Issues associated with teaching practical cookery in UK schools: evidence from a survey of teaching staff

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Abstract
There has recently been a great deal of discussion by the government, the media and statutory bodies about the teaching of practical cookery in schools. This has arisen as part of a wider concern about the food that school-aged children consume, and recognition that there may be an over-dependence upon ready-prepared/processed meals, a growing lack of awareness of fresh raw food products, and a decline in basic cooking skills.

This report provides evidence to inform the current debate about the teaching of practical cookery in schools from one of the Awarding Bodies responsible for GCSE examinations in Food Technology and Home Economics. As a part of a wider investigation into practical cookery in schools a questionnaire was devised, investigating the teaching of practical cookery skills. The questionnaire was sent by post to 798 schools who had entered candidates for GCSE ‘Design and Technology: Food Technology’ and/or ‘Home Economics: Food and Nutrition’ in 2007 and was completed and returned by 330 schools (41.3%). Analysis of the questionnaire has revealed a number of interesting findings, including issues with teaching time, problems with split-half classes, facilities for cooking and storing food in school and a fall in knowledge of cooking skills. Additionally, we have investigated the number of hours of teaching time typically available at Key Stage 3 (KS3). At Key Stage 4 (KS4) centres’ reasons for offering different GCSE courses have been investigated, as well as teachers’ opinion on the emphasis placed on practical cookery skills in the current curriculum.

Key words
design and technology, food technology, practical cookery, key stage 3/4

Introduction
Cookery has been taught in schools and available as an examination at age 16+ since at least the late 1920s when it formed a part of the School Certificate qualification in Housecraft (Elliott, 2008). Originally very much a subject taken by girls, participation by boys increased during the ‘O’ level era. Nonetheless, the subject came close to abolition in the late 1980s (Purvis, 2007) and survived only through being incorporated into the Design and Technology (D&T) suite of examinations, where it gradually increased focus upon manufacturing and marketing.

There has been increasing unease about the food choices of young people in recent years, as shown by media coverage such as ‘Jamie’s School Dinners’ and the associated “Feed me Better” initiative. (Oliver, 2006). This has led to more public debate than before, although academic studies had been warning of issues for some time. A study carried out in Scotland emphasised the decline in skills (Horne & Kerr, 2003 and also reported in McBeth, 2005). Both the Design and Technology Association (Design and Technology Association, 2005) and the Children’s Food Campaign (Children’s Food Campaign, 2006) advocated the maintenance of Food within the curriculum as a matter of priority. In March 2006 Ofsted produced a report on the effectiveness of provision in secondary schools, based upon a survey of thirty secondary schools which taught Food Technology. The report acknowledged that there had been many concerns raised with inspectors and government officials about the teaching of food in the curriculum in the years preceding the study. Specifically, criticisms were noted that the D&T based Food Technology course emphasises large-scale food production methods at the expense of traditional home cooking skills (Ofsted, 2006).

Concern has become so great that in autumn 2006 the Education Secretary, Alan Johnson, announced a programme for students – ‘Licence to Cook’. The programme is currently being piloted, and a monitoring report was published in 2008 (Design and Technology Association 2008). The monitoring report highlighted clear benefits to the scheme, but also noted crucial issues, notably time (both lesson length and overall study time), class sizes, funding and integration of the course with KS3.
Methodology

During 2006 and 2007 Cambridge Assessment carried out a wide-ranging investigation into the teaching of practical cookery in schools. An historical survey was carried out, examining the development of the subject through the examination questions and practical tasks set during different eras (Elliott, 2008). The situation in schools at present was examined by means of a questionnaire, sent to UK GCSE centres. This paper will highlight selected findings of the questionnaire element of the project. Further papers (Elliott, 2007a & b) give a great deal more detail about the outcomes of the questionnaire.

Questions included in the questionnaire explored the:
- Duration and proportion of practical cookery lessons.
- Cooking skills carried out in the classroom.
- Ingredients used in the classroom.
- Equipment used in the classroom.
- Issues surrounding practical cookery in schools.
- Opinions of teachers about key issues.

The questionnaire was sent by post to 798 centres, all of which were included in OCR’s databases for D&T Food Technology GCSE or Home Economics: Food & Nutrition GCSE. It is important to remember that the questionnaire was only sent to centres entering candidates to GCSE exams, so those centres who taught the subject at KS3 only or who had no candidates at KS4 during the target year were not represented. However, it is estimated around 85% of schools in the UK do enter candidates for GCSE food examinations (Claessen, 2005) and the results of this questionnaire should therefore be representative of this group.

The questionnaire contained sixteen questions, presented as an A4 folded booklet.

Two of the questions consisted of extensive tables of skills (e.g. preparing sandwiches, making soup, making a bolognese-type sauce) and ingredients (e.g. fresh fish, fresh tomatoes, tinned tomatoes) and respondents were asked to indicate, separately for KS3 and KS4, whether each skill or ingredient was used:
- ‘very often’ – all (or nearly all) students will carry out this procedure/use this ingredient on several occasions during the Key Stage;
- ‘often’ – all students have the opportunity to carry out this procedure/use this ingredient, and most will do so at least once during the Key Stage;
- ‘sometimes’ – the opportunity exists to carry out this procedure/use this ingredient, and a few students do so, but it is relatively infrequent;
- ‘never’ – no students have carried out the procedure/used this ingredient during the past two years.

The aim of these categories was to gain the most accurate and detailed information in a straightforward format.

Most other questions were short multiple-choice options, where respondents were given a limited range of responses from which to choose. There were three opportunities within the questionnaire where respondents could use text boxes to elaborate upon the answers they gave, and these were very well used.

Questionnaires were sent ‘cold’ (i.e. without prior contact) addressed to ‘the Head of Food Technology/Home Economics’ at centres who had entrants to OCR GCSE Food Technology or Home Economics syllabuses. We asked that the questionnaire be completed by an experienced teacher of practical cookery at KS3 and KS4.

The questionnaire was completed and returned by 330 centres (41.3%) by the deadline set. A further nine questionnaires were received after the deadline, and after the data had been analysed. Data was not taken from these late-coming responses, although comments made were noted.

The questionnaires were printed using Teleform software, and were then automatically scanned upon their return. The system allowed for the capture of all text within the text boxes provided, and a manual check and transcription was made for additional text which had been written elsewhere on the form.

Results

Respondents

The results showed that responses were provided mostly by teachers of Food Technology, co-ordinators and leaders of the faculty and overall heads of D&T. Teachers who responded to the questionnaire were often very experienced – the respondents’ mean number of years teaching cookery skills was 21, and the modal number of years 30.

Teaching time at KS3

It was difficult to easily gauge the teaching time provided at KS3 for practical cookery, because schools have different ways of structuring the KS3 timetable, and many operate a termly rotation system, rather than a weekly food lesson throughout the Key Stage. So, the questionnaire required respondents to indicate the average number of hours of food technology/home economics lessons students experience in
At Key Stage 4 the students who take this subject continue to likely to suffer more under such conditions.

Centres do so sometimes. Perhaps this is because of issues surrounding storage, transport and reheating – steamed food is rarely covered – perhaps because of safety and time constraints. Roasting and casseroling also feature less often, perhaps because of the nature of the coursework. Between fifty and sixty percent of centres teach bread making, pastry making, raw meat preparation and biscuit making very often or often. Stir frying, curry, roux-based sauces, soup and salad making are covered by most students at forty percent or more percent of centres sampled. At the other end of the scale there are some skills which are rarely taught (although there was nothing on our extensive list which was not taught somewhere at KS3). Pressure cooking and deep frying are rarely covered – perhaps because of safety and time constraints. Roasting and casseroling also feature less often, but this is understandable in the context of hour-long lessons. Interestingly, in these days of healthy eating promotion, more than half of the centres reported never steaming food (vegetables or fish) in practical lessons, although a third of centres do so sometimes. Perhaps this is because of issues surrounding storage, transport and reheating – steamed food is likely to suffer more under such conditions.

At Key Stage 4 the students who take this subject continue to carry out most of the skills witnessed at Key Stage 3. However, making curries, roux-based sauces, soup and stir frying all become more frequent activities. Preparing raw fish, whilst still only carried out often or very often by a minority of centres is considerably more frequently encountered than at Key Stage 3.

Unsurprisingly the lists of ingredients tended to match well with the products being taught with the necessary components of cake making, pizzas, and bolognese sauces appearing high on the list of ingredients. Staples, such as flour, butter, potatoes, carrots and tinned tomatoes were very frequently used at both Key Stages. At KS3 mince (assumed to be beef or lamb) and chicken are the raw meats of choice, with few other raw meats putting in an appearance. At KS4, whilst chicken and mince are still the most used raw meats, pork and beef are also in use. Fresh tomatoes and fresh green vegetables are used more frequently at KS4 than KS3. Ingredients that are used far more at KS3 than KS4 include chocolate, tinned tuna, tinned fruit and vegetables and cooked meat.

Practical issues affecting cookery in schools

Respondents identified two key constraints upon effective teaching – time availability and number of pupils per group. There were a large number of comments provided to reinforce the data. Twenty percent of the respondents commented specifically that they were restricted to lessons of one hour or less. Additional comments made it clear that not only did this impact upon the teaching of products which required lengthy preparation or cooking time (bread making, roasting and casseroling were all cited as examples) but when clearing up time, arrival and settling down time and departure time were factored in it becomes difficult to prepare many other dishes. Respondents mentioned students working in break and lunchtimes where possible, and teaching staff having to ‘finish off’ dishes (e.g. take them out of the oven) after the students’ departure, or to carry out all the weighing/measuring for students beforehand, which is both de-motivating for the students, and restricts some of the opportunities for learning.

A decline or an increase in facilities?

During the past five years, many teachers responding to the questionnaire have seen little change in the facilities for teaching practical cookery. Fifty six percent said that the facilities had remained the same, for 22% facilities had diminished and for 20% they had expanded.

There were a considerable number of specific comments. For a number of teachers (8% of respondents) the situation is one of rising student numbers threatening both the safety and effectiveness of the classroom situation. Too many students for the numbers of cookers was often cited.

GCSE assessment

A majority (66%) of centres who responded to our questionnaire report that they enter KS4 candidates to the GCSE assessment in Food Technology (FT). For many (54% of FT centres) this was because of historical patterns of entry or (11% of FT centres) to fit in with a co-ordinated D&T programme. However, some commented that it is a course which particularly attracts boys, it fits well to the A level specification, or they particularly like the coursework. Amongst the 26% of questionnaire responses from centres who enter candidates to the GCSE Home Economics (HE) assessment, many do so (49% of HE centres) because of the bias of the course towards more practical cookery skills/life skills. A considerable number (38% of HE centres) felt the course was more relevant to students’ future needs, and 13% reported deliberately avoiding Food Technology because of the industrial perspective or because they disliked the repetitive nature of the coursework.

Cooking skills carried out in the classroom

At Key Stage 3, students aged 11-14 are being taught cookery skills as a part of their compulsory general education. More than 60% of centres report that students very often/often experience vegetable and fresh fruit preparation, making and topping a pizza base using fresh/tinned ingredients, making a bolognese-style sauce, making hot puddings, scones and cakes. Between fifty and sixty percent of centres teach bread making, pastry making, raw meat preparation and biscuit making very often or often. Stir frying, curry, roux-based sauces, soup and salad making are covered by most students at forty percent or more percent of centres sampled. At the other end of the scale there are some skills which are rarely taught (although there was nothing on our extensive list which was not taught somewhere at KS3). Pressure cooking and deep frying are rarely covered – perhaps because of safety and time constraints. Roasting and casseroling also feature less often, but this is understandable in the context of hour-long lessons. Interestingly, in these days of healthy eating promotion, more than half of the centres reported never steaming food (vegetables or fish) in practical lessons, although a third of centres do so sometimes. Perhaps this is because of issues surrounding storage, transport and reheating – steamed food is likely to suffer more under such conditions.
A common solution to the problem of too many students per cooking space is the split-half class. One half of the class cooks, whilst the other half ‘writes up’, or carries out alternative written work in another classroom. The following lesson the roles are reversed. The problem with this, (leaving aside the issue of how the teaching staff supervise the two groups simultaneously) is that the teaching of every product takes twice as long, and students ultimately receive only half of the practical lessons they might otherwise.

The experience that students have from sources outside school Staff who have been teaching practical cookery over a number of years are in an excellent position to comment upon whether the skills and abilities that students bring to the classroom from their experiences outside school have genuinely declined. The vast majority of teachers responding to the questionnaire felt that they had. Forty four percent of respondents claimed that skills and experiences had declined in the last ten years and a further 33% felt they had declined over the last five years. Given that this is such a value-laden question we asked respondents to indicate any tangible evidence that supports their response to the question of skills obtained outside school, and were deluged with comments! Leaving aside the 14% of respondents whose comments were very general (stating, for example, that ‘basic’ skills, ‘prior knowledge’ and ‘practical skills’ were lacking):

- 20% said that students were unfamiliar with basic domestic equipment used for cookery – they frequently cited ‘unable to switch on a cooker’ or ‘can’t use a tin-opener’. Many respondents mentioned that students seemed ‘scared’ by cooks.
- 17% told us that students cannot wash up or clear away.
- 15% said that students don’t recognise unprocessed food products – they don’t know the names of vegetables or the sources of common items (e.g. that chips are made from potato).
- 12% mentioned that students were either not allowed to cook at home, or did not regularly witness cooking in the home (because it doesn’t occur). 5% said that students regularly buy in ‘basic’ ingredients, such as a bag of flour, for lessons because there is no store cupboard of such items at home, that sometimes parents instruct students to donate the remainder to the school because it will not be used up otherwise.
- 5% said that students regularly attempt to bring in pre-processed ingredients (packets of ready peeled and chopped vegetables; ready grated cheese) rather than bringing the raw ingredient and preparing it themselves.

Some respondents commented upon the practical implications of these changes – students tend to be slower, less confident and less independent at practical work than previously, which means that everything takes longer. A few centres report having bought ‘easier’ equipment (e.g. different designs of potato peeler) in order to compensate for students’ poor manual skills. A few comments were received about students being generally less able to use knives and forks.

Discussion

Most of the centres surveyed seemed to reflect active, dynamic departments. The questionnaire responses provided evidence of thriving departments, who teach a wide variety of skills using a large variety of ingredients, albeit with a certain amount of frustration at some of the limitations which impact upon effective teaching, notably poorer skills amongst students, restricted lesson length and inadequate facilities. The constraints noted are very similar to those identified by the Design and Technology Association Licence to Cook monitoring report (Design and Technology Association, 2008).

As far as we are aware, this is the only study which has attempted to systematically gather data about the ingredients used at Key Stage 3 and 4, and it has both highlighted the variety of recipes being prepared by students, and also provided evidence of areas where ingredients and skills are limited – for example the relatively limited preparation of many fresh meats or fish at KS3. Additionally, the study shows clear evidence of progression from Key Stage 3 to Key Stage 4, in terms of skills carried out and ingredients which are used during practical sessions.

However, responses to the questionnaire provide evidence that students are less skilled than they used to be when they embark upon cookery lessons at KS3 and KS4, making them slower and less confident. This presents an ongoing problem for teaching. To further compound this, lessons have become, in the opinion of many food teachers, too short for the most effective teaching to take place.

Despite the recent initiatives in practical cookery in schools, much will now depend upon whether the practical issues can be successfully addressed. The key questions arising from the project reported here include firstly, if initiatives in schools such as ‘Licence to Cook’ are successful in raising interest in practical cookery amongst students, how will food departments cope over the next few years? According to respondents to our questionnaire lesson lengths are not currently sufficient to facilitate the teaching of a large number of skills (e.g. roasting, casseroiling) and facilities in many schools are stretched to their extreme. If current initiatives are to succeed and future programmes to build upon their success, these restrictions to effective teaching of varied skills must be removed. Secondly,
in a world where support for and active experience of cookery skills is missing in the domestic environment for some students and where a proportion of students do not have many of the underlying skills, experience and knowledge (according to respondents to our questionnaire), how will students effectively transfer the knowledge they gain into real-life practice? Whilst some might argue that the lack of provision within homes is the very reason why there is such an imperative in schools, for those students where there is a lack of equipment or support within the home environment, what initiatives might be put into place in future to ensure that a long-term benefit from the KS3 provision can be effectively promoted?

References


