was achieved by understanding the phenomenon of food education from the individual's perspective. A mixed methods online questionnaire using a predominantly qualitative approach with elements of quantitative data was utilized. This approach suited the study in terms of the sample size, time frame, the holistic nature and vision of the research. For a larger scale research study, this may not be the best suited approach as it can be heavily time consuming.

Most research study faces challenges around validity, as there are always concerns about the true significance of responses of self-reported research. One of the data collection activities undertaken in this study was reliant on primary school principals and teachers' own reports who returned a very positive response to this research topic.

The value of the web-based documentary analysis was limited due to many schools not having an official school website (n= 46 of 119), therefore this restricted the identification of the number of schools that had a healthy eating policy in place.

Finally, this study was limited to primary schools in Galway city and county only (n=119). This was due to the timeframe of the study. Out of these 119 schools, thirty-five participants took part in the online questionnaire. A wider study involving a much larger number of primary schools across Ireland including parents, guardians and school pupils would significantly highlight the position of food education in Irish primary schools.

## **4.6 CONCLUSION**

This chapter has reported the results from the research using Government documents, a web-based school analysis, and a questionnaire.

The findings suggest that in theory the Government are interested in food education in Irish primary schools. However, in practice, this does not translate. Aims set out by the Government could be considered overly ambitious as the findings to this study suggest that national policies for food education cannot be implemented correctly as

the main trend that was evident was that time, resources, funding, and experience are major factors for these schools to implement any form of food education.

A web-based school analysis discovered that not all schools display their healthy eating policy on their website, in fact, forty six (n=119) did not have an official school website, yet all schools in the questionnaire identified they had a healthy eating policy.

The questionnaire posed questions relating to school policies and teachers' perspectives on food education and assessed the possibility of drawing on particular international models to enhance Irish food education. Quantitative data was used to achieve concise and numerical data and qualitative data was used to delve further into respondents' views, opinions and lived experiences so the researcher could gain a deeper understanding of respondents' views on food education. The matter to whether the schools are a typical representation of all Galway schools could be questioned. Those who responded may have been more engaged in the topic than those who did not. Nevertheless, the respondents represented 13% of schools in Galway city and county with a respectable mix of urban and rural schools, therefore the researcher would consider these a typical representation.

Whilst the research has suggested there are mixed views in relation to food education delivery in Irish primary schools, the researcher, having acknowledged that Ireland has previously looked internationally for inspiration for food education has interpreted his respondents views and knowledge is of the view that; Irish food education models should be evaluated collectively, restructured and mandated. Nonetheless, using elements of a food education model based on an international model such as the SAKGP, considering the geographical differences, would benefit food education delivery in Irish primary schools. The next chapter will discuss the overall conclusion for the study.

## CHAPTER FIVE: CONCLUSION

The aim of this study was to explore the possibility of Irish primary schools introducing key elements of international food education models to the primary school curriculum. The research objectives are; 1) to examine the policies on food education in Irish primary schools; 2) to evaluate the school policies and teachers' perspectives on food education in Galway city and county and; 3) to assess the possibility of drawing on particular international models to enhance Irish food education. This chapter is divided into three sections. Firstly, the main conclusions are discussed, secondly, future research opportunities are identified and thirdly, the last section concludes the chapter with recommendations.

This research study helps broaden our understanding of the position of food education in Irish primary schools. Food education for our school pupils should be a necessity. As noted in Chapter two; Ireland is on course to becoming the most obese nation in Europe. If pupils are educated on food education at an early school age, this will not only be brought into the home to educate the parents, it will also inform better food choice for the individual throughout their lives, which, in essence, will encourage a healthier lifestyle. It could be argued that in theory, food education in Ireland is considered important to the Government. However, this study has found that what has been set out in theory is clearly not followed through in practice. It is not possible for school teachers' to be expected to deliver the school curriculum and to take on additional activities such as the Health Promoting School (HPS) initiative, the Food Dudes Healthy Eating Programme (FDHEP) and the Incredible Edibles initiative in what was reported to be an already overloaded curriculum. The main conclusions are that whilst there is evidence of some success with Irish food education initiatives (HPS, FDHEP, and Incredible Edibles), food education in Irish primary schools needs to be further developed.

A review of food education policies set out by the Government discovered that these policies cannot be implemented effectively as time, resources, experience, and facilities are lacking. A review of school policy on healthy eating, identified that 61% of schools in Galway have an official school website with only 47% of the schools displaying their healthy eating policy. This suggests that policy on healthy eating is not prioritised in Galway primary schools.

The research study found that food education in practice and teachers' perspective on food education are different. There is a lack of clarity and understanding in food education delivery amongst primary school educators; This led to difficulties in drawing clear conclusions from some of the evidence. In many cases, food education delivery was limited by the SPHE curriculum and segregated from current food education initiatives. This resulted in an ad hoc and fragmented approach to food education. Respondents' from the questionnaire confirmed much of what the literature in Chapter 2 suggested; that there are many challenges to implementing food education in Irish primary schools such as time, resources, external pressures and sustaining healthy eating behaviours (Upton, Upton, & Taylor, 2013; UCD, 2016; O'Beirne, 2020).

The research has demonstrated that there are some similarities between the Irish initiatives and international initiatives in particular the Stephanie Alexander Kitchen Garden Project (SAKGP). The aim of the research was to explore the possibility of Irish primary schools introducing key elements of international food education models to the primary school curriculum. As noted in Chapter two, Ireland has previously looked internationally to develop food education by introducing the HPS initiative and the FDHEP to primary schools. There is also considerable insight to what can be learnt from the international models, namely the Japanese School Lunch Program (JSLP) and the Finnish School Meal System (FSMS). Both models provide an entire year-round school meal and have roots steeped in culture and history. The JSLP use of an onsite dietitian to manage and teach food education in schools is commendable. School lunches in Japan are recognised as educational vehicles to educate pupils about manners, hygiene, culture, and health. National policies in Finland require schools to teach food education through a variety of subjects. Government departments in the municipalities of Finland work in unity to ensure schools are provided with a consistent nutritional school meal. School meals in Finland are funded through income tax. In Japan, parents pay the cost of the ingredients only for school lunches. There is a complete level of commitment and rigour that ensures the success and sustainability of these universal schemes. Whilst there is much that Ireland can learn from these international models; creating a food education model based on the SAKGP would best aid the development of food education in Irish primary schools. Nelson, Corbin, & Nickolas-Richardson (2013), as noted in Chapter two, suggest that developing cookery skills offers pupils a unique opportunity for experiential learning

that can foster positive behavioural change with healthy eating. Similarly, Fisker & Clausen (2017) have argued that school gardens support and facilitate interactive learning identifying that time spent in the school garden provides pupils with valuable knowledge of food origins as well as the experience of consuming fruit and vegetables they have grown themselves. Future research is discussed in the next section.

## **5.1 FUTURE RESEARCH OPPORTUNITIES**

This research study does not consider other counties, provinces, or samples such as parents/guardians and school pupils. It could be argued that in a larger scale study geographical differences may become apparent. Based on the researcher's findings, a more extensive study targeting a broader geographical location, that reflects the best practices of the SAKGP to the Irish context should be considered.

Based on the results, the following recommendations have been made:

- 1) Implement food education as a specific mandatory subject as part of the Irish primary school curriculum.

This research study has demonstrated that food education in Ireland urgently needs to be addressed. Food education needs to become a mandatory part of the primary school curriculum to reduce obesity levels and to better facilitate healthy food choices in school pupils. Using an internationally renowned model such as the SAKGP, that has proven success in this area encompassing nutritious food education, healthy cooking classes and active school gardens managed by experienced volunteers would enable this. Experienced volunteers would also facilitate one of the main challenges to primary school educators identified in this study, time.

- 2) A larger scale study should identify the best practices of the SAKGP when developing the primary school food education programme with a targeted focus on the school curriculum.

The main focus of the SAKGP is on delivering pleasurable food education to schools in Australia where children adapt positive food habits for life (SAKGP, 2018). This initiative is incorporated into the learning framework and suggests that nutritious food education not only delivers educational benefits but also social benefits. The SAKGP promotes teamwork, cooking experiences, increased levels of observation and critical

thinking skills. There is a set weekly allocation of forty-five minutes' spent in the garden and ninety minutes in the kitchen preparing the fresh ingredients (SAKGP, 2018). There was an increase in the pupil's knowledge, trust, skills and confidence in gardening and cooking. It was also reported that the programme was found to be particularly beneficial to non-academic pupils.

Based on the findings from this research study, if a version of the SAKGP was incorporated into the Irish primary school curriculum, it would bring food education in line with international models. In addition, it would address the challenge of sustainability with the current food education initiatives. It could be piloted in five schools' initially, and then rolled out on a phased basis nationally ensuring its continuity, sustainability, and success.

It has been twenty one years since the SPHE curriculum was last updated (Ireland, Government of Ireland, 1999). In over two decades, much has changed in relation to food education delivery and awareness in Irish primary schools. The HPS, the FDHEP and the Incredible Edibles initiative have been developed in this time and are considered food education, but they are not mandatory. Food education is needed now more than ever. One in five children in Ireland are considered overweight or obese (Bel-Serrat, et al., 2015).

### 3) Increased funding for food education.

This research study has identified that whilst there are government run initiatives in operation, resources to carry out food education activities effectively are inadequate. This study found that, of the participating Galway schools', only 33% had a working vegetable garden in place and only 11% provided healthy cooking classes. This suggests that funding for facilities for effective food education delivery needs to be improved. This could be supported in line with the first and second recommendations.

The implementation of food education as a mandatory subject and the integration of a food education programme based on an existing well-known sustainable model supported by adequate funding and allocation of resources will transform the Irish classroom into the international forerunner for food education.

## 5.2 REFLECTION ON COMPLETING A MASTERS IN TEACHING & LEARNING

It is only now that I have taken the time to truly reflect on my MA journey that I have realised how much I have gained and how it has changed my perception as an educator and as an individual. The Masters in Teaching & Learning started out as a 'tick the box' exercise for me on my journey to becoming a lecturer. Over the time the Masters took to complete, it became so much more. Some days, it was my best friend and on other days it was my arch enemy. However, I am a firm believer that anything really worth having, involves a lot of hard work. My journey really put that belief to the test.

Traditionally there are three stages to completing the MA in Teaching & Learning: stage 1, involves achieving a certificate in teaching & learning (30 credits). This is followed by stage 2, achieving a postgraduate diploma in Teaching & Learning (60 credits). Finally stage 3, the MA in Teaching & Learning (90 credits). This would be the typical path most students would follow. However, I started with part of stage 2 (e-Portfolio and Recognition of prior learning modules), followed by completing stage 1 & 2 (Certificate in teaching & learning and Research cycle: foundation) which then led to stage 3 (Thesis in education science).

Starting out with the e-portfolio gave me confidence and motivation as an educator, learner and professional. Creating this e-portfolio afforded me the opportunity to reflect on my achievements and developments as a professional in my field. As a learner I felt that the flipped classroom methodology, reversing traditional learning techniques and gearing more towards a form of often online based learning delivering instructional content outside of the classroom to be very comforting to me during the process where I had more flexibility as a learner. The facilitators could not have been more approachable or helpful during this module. The e-portfolio was also my first introduction to my educational philosophy statement where I learned about Aristotle's 'Essential Whatness' and Plato's model of functionalist education promoting the talents and capabilities of the individuals (Smith, 1976). I found that while I was unaware of these influential educational philosophers, their pedagogical theories were still very evident in how I interact with students and how I educate but they have also influenced me in how I approach my teaching methodology. I later revisited my philosophy statement as part of the Certificate in Teaching & Learning and delved

further into my philosophy of education at this stage. This module really challenged and enhanced my TEL skills. The e-portfolio is a great example of using technology effectively as a tool for engagement. The next step in my research process was engaging with the Recognition of Prior Learning (RPL) module.

Honestly, before enrolling in this module I did not even know what the term RPL meant, but that was soon changed. This module enabled me to gain a formal qualification in RPL that now enables me to assist students who have prior experience in their field where they can validate their experiential learning. This was completed through the use of the myexperience.ie tool which provides a step by step guide through the process. This module, albeit challenging, also developed my technological skills in my journey to completing the MA.

In the first semester of year 2, I started the Cert in Teaching & Learning and continued this module throughout both semesters. This module was very active and at times demanded a lot of work, yet the results of this were evident. Following the structure for the lesson plans, for example, initially felt like an inconvenience to have to complete yet once completed and the process is followed it was very clear how beneficial these were. Similarly, the peer observation, it was challenging to go into ones work environment in a different department and assess them on their work, yet if one follows the peer observation process, this was easily achieved and actually quite a fun experience. Receiving feedback from peers was enjoyable, particularly when receiving constructive feedback. Completing the video analysis was an area I was not overly confident in, yet, on reflection it was great to have completed, as it has proven to be a very useful learning tool for students, which also encouraged me to look at TEL and brought me back to the outstanding workshop that was provided on this. This workshop was most enjoyable and interactive with a wealth of new knowledge learned which later assisted me with the video analysis when it came to recording and editing the video. Similarly, the workshop on 'Education for sustainability' was a revelation to me, this was a very informative and engaging session that really opened my eyes to a new area of education. Nevertheless, the workshops that I feel benefited me most as an educator in the certificate were the 'theoretical perspectives in teaching & Learning' and 'reflective practice'. These were both highly engaging and energetic workshops, which suited me as an individual but also gave me inspiration for how to approach my teaching practice. This really brought me back to Kolb's experiential



learning theory, learning by doing, which in essence has assisted me in developing a humanist philosophical ontological position in my approach to teaching (Kolb, 2001). In this module, I continued to build my e-portfolio as an educator and I was delighted to have had previously completed this. The e-portfolio really is like a one stop shop for all of one's educational achievements and a resource to bank all this information.

In year 2, semester 2 of my journey, I began the 'Research Cycle: Foundation'. The best way I could have described this at the time was a shock to the system. Nonetheless, I would not have changed anything about this learning experience. This was the module that brought everything together for me. After learning in great detail about academic writing and referencing it certainly made me ponder how I had gotten this far without adequately knowing this information. It also occurred to me that the process may have been much less challenging, had I known this. I developed skills such as time management, academic writing, referencing, how to use databases for research, methodological approaches to research, mind mapping and the list goes on. However, I found time management difficult during this semester while completing the Cert in Teaching & Learning and working full time. Nevertheless, the support from the co-ordinators was excellent and made this module possible for me to complete. At the time, this was without doubt, the most challenging yet rewarding module I had completed. Really a stepping stone in the right direction and it certainly aided in preparing me as I began my journey for stage 3 in the MA.

In stage 3, I completed the thesis in education science. I had never experienced anything as academically challenging before this. Like many objects in life, I took this on without realising the actual amount of work required. This really was challenging. Often it was quite difficult to receive feedback from my supervisor as I knew the amount of work I would have put into the draft before sending it for review. Of course, the supervisor was only doing their best, giving very helpful constructive feedback. The process, I found very lengthy and difficult. I found myself locked away in a room in my house every evening and every weekend, for a long time struggling to balance a heavy work load and the thesis. Draft after draft after draft of chapters became a tiresome process. Each chapter was a major struggle, in particular, chapter 3 – Research Methodology & Methods. Trying to understand the difference between ontology, epistemology and axiology, really baffled me for a while. However, this is now an area that I have developed a much greater understanding of and to some extent, enjoy.

I have to say, there was an incredible support network throughout this process, from the research advisory team, to the academic writing centre, to both the supervisor and co-supervisor. Without, this support network, my journey would have been all the more daunting. They were fantastic. The circle meetings and workshops were very helpful on the journey at stage 3. It was a small group; therefore, it was very easy to get good constructive feedback on my research.

The most challenging period during this process was near the final submission of the thesis when it was recommended that I defer my submission and take the summer to redraft it. At the time, I thought I had enough work completed, so this came as a real surprise to me. Little did I realise, the amount of work, left to do. For the first time, since starting the thesis journey, I was truly defeated, annoyed and in denial, therefore, had to step back from it. I took a two week break to reflect about how I could approach this (having spent the academic year working towards enjoying a summer free of research). I reached out to a friend, who in a moment of darkness on my journey, beamed light over me. Fortunately, my friend helped me to open my eyes, to take the valid feedback I was receiving, look at the pattern and address it. Therefore, reluctantly spending the summer months redrafting the entire thesis, really made all the difference. I believe the time I spent redrafting my research in the summer months, with less distractions and minimal workload, made a significant difference. Everything that had been floating around in my head, finally came together. I took the final redraft on like a full-time job, working at it five days a week, 10 hours a day for the summer months. For me, this is what I needed to do to complete my research process successfully, I needed to afford myself time to think critically without distractions.

It is difficult to even try to make one understand what I have gained throughout this extremely challenging process. I am changed as an educator, as an individual and how I view the world. For something that set out as a 'tick the box' exercise, became so much more. My research, has become part of me and will continue to do. Admittedly, for a long duration of the process, I did not enjoy it so much, there was an incredible time commitment required, which I did not allow for until the summer months. Nonetheless, there was many moments of joy and glory such as finalising the questionnaire, receiving positive feedback, finalising chapters, bringing the entire document together as one and most significantly, the final submission of the thesis. I find as an educator, now knowing that I have completed a Masters in Teaching &

Learning has given me such strength and confidence in my teaching and delivery. As challenging as the research process was, ultimately, it was a very positive experience for what I have gained in the long term. I would highly recommend the MA in Teaching & Learning and urge those interested to remember that anything worth having is worth working for.

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## APPENDICES

### APPENDIX 1 - QUESTIONNAIRE

# Food Education in Irish Primary Schools



Thank you very much for taking the time to complete this questionnaire. I am conducting primary research as part of my Masters in Education Science in GMIT. The intention of this research is to explore what type of food education is being delivered in Irish primary schools. It is expected that the information gathered from the questionnaire will contribute to our understanding of food education in primary schools in Ireland.

The questionnaire should take you no more than ten minutes to complete. Please answer the questions in the spaces provided. The information you provide will be treated in the strictest confidence. The information from your questionnaire and from others will be used as part of the main data set for my Thesis in Education Science. Please feel free to make contact if you have any questions regarding this research. Contact details are at the end of the questionnaire.

Thank you for your participation,

Shane Sheedy

BB in Culinary Arts  
BA in Hotel & Catering Management  
Postgraduate Diploma in Teaching & Learning

## Section title (optional)



Thank you for your interest in my research. Before you participate, I need to make sure you know what the research is about, what your involvement will be and that you consent to take part.

By clicking the NEXT button to begin the online questionnaire, you agree to the following:

1. I have been explained the nature of the research and I know what I am required to do as a participant.
2. My participation in this research is voluntary. If I need to withdraw I will contact the researcher within one month of my participation.
3. My identity cannot be linked to my data as this questionnaire is completely anonymous.

1. a) Does the subject of food education in Irish primary schools interest you? \*

Yes

No

---

b) Do you have a background in the area of food education in Irish primary schools? \*

Yes

No

---

c) If your answer is yes, using the section below, please explain why you are interested in food education

Long-answer text  
.....

2. a) Do you teach food education in your primary school? \*

Yes

No

---

b) If your answer is yes, how much time is allocated to this weekly?

0 - 15 minutes

15 - 30 minutes

30 - 45 minutes

45 - 60 minutes

60 minutes +

3. a) Do you teach about the importance of a balanced diet in your school? \*

Yes

No

---

b) What is your understanding of the key components of a balanced diet

Long-answer text  
.....

4. Do you think food education is an important part of the primary school curriculum? \*

Yes

No

5. If you teach food education in your school, using the list provided below, please tick the most relevant to your school in terms of challenges when implementing food education

Funding

Time

Curriculum

Experience

Facilities

Other...

6. a) Are you aware of the teaching guidelines for food and nutrition education provided by the SPHE curriculum 1999? \*

Yes

No

---

b) If the answer is yes, please explain in the section below how these guidelines are implemented in class

Long-answer text  
.....

7. a) Does your school have a healthy eating policy in place for its pupils? \*

Yes

No

---

b) If your answer is yes, using the section below, please explain what you consider to be the strengths and challenges to implementing this policy in your school

Long-answer text  
.....

8. a) Please tick if any of the following food education initiatives are implemented in your school:

- Food Dudes
  - Incredible Edibles
  - Health Promoting Schools
- 

b) If so, how much time is allocated to this weekly?

- 0 - 15 minutes
- 15 - 30 minutes
- 30 - 45 minutes
- 45 - 60 minutes
- 60 + minutes
- Other...

c) If your school implements Food Dudes, Incredible Edibles or Health Promoting Schools, how much time do you feel is needed weekly to implement this successfully?

- 0 - 15 minutes
- 15 - 30 minutes
- 30 - 45 minutes
- 45 - 60 minutes
- Other...

9. a) In your school, do you have a working vegetable garden that facilitates educating your students on healthy eating? \*

Yes

No

---

b) If the answer is yes, how much time do your pupils spend in the vegetable garden weekly?

0 - 15 minutes

15 - 30 minutes

30 - 45 minutes

45 - 60 minutes

Other...

⋮

10. a) Are there cooking facilities at your school? \*

Yes

No

---

b) If the answer is yes, does your school provide healthy cooking classes for the pupils?

Yes

No



c) If these classes are available, which group use this facility?

Junior infants

Senior infants

1st class

2nd class

3rd class

4th class

5th class

6th class

11. a) Do you think food education needs to be improved in Irish primary schools? \*

Yes

No

Don't know

---

b) If your answer is yes, using the section below, please explain how you think food education could be improved in Irish primary schools

Long-answer text  
.....

12. a) Please tick the boxes below if you are familiar with any of the following? \*

- The Stephanie Alexander Kitchen Garden Project
- The Finnish School Meal System
- The Japanese School Lunch Program
- I am not familiar with any of the above

---

b) If you are familiar with any of the above, please use the section below to explain in your opinion what are the best features of these food education models

Long-answer text  
.....

13. a) What do you consider to be the likelihood of a best practice international food education model consisting of an active school garden, nutritious cooking classes and food education been introduced into your school? \*

- |                 |                       |                       |                       |                       |                       |                  |
|-----------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------|
|                 | 1                     | 2                     | 3                     | 4                     | 5                     |                  |
| Highly Unlikely | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Extremely Likely |

---

b) Would you be interested in implementing a pilot model in your school based on this food education model if it existed? \*

- Yes
- No

---

What is the name of the school that you are employed in?

Short-answer text  
.....

## APPENDIX 2 – PARTICIPANT INFORMATION LEAFLET

### PARTICIPANT INFORMATION LEAFLET

#### **Title or working title of the study:**

Food Education in Primary Schools in Ireland:

A Critique of International Best Practice Food Education Models with a View to Using Elements to Contribute to Food Education in Primary Schools in Ireland

**Introduction to the study:** Food education in Ireland has improved in the past decade but there is much that needs to be considered to address inadequacies in food education in Irish primary schools. It is the view of this study that Ireland can benefit from the best practice international models - where the focus is on delivering nutritious food education as part of the school curriculum. There is a limited amount of evidence suggesting the effectiveness of Irish food education initiatives, such as: Health Promoting Schools, Food Dudes and Incredible Edibles. There is a recognized opening for research to be conducted identifying a comparison between national and international best practice food education models. This is a new area of research that could assist in introducing better food education into primary schools.

**Research Procedures:** This will be achieved through surveys and interviews possibly completed online using Zoom. A comprehensive analysis of research will be carried out.

**Benefits of the research:** This research has the potential to address food education in primary schools in Ireland. There are existing initiatives currently in place, but Irish Primary Schools would benefit from an original best practice model using elements from international best practice food education models. These would build a stronger case in educating children and parents on the importance of food education and would also contribute to community engagement by the use of experienced volunteers to run the unified programme.

**Risks of the research:** This is a low-risk study as there are no minors involved.

**Exclusion from participation:** There is no reason to withdraw from this study unless there a conflict of interest developed between people involved the study.

**Confidentiality:** No identifying factors relating to participants will be in evidence in the final thesis report and/or any disseminated research (i.e. conference papers and/or presentations, publications, etc.). Those who will have access to your identity include members of the Research Advisory Panel, internal examiners and external examiner(s).

**Compensation:** This study is covered by standard institutional indemnity insurance. Nothing in this document restricts or curtails your rights.

**Voluntary Participation:** You have volunteered to participate in this study. If you need to withdraw please contact me within one month of your participation. If you decide not to participate, or if you withdraw, you will not be penalised and will not give up any benefits that you had before entering the study.

**Stopping the study:** You understand that the researcher(s) may withdraw your participation in the study at any time without your consent.

**Permission:** This research has approval from the MA in Teaching and learning Research Ethics Committee.

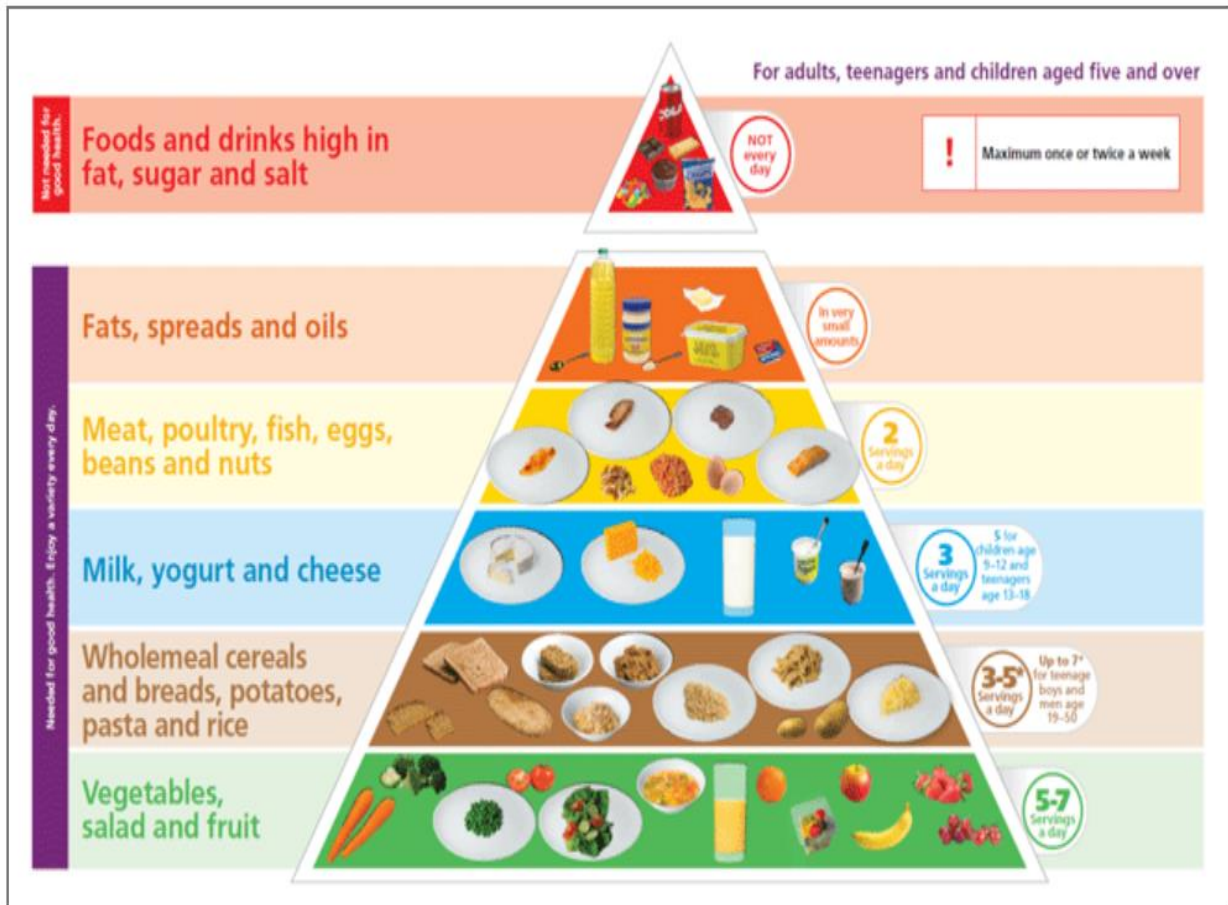
**Further information:** You can get more information or answers to your questions about the study, your participation in the study, and your rights, from *Shane Sheedy* who can be contacted by email at [G00184562@gmit.ie](mailto:G00184562@gmit.ie)

**New Information arising:** If the researcher or members of the Research Advisor Panel learns of important new information that might affect your desire to remain in the study, or if any conflicts of interest emerge during the course of the study, you will be informed at once.

**Data Storage:** Data will be securely stored in an encrypted file in a safe location.

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## APPENDIX 3 – THE FOOD PYRAMID



(Ireland, Department of Health, 2016)