

Contemporary Issues in Technology Education

Marion Rutland  
Angela Turner *Editors*

# Food Education and Food Technology in School Curricula

International Perspectives

 Springer

# **Contemporary Issues in Technology Education**

## **Series Editors**

P. John Williams

Curtin University, Perth, WA, Australia

Alister Jones

University of Waikato, Hamilton, New Zealand

Cathy Bunting

University of Waikato, Hamilton, New Zealand

Marc J. de Vries

Technische Universiteit Delft, Delft, The Netherlands

### **Contemporary Issues in Technology Education - About this series**

Technology education is a developing field, new issues keep arising and timely, relevant research is continually being conducted. The aim of this series is to draw on the latest research to focus on contemporary issues, create debate and push the boundaries in order to expand the field of technology education and explore new paradigms. Maybe more than any other subject, technology education has strong links with other learning areas, including the humanities and the sciences, and exploring these boundaries and the gaps between them will be a focus of this series. Much of the literature from other disciplines has applicability to technology education, and harnessing this diversity of research and ideas with a focus on technology will strengthen the field.

More information about this series at <http://www.springer.com/series/13336>

Marion Rutland • Angela Turner  
Editors

# Food Education and Food Technology in School Curricula

International Perspectives

 Springer

*Editors*

Marion Rutland  
School of Education  
University of Roehampton  
London, UK

Angela Turner  
Southern Cross University  
Coffs Harbour, NSW, Australia

ISSN 2510-0327

ISSN 2510-0335 (electronic)

Contemporary Issues in Technology Education

ISBN 978-3-030-39338-0

ISBN 978-3-030-39339-7 (eBook)

<https://doi.org/10.1007/978-3-030-39339-7>

© Springer Nature Switzerland AG 2020

This work is subject to copyright. All rights are reserved by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors, and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, expressed or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

This Springer imprint is published by the registered company Springer Nature Switzerland AG  
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

# Foreword

It is not unusual for people to hold strong views about food. These passions and prejudices may stem from early childhood experiences within a family setting. They may be informed by years of study and research. They are almost certainly shaped by place and time—and frequently by inspiring and influential individuals.

Historically, Food Education in schools was classified as practical, skill-based cookery lessons. There is much still to admire in this approach. It can provide challenging and rewarding life skills for young people who do not necessarily thrive in a more academic environment. It can lead on to a vocational pathway to employment, often in the catering or food product development industries.

Forward thinkers have grasped opportunities to explore new processes, sustainable ingredients, and modern technologies to move Food Education into exciting approaches appropriate to the twenty-first century. Research findings on nutrition have had a powerful impact on understanding of healthy eating, recipe development, and product reformulation alike. This is a progressive and dynamic area for refreshing and updating Food Education which some countries have embraced.

It is sometimes a criticism of Food Education in schools that it lends itself to such a wide range of applications in the curriculum. (This can be achieved particularly well in some primary schools.) The dilemma here is that it is all too often assumed that it can be taught by teachers lacking subject-specific training. On the plus side, however, learning about food has a clear and positive role which can enhance and enrich lessons in Science, Design, and Technology and Personal, Social, Health and Economic education (PHSE).

The vital role played by appropriately trained and experienced teachers who both educate and inspire the children and young people they teach should not be underestimated. A background as a Nutritionist, Caterer, or in Food Manufacturing or Retail can be valuable. As can knowledge of local culture and food production methods. It is interesting to learn how colleagues inspire new teachers and refresh the more experienced ones through Initial Teacher Education and Continuing Professional Development.

There is clearly much of value to be retained from traditional approaches to Food Education, whilst simultaneously rising to the challenge of keeping this dynamic

and rapidly changing area relevant and up to date. It is fascinating to learn from colleagues who are so generously willing to share their experiences from a variety of different environments...their successes and their issues.

This book has something to engage all those with a constructively critical approach to Food Education and Food Technology, in whatever guise it appears in the school curriculum, and a sufficiently open mind to seek out stimulating ways forward. There will be lone teachers in isolated schools who will feel comforted that what they are doing now is sound and encouraged to be a little more adventurous in future. Colleagues with responsibility for curriculum design at both local and national policy level will benefit from better understanding of the challenges of teaching such a time-sensitive practical subject and value the sense of achievement so many pupils and young people gain from this experience.

There is much for teacher educators, providers of in-service professional development, and external examination developers to reflect upon and some inspirational new ideas to “share.” Reflection is a valuable learning experience, whereas complacency is not. So, where should we be heading in the next few decades? Clearly one size does not fit all. Thought provoking!

Former/Retired Deputy Director General  
of the British Nutrition Foundation  
London, UK

Stephanie Valentine

# Contents

<b>1 Introduction</b> . . . . .	1
Marion Rutland and Angela Turner	
<b>Part I Food Teaching in Primary and Secondary Schools in Different Cultures</b>	
<b>2 Exploring Food Education in the English Primary Curriculum</b> . . . . .	9
Sue Miles-Pearson	
<b>3 Reducing Challenging Behaviour and Maintaining Aboriginal and Torres Strait Islander (ATSI) and Non-ATSI Student Retention Through Food and Exercise in Primary and Secondary Schools in New South Wales, Australia</b> . . . . .	31
Gillian Stuart and Angela Turner	
<b>4 What Is the Current State of Play for Food Education in English Secondary Schools?</b> . . . . .	45
Ruth Seabrook and Vanessa Grafham	
<b>5 A Technological Approach to Secondary Food Education in New Zealand</b> . . . . .	63
Wendy Slatter	
<b>6 Developments in Secondary Food Education in England Since the 1970s: A Personal Perspective</b> . . . . .	81
Angela J. Turner	
<b>7 Food and Nutrition Education in Malta: A Journey Across Time and Subject Boundaries</b> . . . . .	97
Suzanne Piscopo	
<b>8 Home Economics Education in Secondary School Settings: Lessons from Education Policy on the Island of Ireland</b> . . . . .	123
Amanda McCloat and Martin Caraher	

## Part II The Professional Identity of Food Teachers

- 9 Positive Ingredients to Redefining Food Education in Schools in New South Wales, Australia** ..... 139  
Donna Owen
- 10 Where Will Future Secondary Food Teachers Come from in England?** ..... 153  
Sue Wood-Griffiths and Suzanne Lawson
- 11 Changing the Professional Identity of Food Technology Teachers in New South Wales, Australia** ..... 167  
Deborah Trevallion
- 12 Qualifications for Working in the Food Industry: Understanding All the Available Options for Students and Educators in Victoria, Australia** ..... 183  
Bronwyn Graham
- 13 Continuing Professional Development for Secondary Food Technology Teachers in New South Wales (NSW), Australia** ..... 195  
Carly Saunders
- 14 Food Teaching in Upper Secondary English Schools: Progression Into Food-Related Undergraduate Courses in Higher Education** ..... 209  
Marion Rutland

## Part III Current Content and Contemporary Issues

- 15 Current Research in Nutrition in the School Curriculum in England** ..... 229  
Sue Reeves
- 16 A Curriculum Developer's Perspective on the Place of Food in the Secondary School in England** ..... 243  
David Barlex
- 17 Population Growth and Global Food Supplies** ..... 261  
Christopher Ritson
- 18 Socially Acute Questions: How Biotechnology Can Provide Context and Content for Discussion in Food Technology Education** ..... 273  
Bev France
- 19 Teaching Food Technology in a Secondary Technology Education Classroom: Exploring Ideas in Indigenous Contexts** ..... 283  
Mishack T. Gumbo

**20 Learning Cultural, Ecological and Food Literacies Through the Gumbaynggirr Pathway of Knowledge Project..... 297**  
Angela Turner

**21 A Synoptic View of Sections 1, 2 and 3 ..... 319**  
Marion Rutland and Angela Turner

# Contributors

**David Barlex** University of Exeter, Exeter, UK

**Martin Caraher** Centre for Food Policy, City, University of London, London, UK

**Bev France** University of Auckland, Auckland, New Zealand

**Vanessa Grafham** Tolworth Girls School, London, UK

**Bronwyn Graham** Heathdale Christian College, Werribee, VIC, Australia

**Mishack T. Gumbo** University of South Africa, Pretoria, South Africa

**Suzanne Lawson** University of Worcester, Worcester, UK

**Amanda McCloat** St. Angela's College, Sligo, Ireland

**Sue Miles-Pearson** University of Roehampton, London, UK

**Donna Owen** Ravenswood School for Girls, Gordon, NSW, Australia

**Suzanne Piscopo** Faculty of Education, University of Malta, Msida, Malta

**Sue Reeves** University of Roehampton, London, UK

**Christopher Ritson** Newcastle University, Newcastle upon Tyne, UK

**Marion Rutland** School of Education, University of Roehampton, London, UK

**Carly Saunders** University of Newcastle, Callaghan, NSW, Australia

**Ruth Seabrook** University of Roehampton, London, UK

**Wendy Slatter** University of Auckland, Auckland, New Zealand

**Gillian Stuart** Scotts Head Public School, Scotts Head, NSW, Australia

**Deborah Trevallion** The University of Newcastle, Callaghan, NSW, Australia

**Angela Turner** Southern Cross University, Coffs Harbour, NSW, Australia

**Angela J. Turner** Dartford Grammar School for Girls, Kent, UK

**Stephanie Valentine** Former/Retired Deputy Director General of the British Nutrition Foundation, London, UK

**Sue Wood-Griffiths** University of Worcester, Worcester, UK

## About the Authors

**David Barlex** is an acknowledged leader in design and technology education, curriculum design and curriculum materials development. He taught in comprehensive schools for 15 years before taking university positions in teacher education. He directed the Nuffield Design and Technology Project. David is well known for developing curriculum materials that support pupil learning from a constructivist perspective. He uses this approach to develop young peoples' ability to understand and critique the design decisions made by professional designers and those they make themselves.

**Martin Caraher** is Professor Emeritus Food and Health Policy at the Centre for Food Policy, School of Health Sciences, University of London. Martin has worked in the area of food and policy for over 30 years, publishing his first piece on cooking in 1999. He has an interest in skills, home economics and community food and has concerns with single issue solutions being offered as magic bullets to issues such as obesity.

**Bev France** is Associate Professor in the Department for Curriculum and Pedagogy in the Faculty of Education and Social Work at Auckland University, New Zealand. Her passion to improve communication about science based technology solutions was lit during the 1990s when she embarked on her PhD research on the teaching of biotechnology in New Zealand. Since then, the focus of her research and teaching has been to develop a pedagogy that enhances this process.

**Vanessa Grafham** trained as a Design and Technology teacher, specialising in food technology, in 2000. For the majority of her teaching career she has taught in a girls' secondary school in the London area. Currently, she is the subject lead for Design and Technology within her school. Prior to teaching, she worked in industry as a nutrition adviser for the Milk Marketing Board and continues to draw on these experiences in her present teaching role.

**Bronwyn Graham** careers in the food industry have spanned most of her life. She started as a 15 year old in a local fast food shop, moving into catering in her 20s, studying and working in food science and then into food education in Australia. Bronwyn's knowledge and understanding of food careers has been gained via her own experiences.

**Mishack T. Gumbo** is a Full Professor in the Department of Science and Technology Education at the University of South Africa's College of Education. He is also a Coordinator of the Master's and Doctoral Programme in the College. His research specialisation fields include technology teachers' continuing professional development, indigenous knowledge and the curriculum, decolonisation of the curriculum, distance education and e-learning. Mishack has published numerous scholarly articles, conference papers, book chapters and three co-edited scholarly books. He has given keynote addresses at conferences and other academic occasions, mentored developing researchers and post-doctoral fellows. He leads a community engagement on Strategic Intervention in Mathematics, Science and Technology Education.

**Suzanne Lawson** is the PGCE secondary course leader at the University of Worcester. Previous to this, she worked as a senior lecturer at Birmingham City University. She has 14 years teaching experience working in a range of schools in the UK with a further 15 years' experience in teacher training.

**Sue Miles-Pearson** a former primary school teacher for 6 years in London, has worked in initial teacher education at the University of Roehampton, London for the past 14 years. She is the module convenor for primary design and technology, teaching both undergraduate (a 3 year degree) and post graduate students. Sue has written several articles about computer aided design and computer aided manufacture and the teaching of food technology. She also has co-authored a book chapter published on teaching creatively and teaching for creativity within primary design and technology.

**Suzanne Piscopo** is an Associate Professor in Nutrition, Family and Consumer Studies, mainly training Home Economists, Home Economics teachers and early childhood educators at the University of Malta. She is a frequent guest speaker in school and community events and on the mass media, tackling subjects related to food, health and sustainable consumption.

**Amanda McCloat** is a Home Economist with a particular research interest in Home Economics and food education; food and cooking skills; and Education for Sustainable and Responsible Living. She is involved in Home Economics at an international level as the European Representative on the Executive Committee of the International Federation for Home Economics (IFHE).

**Donna Owen** is a secondary teacher currently working in a Sydney, Australia high school and an academic writer. She is passionate about food education and teaching the next generations of students. She understands as a food educator, the importance of teaching food to students that is relevant and engaging in order to remain open and flexible to the ever-changing needs of the time”.

**Sue Reeves** is Principal Lecturer and Head of Undergraduate Provision and Student Experience in the Department of Life Sciences at the University of Roehampton, London where she teaches Nutrition and Health. She is a Fellow of the Association for Nutrition and a Senior Fellow of the Higher Education Academy.

**Christopher Ritson** is Emeritus Professor of Agricultural Marketing and former Dean of the Faculty of Agriculture and Biological Sciences at Newcastle University, UK. He has published widely on aspects of Food Economics, Food Policy, Food Marketing, and Food Ethics. He has served on various food related Advisory Committees and is currently a member of the Food Standards Agency Advisory Committee on Novel Foods and Processes.

**Marion Rutland** is a former Principal Lecturer and Honorary Research Fellow at the University of Roehampton, London, UK. Prior to this, she taught food related subjects for 20 years in a range of secondary schools in the UK, Sydney, Australia and was an Advisory Teacher for Information Communications Technology in London. Her educational research interests include food education, curriculum development, teaching and learning in design and technology and creativity.

**Carly Saunders** is a high school Food Technology teacher, University Lecturer of Food Technology teaching and the founding director of Teacher Professional Development, a company that provides teachers with teaching strategies, resources and professional development days. Teacher Professional Development is endorsed and registered by New South Wales Education Standards Authority in Australia.

**Ruth Seabrook** taught for 10 years in all areas of design and technology (D&T), with Food and Textiles Specialisms, in the secondary school sector in the UK. She moved to work with initial teacher education trainees at the University of Roehampton, London in 2009 as the course leader for the Postgraduate Certificate of Education (PGCSE) in D&T.

**Wendy Slatter** is a New Zealand-educated technology education specialist. She has 20 years classroom experience as a foods and fabric technology teacher. Her research interests include teacher access to communities of practice and components of technological food literacy. She conducts freelance advisory work with New Zealand technology teachers.

**Gillian Stuart** is an award winning educator, special educational consultant, Principal and proven leader with a career in using physical activities and food applications to improve learning outcomes. Gillian was unanimously endorsed in 2018 by her colleagues as a worthy recipient for leading best practice, in Aboriginal Education in New South Wales, Australia

**Deborah Trevallion** is tenured at The University of Newcastle where she researches, lectures and coordinates undergraduate and postgraduate programs and courses in all areas of Technology Education. Deborah shares her passion for Technology Education and has 40 years' experience in universities and secondary schools. Deborah's doctoral thesis explores the factors affecting the changing professional identity of Technology Teachers. She has written two best-selling secondary senior textbooks, chapters in texts and is regularly published in education journals

**Angela J. Turner** initially studied food science at Reading University, UK and worked in the food industry before leaving to travel and explore the world. She returned and trained to become a teacher of the new design and technology subject. Angela has been teaching for 30 plus years in London schools and worked in Bromley Local Authority, London as a consultant for 8 years. She then returned to full-time teaching at an inner London academy school and is now working at Dartford Grammar School for Girls.

**Angela Turner** is a teaching/research scholar in the School of Education, Southern Cross University, NSW Australia. Her work involves interdisciplinary and cross cultural teaching contexts as ongoing enterprise to inform teaching, learning and assessment practice. Core to this includes ontological meaning making on food sustainability in the context of food education.

**Susan Wood-Griffiths** was the PGCE Secondary Design and Technology subject leader at the University of Worcester until 2018. Before moving into Higher Education, she taught for 21 years in the UK and overseas. Sue has worked with many teachers and aims to develop innovative, creative teachers who share ideas and take 'intelligent' risks.

# Chapter 1

## Introduction



**Marion Rutland and Angela Turner**

**Abstract** The book has been designed to be of relevance to teachers in post, teacher trainers, pre-service teachers, curriculum developers, Continuing Professional Development (CPD) providers, educational researchers and educational policy makers. The structure of this book contains acknowledged experts in the fields of food education who contribute chapters supported as far as possible by evidence from actual experiences and research. The target audience are teachers, trainee teachers, and teacher educators but will also make it relevant to educational policy makers, researchers and potential researchers.

**Keywords** Food education · Primary and secondary curriculum · Food teaching  
Food teachers' professional identity · Contemporary issues

This book draws together the perceptions and experiences from a range of international professionals with specific reference to food education and considers food education in schools and how it is taught across a range of countries. It presents a variety of teaching, learning and curriculum design approaches relating to food across primary, secondary and vocational school education, undergraduate initial teacher education programs and in-service professional development support contexts. The authors include senior and middle managers and teachers in schools, undergraduate university lecturers and pre-service teacher educators, researchers, continuing teacher development (CPD) trainers, curriculum advisers and external examination developers. Individual chapters will be influenced by the author's background and country of origin, each of whom contributes a different and valued

---

M. Rutland (✉)

School of Education, University of Roehampton, London, UK  
e-mail: [m.rutland@roehampton.ac.uk](mailto:m.rutland@roehampton.ac.uk)

A. Turner

Southern Cross University, Coffs Harbour, NSW, Australia  
e-mail: [Angela.Turner@scu.edu.au](mailto:Angela.Turner@scu.edu.au)

© Springer Nature Switzerland AG 2020

M. Rutland, A. Turner (eds.), *Food Education and Food Technology in School Curricula*, Contemporary Issues in Technology Education,  
[https://doi.org/10.1007/978-3-030-39339-7\\_1](https://doi.org/10.1007/978-3-030-39339-7_1)

voice to the whole composition of this book. In doing so, a reflective untangling will orientate the reader on what the authors consider the purpose of food education is; what children and young people should learn, understand and be able to do; why it is important; and how teaching food education can be achieved effectively. These narratives offer insight into some of the diverse issues in food education internationally and lessons to be learned from successes and failures, including action points for the future.

## **Part I: Food Teaching in Primary and Secondary Schools in Different Cultures**

This part will explore a range of curriculum approaches in primary and secondary food education in England, Ireland, New Zealand, Australia and Malta.

### **Chapter 2: Exploring Food Education in the English Primary Curriculum**

There have been a lot of changes over the years within the English primary education system. This chapter investigates what impact this has had on design and technology (D&T) and in particular the food technology education element. It reflects on research completed in 2009 on teaching food education with university initial teacher education (ITE) trainee teachers and replicates this research 10 years later. In the second part of the chapter 25 primary schools across England were contacted to find out just what food education is being taught and how it varies throughout the age phases. The expectation is to gain an overview and a better understanding of what changes have occurred during the last 10 years and what food education is currently being taught and consider the impact of the current dominant focus of literacy and numeracy in English primary schools.

### **Chapter 3: Reducing Challenging Behaviour and Maintaining Aboriginal and Torres Strait Islander (ATSI) and non ATSI Student Retention Through Food and Exercise in Primary Schools in New South Wales, Australia**

This chapter focuses on joint cross-cultural multidisciplinary teaching and learning contexts of research projects and initiatives in primary schools in New South Wales, Australia. The focus is on Maslow's hierarchy of needs, and the purpose is to promote health-based education programs that engaged and supported positive student outcomes, through breakfast and lunch programs and morning exercise routines.

### **Chapter 4: What Is the Current State of Play for Food Education in English Secondary Schools?**

Secondary school food teachers in England have recently faced a period of unprecedented change, with fundamental changes to the national curriculum (NC) for design and technology (D&T) and for food technology. This chapter will explore 'the current state of teaching food' in secondary schools in England and review research findings based on case studies provided by a range of food teachers in secondary schools.

**Chapter 5: A Technological Approach to Secondary Food Education in New Zealand**

This chapter examines the issue of secondary food education in New Zealand, reviewing the past and exploring the current situation. It explores a theoretical model that presents food as a technological outcome. Specific reference is made to what components of food could be taught to students at junior secondary level (12–14 years).

**Chapter 6: Developments in Secondary Food Education in England Since the 1970s: A Personal Perspective**

This chapter explores the author's personal perspectives of food education in English schools and how it has evolved from domestic science in the 1970s through being part of design and technology (D&T) in the national curriculum to more recent trends where the subject has separated from D&T with the introduction of General Certificate of Secondary Education (GCSE) in Food Preparation and Nutrition for pupils aged 14–16 years. It is a personal tale, drawing on experiences as a pupil, as a graduate in the food industry and as a teacher working in and around London for more than 25 years.

**Chapter 7: Food and Nutrition Education in Malta: A Journey Across Time and Subject Boundaries**

This chapter presents a historical overview of how food and nutrition education evolved in Malta, looking at its original goals of life skills, health improvement and potential employment and the eventual diversification in focus and target learners in tandem with emerging needs and policies. It then offers a detailed description of the current provision of food and nutrition education in secondary schools.

**Chapter 8: Home Economics Education in Secondary School Settings: Lessons from Education Policy on the Island of Ireland**

The teaching of home economics in secondary school education is discussed in two jurisdictions on the Island of Ireland—the Republic of Ireland and Northern Ireland in the UK. The educational rationale, aims and underlying pedagogical approaches to teaching home economics in educational policy in both jurisdictions are explored and comparative case study similarities and differences highlighted.

**Part II: The Professional Identity of Food Teachers**

This part will look at the influences in schools, higher education, initial teacher education, continuing professional development (CPD) and vocational programmes on the identity of food teachers in different countries, contexts and cultures.

**Chapter 9: Positive Ingredients to Redefine Food Education in Schools in New South Wales, Australia**

The focus of this chapter is to draw upon research and surveyed reflections from current food teachers in schools in New South Wales, Australia. The aim is to use

this lens to unpack the key influencing factors that will keep food education in NSW, Australia, evolving and relevant for the next generation of food students and teachers.

### **Chapter 10: Where Will Future Secondary Food Teachers Come from in England?**

This chapter asks ‘where will future secondary food teachers come from in England?’ It tracks the evolution of food teaching in the curriculum tracing its origins in domestic science through to the present focus on food, nutrition and preparation and focuses on the key issue that in order to deliver a quality food curriculum in English schools we need skilled food teachers.

### **Chapter 11: Changing the Professional Identity of Food Technology Teachers in New South Wales, Australia**

If a pre-service technology teacher is to teach food technology within technology education (TE) using a holistic approach, then the advancement of their professional identity as a technology teacher will be reliant upon the grasping of essential technology education concepts. During the period that this research was undertaken, 2012–2017, TE underwent major curriculum changes, and this succession of curriculum change generated high levels of tension and confusion. This chapter discusses the factors that shape the professional identity of pre-service technology education (TE) students who are transitioning at university in order to become secondary food technology teachers to support the modifications to the TE curriculum, particularly food technology (FT) in New South Wales, Australia.

### **Chapter 12: Qualifications for Working in the Food Industry: Understanding All the Available Options for Students and Educators in Victoria, Australia**

The Australian food industry is vast in its operations and opportunities. It is an industry that can cater to the career or employment needs of almost any person, with almost any skill level and capability. It offers opportunities for unskilled workers as well as for those highly skilled and highly educated. This industry is therefore uniquely placed for the opportunities it offers for the wide range of communities it services. Food education at secondary school level has undergone significant changes in recent years in Victoria, Australia. The vocational education and training (VET) sector is a largely misunderstood study option, with very relevant job outcomes and also pathways to further education. These will be examined and discussed in detail in this chapter.

### **Chapter 13: Continuing Professional Development for Secondary Food Technology Teachers in New South Wales (NSW), Australia**

One of the most significant findings discovered by registered providers of secondary teacher in professional development in New South Wales, Australia, is the varying degrees of teacher knowledge across the diverse topics covered in the New South Wales (NSW) 7–12 syllabus. This chapter aims to examine the needs of teachers in preparing their food technology students for the future through qualitative research surveys of 241 NSW teachers and observational research of the 1066 attendees to teacher professional development courses.

### **Chapter 14: Food Education in Upper Secondary English Schools: Progression into Food-Related Undergraduate Courses in Higher Education**

This chapter looks at food teaching in English schools with specific reference to the loss of an advanced (A) level food technology course for pupils aged 16–18 years. A review of university undergraduate food-related courses is followed by an investigation of A level courses taken by students before entry to food-related university undergraduate courses and a small-scale research project exploring the potential content of a new A level food examination, a course that could act as a pathway to undergraduate courses and a range of employment in nutrition, dietetics, nursing, health-related professions, teaching and the food industry.

## **Part III: Current Content and Contemporary Issues**

This part will explore current curriculum approaches in food education for the teaching of food skills and knowledge, food technology, nutrition and health, biotechnology, global food supplies and teaching food in the UK, New Zealand and indigenous cultures in South Africa and Australia.

### **Chapter 15: Current Research in Nutrition in the School Curriculum in England**

Food and nutrition is taught in England in different areas of the school curriculum, namely, science, design and technology and also personal, social, health and economic (PSHE) education. This chapter aims to highlight developments in nutrition research and how this can be used to help shape and strengthen the teaching of food and nutrition in schools.

### **Chapter 16: A Curriculum Developer's Perspective on the Place of Food in the Secondary School in England**

This chapter begins by considering the importance of food education in English secondary schools in the context of the obesity crisis and the role of meat production in contributing to global warming. It continues with a discussion on how young people might be taught to cook and eat well. This is extended with a consideration of the role of science learning in meeting these objectives and the possible content of food technology courses.

### **Chapter 17: Population Growth and Global Food Supplies**

The chapter will explain why the nineteenth-century political economist, Thomas Malthus, believed that population growth would outstrip the capacity of the planet to feed everyone and why this “Malthusian” vision of the future has not materialised. It will then review an accumulation of recent evidence, which suggests a potentially disturbing picture of the future balance between global food supplies and population growth.

**Chapter 18: Socially Acute Questions: How Biotechnology Can Provide Context and Content for Discussion in Food Technology Education**

Biotechnology education provides a rich source of socially acute questions that can be asked about the risks, moral issues and legitimacy of many foods being labelled 'pure' and 'natural'. This chapter will explore some of the issues of genetically engineered foods and provide some pedagogical strategies that enable students to discuss these issues from a broader perspective regarding 'fitness for purpose'.

**Chapter 19: Teaching Food Technology in a Secondary Technology Education Classroom: Exploring Ideas in Indigenous Contexts**

This chapter will explore indigenous food types, design and processing, as cultural resources that can help in the teaching of food technology in technology education in South Africa. It is important to create awareness in secondary technology teachers, who may feel their teaching is under-resourced, about the enriching role that food technology can play in indigenous contexts. Food technology is mistakenly limited to the conventional versions of food only.

**Chapter 20: Learning Cultural, Ecological and Food Literacies Through the Gumbaynggirr Pathway of Knowledge Project**

This chapter presents research from a project collaboration undertaken in New South Wales, Australia, between a rural primary school, local Aboriginal Gumbaynggirr Elders and Southern Cross University. The aim was to understand food values at the core of Australian native food and plant knowledge systems, coupled with developing transferable teaching strategies for the classroom. Exploring and understanding natural food sources were triangulated between the Australian Aboriginal science and Western science, visualised through nature journaling.

**Part I**  
**Food Teaching in Primary and Secondary**  
**Schools in Different Cultures**

## Chapter 2

# Exploring Food Education in the English Primary Curriculum



Sue Miles-Pearson

**Abstract** There have been a lot of changes over the years within the English primary education system, and this chapter investigates what impact this has had on design and technology (D&T) and in particular the food technology education element. I am going to reflect on previous research in 2009 on teaching food education with university initial teacher education (ITE) trainee teachers. I will then replicate this research to explore if, and how, the results have altered in 10 years and why this is significant to us in how we move food education forward.

For the second part of this chapter, I have contacted a spread of 25 primary schools across England to find out just what food education is being taught and how it varies throughout the age phases. I am going to be looking at the different primary age ranges, firstly early years (3–5 years old). This area will focus on nursery and reception classes and the early year's framework that they follow, concentrating on what skills are being both taught and learnt. Within Key Stage 1 (5–7 years old) and Key Stage 2 (7–11 years old), I will reflect on the content from the current national curriculum in England.

My expectation is that my research will enable myself, and others, to gain an overview and a better understanding of what changes have occurred during the last almost 10 years. The later part of this chapter considers food education currently being taught across England in early years and primary schools. Literacy and numeracy have a dominant focus in English primary schools, and I want to see if this has had an impact on the teaching of food education.

**Keywords** Food teaching · Primary schools · England · National curriculum  
Food technology · Cross-curricular

---

S. Miles-Pearson (✉)  
University of Roehampton, London, UK  
e-mail: [s.miles-pearson@roehampton.ac.uk](mailto:s.miles-pearson@roehampton.ac.uk)

© Springer Nature Switzerland AG 2020  
M. Rutland, A. Turner (eds.), *Food Education and Food Technology in School Curricula*, Contemporary Issues in Technology Education,  
[https://doi.org/10.1007/978-3-030-39339-7\\_2](https://doi.org/10.1007/978-3-030-39339-7_2)

## The Primary National Curriculum

Food education, taught as cookery, was first introduced in the English schools in the nineteenth century. This later became home economics, which included textiles and covered not only learning how to cook but also how to clean and launder clothes, in secondary schools in 1985 (Her Majesty's Stationary Office, (HMSO), 1985). It was intended to help pupils prepare to be a good homemaker, which was aimed mainly for the girls. Similarly, craft, design and technology (CDT) (HMSO, 1987) aimed at helping pupils become more proficient with tools in woodwork, metalwork and generally building skills and was taught mostly to boys. However, the government realised the benefits of having all these specialisms (Department of Education and Science (DES), 1990), and by 1990 and the introduction of the national curriculum (DES), it was decided that all of these skilled subjects should be brought together under the umbrella term of design and technology, making it more of an inclusive subject for all pupils.

It was not long before secondary schools found that the pupils who were coming into Year 7 did not have the skills that they needed to embark in the D&T lessons and teachers needed to teach basic skills using simple 'focused practical tasks'. Skills such as how to thread a needle and sew a basic stitch within textiles; learning skills and techniques on how to saw, sand and join pieces of wood together. Within food technology learning simple cooking skills like, rolling, kneading, blending, creaming, whisking and cutting. All of which took up a lot of value lesson time. Thus, D&T was introduced into primary schools, so they could learn the basic life skills they needed before going to secondary school (British Nutrition Foundation (BNF), 2017). But has it been as embraced by the primary schools as we in the profession would have hoped? Unfortunately, it is not being taught as much as we would have liked, whether this is because of the class teachers lacking in confidence and personal skills to be able teach D&T or whether the strong emphasis on teaching the core areas of English and mathematics has had an impact, leaving very little time for the wider curricular subjects, or could it be that a lot of organisation and resources are needed? The Design and Technology Association founded in 1989 (Design and Technology Association, 2018) currently provides a bounty of resources to support educators teaching D&T to both primary and secondary schools.

In 2012 I was fortunate enough to be asked to be a part of the working party to revise the primary D&T programmes of study in the national curriculum for pupils aged 5–11 years (Department for Education (DfE), 2013). Unfortunately, the government appeared to want to take food technology out of D&T curriculum; but after a lot of lengthy discussions, the outcome was that, through a variety of creative and practical activities in D&T, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts and use a wide range of materials and components, including construction materials, textiles and *ingredients*, according to their characteristics (DfE, 2013, pp. 2–3).

However, it also introduced a new section called cooking and nutrition as part of their work with food which, as the title suggests, had a different focus to the previous ‘food technology’ component. It aimed to ensure that the pupils learn the ‘principles of nutrition and healthy eating, including where food comes from and how to make some basic dishes’ (DfE, 2013, p. 3). There is also a school of thought that children in their school should be encouraged to grow the vegetables that they use in the kitchen (Baker & Shelley, 2013). Nevertheless, the working party was not allowed to embed ‘cooking and nutrition’ within D&T; it had to be a stand-alone section at the end focusing on ‘learning to cook’. The English national curriculum states:

Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life (DfE, 2013, p. 4).

In the next section, recent research is discussed looking at comparative results from identical research carried out in 2009 (Rutland & Miles-Pearson, 2009). I anticipate that my current research (2018) will reflect as to whether the English primary national curriculum revision of 2013 has made a difference to our research results from almost 10 years ago and if in fact food lessons have changed: whether this is through what they are cooking or how they are approaching the subject or if there has been a change in the amount of food sessions that are being taught.

## **2009–2018: Potential Changes in the Position of Food in the Primary School Curriculum**

In 2009 a research project ‘The position of food in the school curriculum: implications of the Review of the Primary Curriculum in England’ (Rutland & Miles-Pearson, 2009) was completed. Ten years on (2018), the research has been repeated to see if the views of the students and the primary schools have altered in respect to the importance of food in the primary curriculum. It focuses on what the ITE students had observed or taught in relation to food technology in the primary school. These students for both sets of research data were undergraduate students and post-graduate students in primary education at the University of Roehampton. In the original research 10 years ago, the total number of students that took part in the cohort was 650. Due to the climate change in teaching in England, there has been a host of different routes into the profession, and the overall number of ITE students has greatly reduced; evidence has shown at least 29% less applications for teacher training degrees over a 1-year period from 2017 to 2018 (Times Educational Supplement (TES), 2018). However, I decided to proceed with the research to see how attitudes have changed about teaching food in the primary school. The number of students that participated in the current research is 450.

The results from the research are set out below, each table referring to a different question. As with the original results (Rutland & Miles-Pearson, 2009), they have

been organised in age ranges separating nursery and reception followed by each year group up to Year 6. Although we were looking at the national curriculum, early year's classes have been included, as we wanted to see if they were being prepared with the basic skills and knowledge that they would need for Year 1. I will use my current results to reflect on the previous tables and discuss my findings.

Question 1: 'Have you observed any food technology sessions being taught in your placement schools? What was the content of the sessions being taught?'

In Table 2.1 of the original research (Rutland & Miles-Pearson, 2009), Key Stage 1 (Years 1 and 2) activities show some progression in the skills and knowledge needed, although the main difference in the early years was the variety of things that the children were making, i.e. tortilla wraps and pancakes. In the current research (Table 2.2), we can see that there has been very little progression from the reception experience.

In Table 2.1 of the original research (Rutland & Miles-Pearson, 2009), Key Stage 2 (Years 3, 4, 5 and 6) activities show that there was not actually much of a progression in the variety of food that was being cooked, although there seemed to be more opportunity to develop the skills and knowledge from prior learning when the children were in upper Key Stage 2 (Years 5 and 6). Reflecting on the information within the current research (Table 2.2), we can see that there is not much of a selection of food being taught, the focus that is being taught has a strong link to other curriculum subjects, for instance, looking at instructional writing in literacy, weighing and measuring for mathematics and reversible and irreversible change in science; and themes from history looking at food in other countries, although they have started to look at how food is grown in Year 5. Comparing the results of Tables 2.1 and 2.2, there seems to be a distinct diminishment of the amount of food being taught in the primary classroom, with a lot of repetition in the skills being taught.

Question 2: 'Have you taught any food technology sessions in your placement schools? What was the content of the sessions being taught?'

In Table 2.3 for the previous research (Rutland & Miles-Pearson, 2009), we looked at what was being taught in the different age phases. Interestingly, in the previous research the students had taught a wide range of cooking in nursery, compared to just sandwiches being taught in reception. However, when we observe these phases in Table 2.3, we can see that there is a lot more of an even spread of cooking being reported and skills and knowledge being taught. The British Nutrition Foundation (BNF, 2019) states as part of their 'food teaching in schools' that the framework of knowledge being taught should include the 'teaching of food preparation and cooking' and 'promoting and applying nutrition'. This does nevertheless refer to children from the ages of 5–16 years old, with no mention of early year's education.

In Table 2.3, Key Stage 1 (Years 1 and 2) in the previous research (Rutland & Miles-Pearson, 2009), there was a range of recipes and skills being taught across the 4-year groups. However, when you look at Table 2.4 for the current research, you can see that only a gingerbread recipe was taught in Years 3 and 4 and then in Year

**Table 2.1** Previous research (Rutland & Miles-Pearson, 2009)

Question 1 Food technology sessions observed								
Products	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Pizza		Pumpkin soup	Sandwiches	Kitten cakes	Apple pies	Boston	Bread	Brownies
Fruit salad		Fudge	Cakes for Chinese new year	Pizza	Brownies	Cookies	Brownies	Pancakes
Gingerbread men		Xmas biscuits	Fruit salad	Bread	Apple pies	Banana bread	Xmas cakes	Pizza—Xmas fare
Bread		Valentine biscuits	Chocolate Easter Cakes	Sushi	Sandwiches		Design and make biscuits	Shortbread
Flapjacks		Bread	Porridge	Easter baking	Muffins		Smoothies—experiment	
Smoothies		Biscuits	Pancakes	Fruit skewers	Pancakes		Scrambled eggs (science)	
Chinese new year		Xmas cake	Topping for Pancakes	Salad	Burgers		Buddle and squeak (history)	
Cakes		Gingerbread men	Tortilla wraps	Icing biscuits	Fruit salad			
Porridge		Pancakes	Biscuits	Pancakes	Wraps			
Chocolate nests			Peppermint creams—Xmas	Planet pizza	Fillings			
Rock cakes			Healthy pizza	Iced cakes	Fruit kebabs			
Cookies (stained glass)			Xmas cornflake/chocolate cakes	Kipper cakes (story)	Gingerbread men			
Easter nest cakes								
Noodles								
Cornflake cakes								
Mini eggs								
Mimi Xmas cakes								
Sandwiches								
Biscuits								
Bird food								

(continued)

Table 2.1 (continued)

Question 1 Food technology sessions observed		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Skills	Nursery Setting in fridge Baking Follow instructions Melting chocolate Measuring (maths) Tasting	Reception Cooking Cutting, weighing	Following instructions Writing instructions	Following a recipe Working together Cutting Measuring Designing icing	Working together Cutting Measuring Designing icing Following instructions	Writing instructions Working together	Working together Weighing ingredients
Knowledge	Hygiene Healthy eating Science through D&T (liquids/solids) Space theme Easter	Diwali—linked to art	Healthy eating Shrove Tuesday Links to literacy	Shrove Tuesday Healthy schools Healthy eating Changing ingredients	Combining ingredients Effect of heat Healthy sandwiches Tasting Hermitage week Balanced diet	Links to literacy Science (yeast) Healthy eating Links with PHSE and science Irreversible changes Foods from the garden	Links with maths (shortbread)

Table 2.2 Current research (2018)

Question 1 Food technology sessions observed		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	
Products	Nursery Bread Gingerbread—decorating Cheese-straws	Reception Bread Porridge Rice crispy cakes Cupcakes Pumpkin soup Pumpkin pie Vegetable—stir fry Scrambled eggs	Fruit—smoothies Jam-sandwiches Vegetable—soup Cupcakes Biscuits Fruit salad Gingerbread	Icing biscuits Pitta pizza Bread Cookies Porridge Cheese—sticks	Ratouille Cheese-biscuits Vegetable kebabs Rock cakes Sandwiches	Egyptian sweet-making Bread rolls Mushroom—soup Ratouille Rice crispy cakes	Bread Christmas cakes	Fruit kebab Sandwiches Date and oat bars
Skills	Kneading Rolling Baking Grating Cutting Follow instructions Measuring (maths) Smelling Tasting	Cutting Blending Creaming Spreading Following instructions	Kneading Rolling Baking Grating Decorating Following instructions Writing instructions	Cutting Measuring Creaming Blending Following a recipe Working together	Kneading Shaping Cutting Measuring Creaming Blending Following a recipe Working together	Kneading Weighing Measuring Writing instructions Working together	Working together Weighing ingredients	

(continued)