

## Home Economics and food literacy: An international investigation

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### Abstract

*Child and adult obesity is a growing concern in affluent nations around the world, as typified in Australia where the incidence is more than 25% for children and 55% for adults. The connection between obesity, food choices, nutrition knowledge, and food preparation skills is well established. However, education about the concept and processes of 'food literacy' is relatively new. Furthermore, public discussion about the role of schools and formal curriculum to prepare young people to be food literate has received scant attention until recently, when medical experts dealing with the consequences of the obesity epidemic made the following plea "providing a mandatory food preparation curriculum to students throughout the country may be among the best investments society could make—bring Home Economics back" (Lichtenstein & Ludwig, 2010, p.1858). This paper reports on an international study about the role of Home Economics in developing food literacy. Data were collected using an online survey with respondents from around the world replying to a series of questions about this topic. A total of 1188 respondents from 36 different countries in the world shared their views. Among key findings are the differences in understandings of 'food literacy'. Recommendations for future action are presented as a conclusion to this paper.*

### Introduction

Home Economics engages with food and food plays a pivotal role in our lives. It is a basic and essential aspect linked to our survival, our beliefs, and our impact on the natural environment as well as our sense of self via memories and emotions. The sharing and providing of food is "... fundamental to human experience and human culture" (Focus on Food, 2010, p.125) and as a pedagogical tool, food literacy education is a useful way of examining the interplay between social, political, economic, and environmental aspects of many food issues.

The "evolution of human biology and human society have been intimately shaped by the types and amounts of food available" (McMichael, 2005, p.713). From the advent of the agricultural revolution, human civilisation has developed around sustainable food supplies, leading to settled communities, specialisation of trades, trade economies, and growth of complex political systems. When production becomes less plentiful and consumption more problematic, humankind seeks new means and systems. Analyses of current global trends illustrate that, for around the past quarter-century humans have been living beyond the environment's ability to sustain this consumption (McMichael, 2001). Given this escalating impact of humankind, alongside scientific and technological developments in food production,

increasing consumer expectations, a rising global population and malnutrition especially excesses of particular nutrients, a diverse range of strategies and solutions need to be dealt with. Furthermore, Sen (1981) discusses economic and social inequities resulting in global disparities about food access. Social fracas and discontent create global tensions. Hunger, is both a social justice and a sustainability issue. According to the World Food Programme (2009), around 66 million children in developing countries attend school hungry daily. The United States (US) Department of Agriculture's latest food security report (Nord, Andrews & Carlson, 2009) estimates that because of inadequate finances or other resources, nearly 15% of US households' had limited access to food at some time during the year. This food insecurity is the highest since statistics were first collected in 1995 (Weaver-Hightower, 2011).

Young people need to be positioned (in terms of skills and knowledge) and 'dispositioned' (in terms of values and attitudes) to cope with change, complexity and insecurity in such food contexts. As confident consumers they will require knowledge and skills to make healthy and appropriate food choices and as responsible, critical citizens they must underpin this with an understanding of the interdependence of all living things and a global perspective including sustainability and social justice, to come to a deeper understanding of the complex environmental and social components of food in our lives. These inter-relationships have become obscured as our methods of food production and consumption have changed (Hubert, Frank & Igo, 2000; Goodman & DuPuis, 2002). Such ethical engagement and emancipative action (Brown & Paolucci, 1979) will ensure that our young people are effective contributors in the 21st century.

## Literature review

### Food in the curriculum

There is no question that "one of the closest relationships between us and our environment is our daily need to consume food" (Stinson, 2010, p.10). Food and health should not be seen as subservient to or the servant of traditional academic subjects. Food education is often disregarded or viewed as less weighty than other subject disciplines as academia's dualism of mind over body has cultivated "disdain for something as mundane, corporeal, even 'animalistic' as eating" (Belasco, 2008, p.2). Furthermore, the tendency is to privilege curricula which concentrate on the public sphere of men while the private, domestic sphere which has historically been associated with women becomes subsidiary. Food preparation and cooking skills and knowledge of food and nutrition and its related themes is consequently devalued, even trivialised, with stereotyped gender roles playing a part in the dynamic.

Feeding the family and cooking remains a highly gendered practice (Murcott, 2001; Walter, 2009; Prior *et al.*, 2011). Debate about the state of cooking has increased in recent years with many arguing that it is being revised, routinized, deskilled and devalued, and in decline (Short, 2003). However, rather than being in decline, Frances Short's interpretation suggests that cooking skills are constant and unchanging and she reveals a complexity to cooking skills and knowledge "... as incorporating more than just practical, technical ability" (p.17) incorporating sophisticated abstract, conceptual and perceptual skills and understandings, as well as organisational skills and academic knowledge for example. She emphasised the

importance of circumstances when preparing and cooking food - the contextual nature and linked to lifestyle.

In discussing food in the curriculum, it is necessary to look beyond cooking skills to provide a fuller contextual view. Scientific and technological developments in food production and preparation have reformulated food to the extent that in developed countries, consumers require spending less time and thought in food preparation and cooking (Vileisis, 2008). The trend for spending less time cooking by purchasing more processed food is well documented. For example, in their study of time use in France, the United Kingdom, USA, Norway, and Holland, Warde *et al.* (2007) found a decline in the amount of time spent cooking in all countries and a decline in the amount of time spent eating in all but France between the 1970s and the late 1990s. Consumers are also more distanced from the growing, killing, fortification, processing and promotion of food. It is unsurprising therefore that many young people know little about the sources of food and consider cooking to be "having to mix stuff" (Moisio *et al.*, 2004, p. 373). Thus considerable change in supply, distribution and consumption of food, as well as contradictory food and diet recommendations, food scandals and in certain parts of the world, abundance of food; puts increasing pressure on consumers to make informed decisions, indeed to make decisions.

Education has been an essential component of action to promote health and to improve life quality. Home Economics was introduced to the curriculum during the industrial revolution as a means to improve societal conditions such as poor diets and living conditions illustrating then as now a close association between Home Economics and health (Geen, Jenkins & Daniels, 1998; Pendergast, Garvis & Kanasa, 2011). Historically it was also related to the domestic positioning of females in wife, mother and domestic worker modes (Petrina, 1998; Pendergast, 2001).

Contemporary Home Economics, while continuing to incorporate health, now employs a wider lens, as outlined in the International Federation of *Home Economics Position Statement Home Economics for the 21st Century* (2008, p.2):

... embrace multiple disciplines, synthesising these through interdisciplinary and transdisciplinary inquiry. This disciplinary diversity coupled with the aim of achieving optimal and sustainable living means that Home Economics has the potential to be influential ...by intervening and transforming political, social, cultural, ecological, economic and technological systems.

The food and health emphasis remains in Home Economics curricula (Pendergast & Dewhurst, 2007) and several studies (Fordyce-Voorham, 2009) and projects have examined or are examining key elements of food and health programmes (cf. Pendergast, Garvis & Kanasa, 2011). Some are engaging food experts and young people, for acknowledging these voices and perspectives creates conditions for the development of interpersonal, intercultural, social and civic competence, leading to personal empowerment and is a characteristic of successful health interventions (Arblaster *et al.*, 1996).

Currently a two year project, with five pilot projects across Europe is constructing a food framework to comprise a set of competences for young people aged 5-16 years, relating to diet (food and drink), active lifestyles and energy balance (European Food Framework, 2011). The framework will provide a consistent, up-to-date and accurate (evidence based) consensus, supporting all involved in food education.

A recent independent scientific enquiry in the UK to tackle obesity (Butland *et al.*, 2007) identified the development of cooking skills to be an important strategy in reducing the demand for convenience foods which can contribute towards obesity. As health professionals working in schools with expertise in food and nutrition, Home Economics teachers play a significant role in food and nutrition as aspects of health education. With increasing recognition of the environmental impact of food, World Wildlife Fund-UK has just published its Livewell report (2011), which aims to reduce the environmental and social impacts of food consumption to move away from unsustainable food choices, towards sustainable ones that support global agriculture and biodiversity as well as health. It suggests extending the traditional focus on nutrient recommendations for health to include wider issues of sustainability.

Currently "[T]he public health concerns connected to the obesity epidemic have proven to be the catalyst for revisiting the role of formal food-related skills in the curriculum" (Pendergast, Garvis & Kanasa, 2011, p. 417) and for renewed attention by researchers (Lichtenstein & Ludwig, 2010; Weaver- Hightower, 2011, Butland *et al.*, 2007)).

## Obesity and health

This research has been conducted at a time of continuing great concern about the levels of obesity and its negative physical, psychological and social impacts (UNICEF, 2000; Zaninotto *et al.*, 2006) as well as economic and cultural consequences (Wanless, 2002). There are well-documented links between obesity and cardiovascular disease, diabetes, osteoarthritis, cancer, dermatological and rheumatic diseases, asthma and other respiratory diseases (World Health Organisation, 2000) thus the improvement of young people's health is a key aim of international policies (UNICEF, 2000; World Health Organisation, 1995; Youth Forum Jeunesse, 2008). Within the school context, the importance of a health promoting environment is emphasised which stipulates that mental emotional, social and physical wellbeing is essential for successful learning and living (International Union for Health Promotion and Education, 2005).

In a systematic review of research to explore the relationship between obesity and educational attainment (Caird *et al.*, 2011) findings suggest a weak relationship between obesity and lower levels of attainment among children and young people. In addition, almost half of the twenty-nine studies reviewed found other relational factors such as socio-economic status. One of the most noticeable ways in which obesity affects the lives of children and young people is in their social relationships with related problems such as bullying, anxiety disorders, low self esteem and stigmatisation (p. 24). Further strong evidence supports an association between obesity and poor mental health in teenagers and adults (Gatineau & Dent, 2011). Impacting on all four dimensions (physical, mental, emotional and social) of wellbeing and on learning (be it relatively low), the need to reduce childhood

obesity is a critical health problem and further heightened by the increasing prevalence of adult obesity in both developed and developing countries (Popkin & Doak, 1998). Some predict that if the current childhood obesity continues, this generation could face shorter life expectancy than their parents (Lee *et al.*, 2010). Data from England (2007) indicate that over one in six boys aged 11-15 (17.6%), and nearly one in five girls aged 11-15 (19.0%) would be classed as obese (Health and Social Care Information Centre, 2009). Data from a Scottish Health Survey provided estimates for girls and boys aged 12-15 in 2008. The survey found that 19.1% and 15.8% of boys and girls respectively would have been classified as obese (Corbett *et al.*, 2009). Overall, the position that is agreed is that "... this epidemic ... is unlikely to come to a natural end, that is, without intervention" (Butland *et al.*, 2007, p.17).

In a recent paper related to obesity Lichtenstein & Ludwig (2010) suggest that "...girls and boys should be taught the basic principles they will need to feed themselves and their families within the current food environment: a version of hunting and gathering for the 21st century" p. 1857. McMichael (2001) too argues that to facilitate a better understanding of the inter-relationships between health on human and environmental levels requires education to focus on food literacy suggesting it can respond to the great challenges of the twenty-first century.

It would certainly be visionary if education communities made every effort to achieve a step change in relation to food literacy education by making it compulsory or by an initiative such as that recently introduced by one government body (The Scottish Government, 2011). An expert group (half of whom were practicing Home Economics teachers) were tasked with advising its educational community and its stakeholders what transformational change in the teaching and learning of food and health should look like, identify the key components and offer advice on how these could be incorporated into practice. This literature review will now turn to exploring the concept of literacy and of food literacy specifically.

## Literacy

Debate abounds about the types and definitions of literacy and how they can be utilised in everyday life to develop understand and apply particular fields of study. The United Nations Educational, Scientific and Cultural Organization (UNESCO) defines literacy as the

... ability to identify, understand, interpret, create, communicate, compute and use printed and written materials associated with varying contexts. Literacy involves a continuum of learning in enabling individuals to achieve their goals, to develop their knowledge and potential, and to participate fully in their community and wider society (UNESCO, 2003, p.13).

Smith (2009, p.55) suggests that "[G]eneral literacy has broadened to include negotiating, critical thinking and decision-making skills". Orr (1992) offered the term ecological literacy to suggest an ability to understand the inter-relationship between people, societies and natural systems and in 2008 Capra argued that "*the survival of humanity will depend on our ecological literacy*" (italics in original, p. 244). Food is one of many important ways in which we relate to the rest of an ecological system and the challenge for 21st century living is to integrate health of the biosphere and human health. Since healthy food choice is one key

element of health, the multidisciplinary field of health literacy must also be factored into this inter-relationship. Health literacy as a social determinant of health offers many opportunities to reduce inequities in health (Nutbeam, 2000). The wide range of skills and competencies that people develop over their lifetimes use health information to make informed choices, reduce health risks, and increase quality of life (Zarcadoolas, Pleasant, & Greer, 2006; Rootman & Wharf-Higgins, 2007).

Examining the concept of health literacy, Nutbeam (2000) identified three progressive levels of health literacy: basic/functional, communicative/interactive and critical. Functional health literacy is the use of basic literacy skills to function successfully in everyday situations, while interactive health literacy expands these handling information skills with social and personal skills applied to new and more complex situations. Critical health literacy as its name suggests, is the development of further cognitive skills for critical analysis, thus leading to self-efficacy and empowerment towards individual and collective actions. These aspects usefully classify health literacy in terms of what it enables individuals to do (Freebody & Luke, 1990) and how it can improve capacity for social action. Literacy is thus an enabler and a capacity. In relation to school learning, St. Leger (2001) usefully provides an expansion of the three progressive levels of health literacy (identified above) where food is a major component.

Acknowledging its interactive and critical aspect the World Health Organisation define health literacy as "...the cognitive and social skills which determine the motivation and ability of individuals to gain access to, understand and use information in ways which promote and maintain good health. Health Literacy means more than being able to read pamphlets and successfully make appointments. By improving people's access to health information and their capacity to use it effectively, health literacy is critical to empowerment" (World Health Organisation, 2009). Advancing the notion of empowerment and capacity for an enhanced systems-based understanding of food preparation, production and behaviours, nutrition and the environment, Wilkins (2005) uses the term "food citizenship" describing it as "the practice of engaging in food-related behaviours that support, rather than threaten, the development of a democratic, socially and economically just, and environmentally sustainable food system" (p. 269). The conscious food consumer is also identified in a European project. It defines food literacy as a personal core competence and "...ability to organise one's everyday nutrition in a self-determined, responsible and enjoyable way" (Schnogl *et al.*, 2006, p. 1) thus acknowledging the dimensions of citizenship, sustainability, self efficacy, politics, ethics and human health. Together, these can positively influence future food security, health and well-being, and survival (McMichael, 2005).

In Australia in 2011 a national study of Australian food experts that explored the question - *What is food literacy and does it influence what we eat?* Conducted by Vidgen and Gallegos (2011, p.ii) using the Delphi method, the following definition was found to be the most acceptable definition:

[T]he relative ability to basically understand the nature of food and how it is important to you, and how able you are to gain information about food, process it, analyse it, and act upon it.

## Home Economics and Food Literacy

Home Economics has been confidently and knowledgeably dealing with health literacy and in particular the food literacy component for many years, helping to give young people the means to develop and define their future and is therefore well positioned to deal with what has become one of today's principal, yet neglected education problems. Inclusive of social justice, the concept and processes of food literacy is a way of bringing together interconnecting elements such as food skills, food culture and global food systems, health related behaviours and environmental sustainability.

In supporting young people's learning with opportunities to become literate about food in a nutritional, environmental and socio-cultural sense, it can be argued that "[H]ome economics is situated at the crux of the solution" (Caraher, 2009, p. 6). Hands-on work with food is an excellent basis for young people to develop food preparation and cooking skills and resourcing food literacy lessons to encourage healthy lifestyles should be seen as an investment in children's futures. It is in the Home Economics lab that health, nutrition, diet, sustainability, animal welfare and consumer issues become sharply relevant. It must be recognised that food preparation and cooking encourages excellence, develops transferable skills such as co-ordination and psycho-motor skills, organisation and management skills, and interpretative/analytical skills and can provide a myriad of opportunities for young people to gain a sense of achievement, a personal pride in workmanship, global cultural awareness and an aesthetic sensibility. The capabilities to understand food and to create good, healthy food are life skills for independent living.

## Methodology

An online survey was developed and administered using viral techniques. The purpose of the study was to:

- provide insights into the definition of food literacy
- seek opinions relating to the age at which food literacy should be included in the curriculum
- explore who has responsibility for the teaching of food literacy
- provide opinions about components of the food literacy curriculum
- suggest future directions for food literacy education.

## Instrument

The instrument comprised of 9 questions, two of which were demographic (country and years as a professional Home Economics teacher). Questions typically had closed responses with the opportunity to add additional comments.

## Administration

The survey was piloted and designed for online completion only using SurveyMonkey. SurveyMonkey is an online survey site that allows 17 formats for asking questions (multiple choice, true false, open-ended, etc.). An e-mail with a link to the online survey was sent to

members of several Home Economics professional associations including the International Federation for Home Economics and Home Economics Victoria. In addition, listservers of Home Economists were approached and individuals were invited to distribute the survey to others. In this way the survey administration is described as being 'viral'. The survey was administered over a 3 week period in mid 2011. No follow up procedures were used.

### **Respondents**

Because viral techniques were used to distribute the survey, it is impossible to determine a response rate. The total valid responses to the online survey was 1188.

### **Data and data analysis**

SurveyMonkey was used to generate frequencies for each question and data was exported into SPSS for more complex analysis.

## **Findings**

### **Demographics**

There were 1188 respondents from 36 different countries in the world. Twenty-three respondents failed to identify their country. Between them, four countries accounted for 92% of respondents: United States with 651 (55%); Australia 176 (15%); United Kingdom 127 (11%); and Canada 125 (11%). Other countries with 5 or more respondents include: Ireland (16), Malta (9), Norway (5) and Sweden (11). What was very exciting about the respondents was the number of countries in which respondents resided. For the purposes of this paper, overall findings will be presented with a focus on the four largest respondent groups also presented. A separate analysis will focus on responses according to the 5 geographical regions of IFHE in another paper.

Along with the country of origin, the length of time as a teacher of Home Economics was the only other demographic information sought from respondents. Figure 1 provides a visual representation of the proportion of respondents from each of the four countries according to the number of years of teaching experience. Across the four countries, there is a strong trend towards respondents having over 20 years of experience, with 50% the average across the four countries. On average across the countries there were less than 20% of respondents with 5 years or less teaching experience, including a small number of student teachers in each country.

### **Food literacy**

In terms of understandings of food literacy, respondents were provided with the following open-ended question:

According to a recent project, food literacy is the "capacity of an individual to obtain, interpret and understand basic nutrition information and services as well as the competence to use that information and available services that are health enhancing". How might you define food literacy education?



With respect to the question 'At what age should food literacy begin?' a wide range of terminology was used in the responses which reflected the various schooling systems around the world. The open-ended responses were categorised according to consistent theme/terms and data is presented for the larger cohort and then the four largest country responses.

Across all country respondents, 22% stated a specific age they believe food literacy education should begin. This was followed by preschool (14%); primary (10%) and kindergarten (9%). For the largest four country respondents the 'age' category was further analysed to identify specific ages, with the following results, as presented in Figure 3.

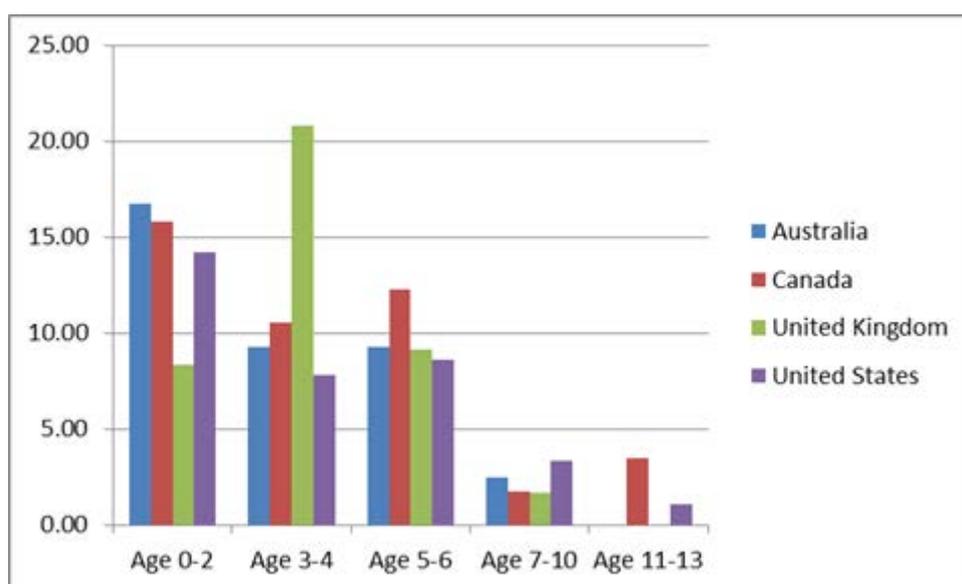


Figure 3 Ages stated by four largest cohort countries, by percentage

In summary, when the data sets are taken together, there is a strong trend towards food literacy being introduced early in the lives of individuals, around the world. The latest recommended starting period was the 'middle years', usually defined as 10+, which had a total of 1% of respondents, in this case representing about 11 individuals.

With respect to the question 'Do you think that the development of food literacy capabilities is a shared responsibility?' of 1069 valid responses 1026 (96%) responded in the affirmative; with just 21 (2%) suggesting not. Twenty-two (2%) responded that they 'don't know'. Respondents were further asked to consider who the partnerships should be with, or if it is not a shared partnership, why not. Given the strong affirmation, further analysis of who the partners should be was investigated with the ten most common partners listed in Table 1 below.



was developed from the literature around characteristics of food literacy. Respondents also had the opportunity to add other elements they believed were missing from this list.

Data for the four largest cohorts of respondents is presented in Figure 5.

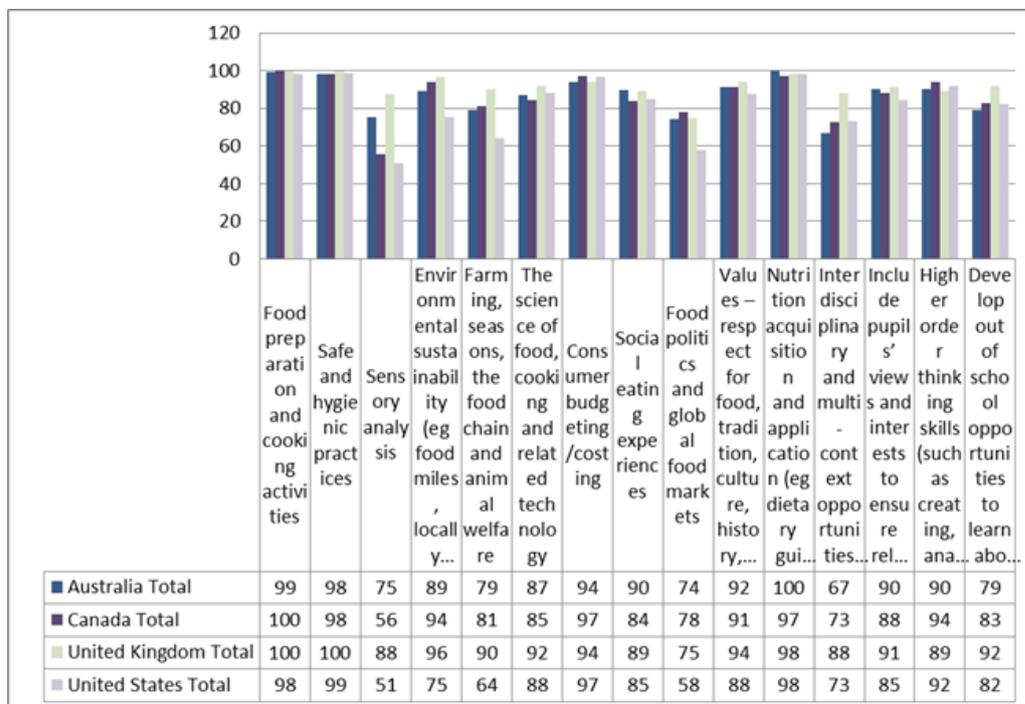


Figure 5 Components for inclusion in a food literacy curriculum

Of note in this data are the high levels of agreement across the 15 dimensions for each of the four countries. More than 50% of respondents from each of the countries agreed to the inclusion of all 15 elements. The lowest level of support was for ‘sensory analysis’, particularly for Canadian (56%) and US respondents (51%). The highest level of support was for the element ‘food preparation and cooking activities’ for Canada (100%); UK (100%); Australia (99%) and US (98%); followed closely by the elements ‘safe and hygienic practices’ and ‘nutrition acquisition and application’.

Taken in order of selection for the four largest cohorts, the following is the order in which the elements have been ranked for inclusion in the food literacy curriculum:

4. food preparation and cooking activities
5. safe and hygienic practices
6. nutrition acquisition and application (e.g. dietary guidelines, nutrients, healthy eating)
7. consumer budgeting/costing
8. higher order thinking skills (such as creating, analysing and evaluating thereby empowering individuals to make and enact informed choices)
9. values - respect for food tradition, culture, history, festival

10. pupils views and interests to ensure relevance and ownership
11. environmental sustainability (e.g. food miles, locally sources food, impact of food production, manufacture and consumption, Fairtrade)
12. the science of food, cooking and related technology
13. social eating experiences
14. developing out-of-school opportunities to learn about food and cooking
15. farming seasons, the food chain and animal welfare
16. interdisciplinary and multi-context opportunities to work with other curricular areas
17. food politics and global markets
18. sensory analysis.

The final question on the survey was a very open 'Where next?' question which asked respondents to indicate 'what would help you to further develop a food literacy curriculum and positive food literacy ethos in your school?' This question is analysed in a follow up paper.

## Discussion

The findings from this study reveal a commitment to a broad understanding of food literacy incorporating a wide range of elements which should be introduced in the early years of childhood in partnerships with key players including teachers, parents and the wider community.

However, there is little point in developing nutritional knowledge on healthy eating if the skills, experiences and taste preferences to implement them are marginalised (Caraher *et al.*, 1999). Traditionally, health promotion has focused on changing knowledge, attitudes and behaviours and the development of food preparation and cooking skills may be seen as a practical meeting point of all three.

In addition, a social constructivist, pedagogical approach emphasising a wide range of food based and higher order skills—beyond the 'how to' technical practices to include the (why) interpretive and deep learning within such practices, ensures that the development of values, beliefs and actions, resulting from open questioning, critical analysis, debate and discussion are therefore personal and more likely to be adopted. Furthermore, student participation in active learning can strengthen student-teacher relationships, improve the classroom climate, accommodate a variety of learning styles, and provide alternative ways of learning (Watkins, 2003). By using active learning methodologies students will not only come to a deeper understanding of the issues involved, but also that their motivation and enthusiasm will be heightened.

This study reaffirms the importance of Home Economics. It gives Home Economics educators a platform to become global leaders in tackling the obesity problem that is challenging policy makers worldwide and to contribute to other contemporary food issues. A key strategy will

involve collaboration action, and alignment with other stakeholders. The data presented affirms that Home Economists globally are like-minded in their beliefs about the need for food literacy curriculum.

A comprehensive portfolio of interventions is needed to cover the full landscape of food literacy education; otherwise partners operating on one element (such as human health, environmental health or the food system) might undermine positive actions elsewhere. Schools have struggled for years with a range of short term initiatives or restricted Home Economics timetabling and staffing thus reducing the potential of food literacy education; they need stability and to deliver with experienced professionals. To maximise the contribution of their expertise, Home Economics educators should lead and co-ordinate in the development of and vision for food literacy education. This may involve interdisciplinary school projects or food themes within Home Economics curricula.

Working in partnership with wider community health and wellbeing groups can raise the profile and understanding of food literacy. The home school relationship is vital and activities involving parents, community learning courses and pupils as peer tutors can enhance school based health programmes (Forneris *et al.*, 2010) If embedded within wider community health developments, food literacy could also have a positive impact on individuals, families and wider society.

Linking with food and health sector businesses can do much to enhance the learner experience. Providing young people with opportunities to engage with professionals from the food and health industries, work experience or site visits can enhance the learner experience and may stimulate an interest in a future career.

It seems that the plea from sources outside the profession to “bring Home Economics back” by “providing a mandatory food preparation curriculum to students throughout the country may be among the best investments society could make” (Lichtenstein & Ludwig, 2010, p.1858).

## Biography

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