

Evaluation of Eat Well Do Well Kingston upon Hull's School Meal Initiative



"I can now actually spend lunchtimes talking to staff about educational issues rather than dealing with problems of behaviour on the playground"

Headteacher

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THE UNIVERSITY OF HULL

<i>Contents</i>	<i>Page</i>
Executive Summary	5
Recommendations	7
Acknowledgements	7
Introduction	7
Evaluation Methods	9
Analysis	11
Section 1	12
Questionnaire data from the annual pupil survey	12
Introduction	12
Our data set	12
Underlying design	15
Key findings	16
More detailed findings	18
Feeling hungry	21
Healthiness	23
Dental issues	24
Reducing disadvantage	24
Headline figures from the pupil questionnaire 2007	26
Section 2	34
Nutritional aspects of Eat Well Do Well	34
Introduction	34
Methodology	34
The position in 2006	35
Nutritional comparisons between high and low eligibility schools	40
Minimum amounts consumed at lunch	44
Hot dinners and packed lunches	45
The position in 2007	48
Hot school dinners	49
Packed lunches	50
Food diaries	52

Section 3	59
Readiness to learn class teacher questionnaire	59
Introduction	59
Methodology	60
Amendments to the survey	61
Key findings	61
Key statistics	63
Respondents' consumption of meals	65
Choice of dining environment	65
Dining location and job title	66
Dining location and school meals consumption	67
Dining location and support for the scheme	68
Respondents not eating the meals	68
Respondents eating the meals	70
Knowledge of children's lunch choice	71
Response to scheme	71
Opposition to the scheme	72
Support for the scheme	73
School meal charges	74
Support for the scheme and responses to the re-introduction of charges	76
Views of the Council	77
Impact of the Scheme	78
Stigma	79
Children's behaviour	80
Teachers who eat the meals	81
Comparisons between free healthy school meal children and others	82
Comparisons between breakfast club children and others	83
Readiness to learn	85
After lunch	86
Concentration	87
Co-operation	88
Communication	88
Achievement	88
Self esteem	89
Readiness to learn trend data	89

Section 4	93
Examples of good practice	93
Longhill	93
Menu display and children's involvement	94
Golden spoon	94
Maybury	95
Seamless provision	96
Bricknell	97
Fifth Avenue	97
Newland St Johns	97
Francis Askew	98
Clifton	98
Section 5	100
Since the re-introduction of charges for school dinners by the Liberal Democrat administration	100
Interviews with headteachers	100
Comments from parents on the re-introduction of charges	101
Conclusion	106

Executive Summary

Eat Well Do Well was a bold initiative by the Council in 2004. It was a good news story for the city and placed Hull quite firmly at the centre of the 'school food movement' – even before Jamie Oliver - occurring up and down the UK. It was a very complex initiative operating on many levels and involving different types of interventions including free, healthy breakfast, dinner, after school snack and fruit for children up to Key Stage 2. These interventions were rolled out systematically into schools at different times and in different ways.

It is understandable then that the evaluation has collected considerable amounts of data over three years. These data from questionnaires, interviews, focus groups, observations and direct measurement provide a complex picture which is sometimes contradictory and, as in the quote on the front cover of this report, sometimes the impact of the EWDW initiative were unintended. The evaluation team are confident they captured all aspects of the initiative – both intended and unintended.

EWDW has had a significant impact on reducing disadvantage in relation to perceptions of health and health behaviours or what some would call the 'social gradient'. It has been impossible for us to differentiate the responses to our final annual pupil questionnaire between those children who are eligible for free school meals and those who are not in relation to their perceptions of health and their health behaviours. The mechanisms for this lack of difference are unclear but the impact of EWDW is beyond doubt – both in the school and in the home.

EWDW has had an important impact on creating calmer learning environments within which children have the opportunity to reach their potential. Headteachers had witnessed the changes in their schools and were generally delighted with the initiative. The role of adults in the dining room and the social practices within the dining room are important aspects of the initiative.

The nutritional aspects of EWDW are very complex. We know that packed lunches generally contain high levels of fat, sugar and salt and that there is an increase in the number of packed lunches at school since the re-introduction of charges. The free, healthy school dinners generally meet Government guidelines for school meals and over the three years of the initiative have become more nutritious. However, when we look at children's total daily intake (including food eaten at school and home), it is clear that some families can't/don't provide healthy food at home. If their child isn't eating the free, healthy school dinner for one reason or another, then the total daily intake of this child will be inadequate in the long term. We would urge the Council to work with parents in a more innovative and ambitious manner.

The re-introduction of charges (£1.10 per day) has had a negative impact on schools, children's behaviour, families and opportunities for learning. Parents' trust in the Council since the re-introduction of charges has reduced significantly on a range of measures. The Council's ambitious health, education and welfare agenda has been affected by the decision to re-introduce charges for school dinners.

On a more optimistic note, there are many other pointers for future research and activity for the Council: the re-measurement of children's perceptions of health and their school meals in May/June 2008 to examine further the impact of the re-introduction of charges; interviewing headteachers and parents again in May/June 2008; the investigation of gender issues in relation to children's experiences of lunchtime; the engagement of parents in school meals (and probably curriculum in healthy eating); examining family food practices across a longer time span with a particular focus on eating choices and healthy purchasing; monitoring the long term impact on those children who have experienced the EWDW over three years, especially as they make the transition into secondary school; following the training of lunchtime supervisors and monitoring the impact of this training on children's eating and dining room behaviour, to name but a few.

Recommendations

That Hull City Council re-introduce free, healthy school dinners for all primary age children across the city and continue to provide free, healthy breakfast, fruit to KS 2 and after school snack.

That Eat Well Do Well be supported significantly by the Council and this support to include innovative ways of working with children and parents to improve and maintain uptake of the free, healthy school dinners and breakfast club attendance.

That partnerships with other programmes be enhanced and developed (especially Healthy Schools and 'Shape Up' but also with other initiatives such as the 'Food For Life Partnership').

Acknowledgements

As was the case for our other reports, we would like to thank the headteachers, teachers, parents and children who responded to our questionnaires, the members of the school communities for our case study schools, the members of our Parents' Advisory Group, the Hull City Council staff involved in the Eat Well Do Well initiative (Rayma Crawford and Sue Rae in particular, as well as the staff in Hull Catering), members of the International Advisory Group for the evaluation, members of the Project Board and Management Group for the evaluation, and the research team at the University especially, Lisa Gatenby, Sue Holden, Zoe Johansson, Jackie Lison, Martha Paisi, Jo Pike and Tina Taylor.

Introduction

In April 2004 Kingston-Upon-Hull City Council embarked on an ambitious, innovative and exciting programme which provided approximately 25,000 primary age school children access to free school meals which may have included healthy breakfasts, hot lunches/dinners, fruit up to Key Stage 2 and after school snack. Learning and Culture within the City Council worked in partnership with the two Primary Care Trusts (PCT's) in the city to develop and implement the initiative.

The programme was approved by the Schools Standards Minister who supported the programme through his special ability and 'powers to innovate' under section 2 of the Education Act 2002 to suspend the relevant sections of the Education Legislation (section 512 of the Education Act 1996) that prohibit Councils from providing meals and refreshments free. A major underlying principle of the programme was the relationship between healthy eating and academic attainment.

In addition to the provision of free healthy school lunches, breakfasts and after school refreshments, Hull City Council became the first Local Authority in the country to extend provision of free fruit and vegetables under the National School Fruit and Vegetable Scheme (NSFVS) to Key Stage 2 children. The NSFVS is part of the Government's 5 A DAY programme which is jointly funded by the Department of Health and the Big Lottery Fund and provides a free piece of fruit or a vegetable to children aged 4-6 years on each school day. The scheme was rolled out in phases across the country and was implemented locally in autumn 2004. Nationally, current provision extends only to those children in Key Stage 1. However, Hull City Council extended this provision so that all primary school children were offered a free piece of fruit or a vegetable on each school day. Typically children received either, bananas, pears, apples, satsumas, strawberries, cherry tomatoes or carrots.

The Institute for Learning at the University of Hull were commissioned to conduct the evaluation of Eat Well Do Well for the full period of the initiative's implementation.

The overall aims of the 3 year evaluation were to:

- examine the extent to which the *EWDW initiative* has impacted upon and met the needs of the participants* and the organisational objectives set at the outset *(including children, teachers, parents, headteachers, unions, caterers, PCTs);

- assess the nature of the engagement by participants with the differing aspects of the programmes;
- identify which interventions/practices are most beneficial in terms of securing the desired outcomes of the *EWDW initiative*;
- describe ways in which outcomes from the *EWDW initiative* are being applied in schools.

To achieve these aims we adopted the following strategies:

- a. Conduct in-depth formative and summative evaluations of the implementation of the *EWDW initiative* activities to date (taking note of the phased in approach to the implementation of the programme), with an emphasis on illuminating input and history, practices / processes / mechanisms, outputs, impacts and outcomes at three levels (see below);
- b. Conduct in-depth formative and summative evaluation of the *EWDW initiative* on which we would report, to enable the City Council to decide whether or not to sustain the programme in the long term;
- c. Provide evidence of the impact of the *EWDW initiative* on schools and school communities.

Evaluation Methods

This three year evaluation was complex and involved both qualitative and quantitative data gathering methods. The qualitative data were collected through interviews, focus groups and observations. The major quantitative data collection methods included pupil, parent and teacher questionnaires.

The evaluation focused on children in years 4, 5, 6 as we felt that the quality of the data we could gather from these children would be of sufficient quality to support the evaluation. Activities with younger children were often

conducted and these included drawing, painting and using models and plasticine.

The bulk of our data were gathered by our self completed Annual Health Related Behaviour Questionnaire (for children in years 4, 5, 6) which was administered in May/June each year.

At the same time we also administered a self completed Readiness to Learn Questionnaire (for the teachers of children in years 4, 5, 6).

We have many observations of school dining rooms, especially of our case study schools. These focused on social interactions in the dining room.

The actual total Nutritional Intake (in and out of school) was measured in a sample of children. We also compared school dinners to packed lunches in relation to nutritional intake by children; and, we compared the intakes of children attending a more affluent school with that of children attending a more deprived school.

We also had access to city and individual school data which we used to inform the evaluation. It was important to recognise that Eat Well Do Well was a whole system change and so far no other local authority in England has had the ability to copy the initiative.

The evaluation team also collected height and weight measurements (and thereby calculated Body Mass Index) as well as % body fat in a relatively small number of children from our case study schools.

Later in the evaluation we conducted a Letter Recognition Test which we developed to examine the impact of school food on children's ability to concentrate in class. This test was administered at four intervals throughout one day, again across our case study schools.

We conducted two parent surveys, one during the initiative and the other after the Council had reintroduced a charge for dinners.

We held focus groups with many parents during the initiative. We are thankful for the support of the Parent's Advisory Group in supporting these focus groups.

We interviewed the case study schools PSHE co-ordinators when they were available for interview.

We held focus groups with the Hull Catering Area Supervisors to develop an understanding of Eat Well Do Well from their perspective.

We interviewed all of our case study school Headteachers (except one who refused to be interviewed).

We interviewed Lunchtime Supervisors where possible but also held focus groups where they were more appropriate.

We interviewed the senior managers in Hull Catering.

Our 9 case study schools were selected from a matrix which included geographical location, pre-Eat Well Do Well eligibility for free school meals, their uptake of free school meals during the initiative, and size of school. This ensured a 'good spread' of schools from across the city.

Analysis

The qualitative data were loaded into Atlas.ti (a software package for the analysis of qualitative data) for subsequent analysis by the constant comparative method.

Quantitative data were imported (either manually or scanned using Teleform) into SPSS (Statistical Package for the Social Sciences) for later analysis.

Section 1

Questionnaire data from the annual pupil survey

Introduction

This section of our report is structured in the following way. In section two we outline the nature and extent of the data set. In section three, this is followed by an elaboration of our research design for the data collection and analysis. In section four we provide a short statement of our key findings and this is followed in section five by more detailed responses to aspects of the surveys. This part of our report concludes with the key outcomes from this aspect of our data collection.

Our Data Set

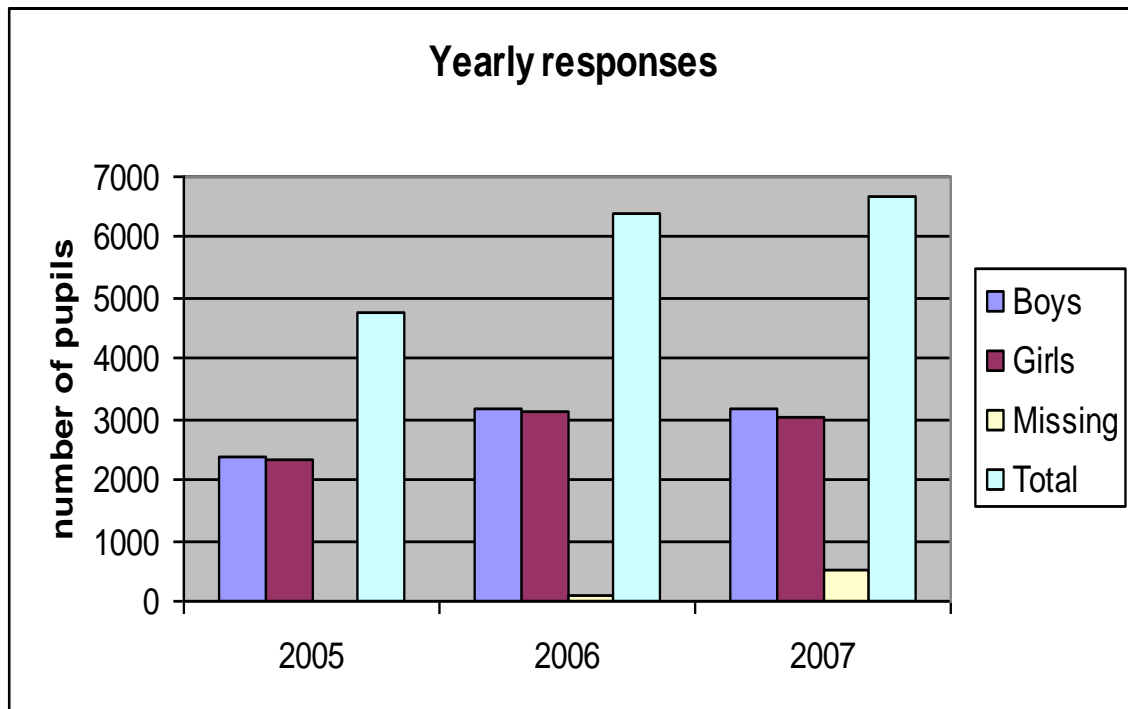
During the project we have collected substantial quantitative data on aspects of the Free Healthy School Meals programme. A central part of this has been our use, on an annual basis, of a questionnaire to all pupils in years 4, 5, & 6 on their perceptions of the Free Healthy School Meals. The questionnaires, over the three years of data collection, have included a range of items about pupils' reactions to the meals and their eating habits. In order to facilitate comparisons, 61 items have been common to each year. Data were collected in June during the first two years of the project and in the third year, when it was apparent that charges were to be re-introduced, the data were collected in March. The net result of this data collection has been the accumulation of a substantial data set, which effectively records the views of most pupils from these three school years.

In addition to our survey data, we have been able to match pupils' survey responses with data supplied by the Local Authority, enabling us to identify which pupils, in each year, were officially recorded as being 'eligible', in the traditional sense, for a free school meal. In order to protect confidentiality but to maintain accuracy in the merging of the data sets, pupils were asked only

to supply their dates of birth and to which school year group they belonged. We were thus able to create a unique pupil identifier based upon the school's Ofsted number, the pupil year group and their date of birth. The identification of these two groups is important as the traditional provision of a 'free school meal' has been premised upon the assumption that one of the two groups suffers disadvantage and is markedly different from the other (we will return to this point later).

Virtually every primary school in the city has contributed to this exercise and this further strengthens the findings which follow below. The data set is made up of responses from 17,776 pupils. Within this, responses from boys and girls were almost in equal proportions as figure 1 below indicates.

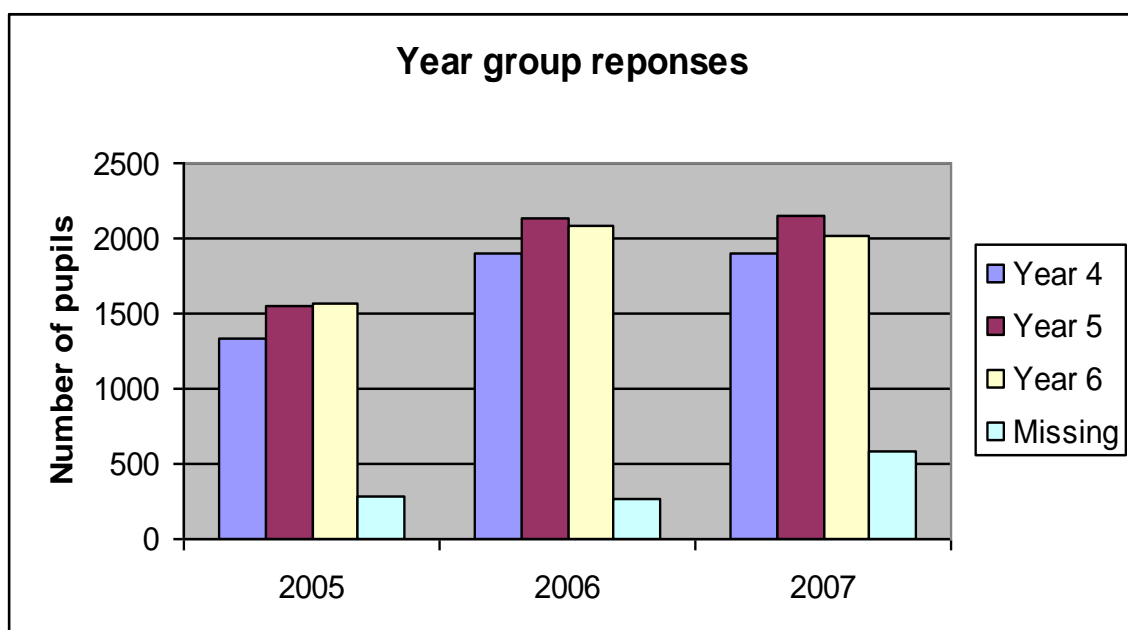
Figure 1: Respondents to questionnaire differentiated by gender.



Overall, the total data collected each year increased, but the overall proportions of boys and girls has remained almost the same with slightly more boys returning questionnaire each year than girls.

Figure 2 below shows the year group of respondents from each of the three years of the administration of the questionnaire.

Figure 2: Annual responses by year group.



Across each of the three years, more pupils from the older years responded.

Underlying design

In evaluating a project such as this where, from the outset the designers of the project had not sought to pilot the initiative, an evaluation design could not have an experimental design with control and experimental groups. There are important underlying ethical considerations as to why such a design would not have been appropriate for an intervention which was assumed to have beneficial outcomes for pupils. To deny a beneficial intervention to a section of the school population in this way could have provided disadvantages. Therefore, our task as evaluators was to devise a way of evaluating the extent to which impacts could be assessed during the project. Given that it was a three year project and that we were able to choose which pupil year groups were appropriate, a design based upon a three by three matrix afforded a number of comparative opportunities which would enable us to see whether or not there were emerging 'trends'. It is always important to be wary of trends adduced from three point measures, but in this project, feasibility and cost meant that this was the optimum which could be attempted. That said, our data below do show some interesting indications which, had the project lasted longer, would have provided important avenues for further investigations.

The benefits of our three by three matrix are best exemplified by means of the diagram below as Figure 3. We have identified as a 'key group' pupils who in 2005, the first year of the intervention, were in Year 4 (These are shaded red in Fig. 3).

Figure 3: A Matrix design for evaluating the survey data.

Yr 6			Key group
Yr 5		Key group	
Yr 4	Key group		
	2005	2006	2007

As the intervention matured, so we would be able to examine the responses from this key group at yearly intervals when they became year 5 and then year 6. Furthermore, our matrix also facilitated comparisons between year-groups across the three years of the project, i.e. we could inspect responses from year four pupils on three occasions namely in 2005, 2006 and 2007, and in this way consider whether or not there was any evidence that responses were improving as the initiative became embedded within developing school cultures. This is particularly important as those who were year 4 pupils in 2005 had no previous experience of the Free Healthy School Meals, whereas those year 4 pupils in 2007 would have had their first exposure to the intervention as year 2 (7 Year olds) in 2005. In seeking to bring about change, often a key question is at what point any intervention should begin. By collecting and analysing our data in this way we believe that the outcomes demonstrate that, with an intervention of this sort, the younger pupils are when it is introduced the more likely it is to lead to positive outcomes.

Key Findings

In this section we present the salient outcomes from the project before, in section 5, providing greater detail with which to substantiate our claims.

A key issue during the project has been the need to compare responses from pupils who would have been traditionally 'eligible' for a free school meal and those who would not have been.

A comparison across 44 items relating to food and eating indicated that there are no statistically significant differences on 40 of these measures between the 'eligible' and 'non eligible' groups. In terms of how pupils report on their eating habits and responses to the free school meals, this suggests that the two groups are in fact homogeneous and that an assumed gap between them does not exist. To the extent to which school meals are about food and eating, this lack of difference between these groups suggests that if one group is eligible, then all should be.

Data indicate that the project has built up a positive impact on pupils' eating habits, with fewer avoiding breakfast, fewer reporting that they were feeling hungry at the end of the day and a good deal more pupils reporting that they were having an evening meal.

Our data do appear to suggest that prolonged exposure improves impact. This is evidenced through overall increased uptakes of the meals with a corresponding decline in reported take up of packed lunches. Reasons for not taking school dinners, e.g. 'don't like it', or 'prefer packed lunch' have declined during the project, 'less good' habits e.g. no breakfast, eating on way to school are reported to be declining.

Interestingly, more boys than girls report feeling hungry, in terms of when they get to school, that in general terms they would like more to eat, they report feeling hungry more often and that they often feel hungry when they go to bed. Our data show that this aspect is worse with younger pupils as greater proportions of year 4 pupils consistently report arriving at school feeling hungry and generally feeling hungry.

In a number of aspects, girls report more favourably than boys in that more girls than boys report trying to eat healthily, more girls report eating the Free

Healthy School Meals, more girls like eating the Free Healthy School Meals and girls report eating more fruit and vegetables each day than boys. In 2005, 2006 these differences were statistically significant for all three year groups surveyed but in 2007 whilst the differences were statistically significant for years four and five, they were not for year 6. Further study would be needed to ascertain whether this was an emerging change or whether in 2007 this was just a 'blip'.

The topic of fruit and vegetable consumption produced results showing that fruit consumption increased 2005 to 2006 but in 2007 dropped to levels lower than 2005. This was evident in all year groups. Reported fruit consumption declines with age. Reported consumption of 5 or more pieces per day has not been claimed by more than 33.0% of pupils at any time in the study.

Hydration is considered important and just over half of pupils report drinking 3 or more cups of water per day with boys reporting drinking more water than girls.

More detailed findings

Table 1 below reports the pupils' responses in each year group for the three years of the project to the question 'Have you had the Free Healthy School Meal?'

Table 1. Positive pupil responses to 'Have you had the Free Healthy School Meal?'

Yr 6	83.9%	84.5%	94.8%
Yr 5	83.9%	85.2%	94.5%
Yr 4	86.5%	83.5%	93.1%
	2005	2006	2007

These data are interesting as the overall impression is one of a developing trend. Reading the data diagonally from bottom left towards top right, the 'key group' after a drop in 2006 showed a substantial increase in reported trying of

the meals. Similarly, pupils being surveyed for the first time in 2006 in Year 4 (83.5%) showed a noticeable increase as year 5 in 2007 to 94.5%. There was even a small increase reported by 2005 year 5 pupils when they became year 6 pupils in 2006.

In response to the question ‘Did you like it?’ data in table 2 below report a similar but not identical pattern.

Table 2. Did you like the Free Healthy School Meal?

Yr 6	75.0%	74.6%	85.0%
Yr 5	80.7%	78.4%	87.1%
Yr 4	81.4%	81.9%	85.6%
	2005	2006	2007

The pattern reported by the ‘key group’ remains consistent, and the year 4 in 2006 becoming year 5 in 2007 reflects the pattern in table 1. With the older pupils earlier in the study, year 5 in 2005 becoming year 6 in 2006 responses show a decline.

In table 3 reasons given by those who didn’t have the free school dinner show a decline in those reporting they did not like it and also a decline in those reporting preferring a packed lunch.

Table 3. Reasons given by those who reported not having the Free Healthy School Meal.

	Don’t like it	Prefer Packed lunch
2007	6.3%	12.7%
2006	7.7%	15.3%
2005	7.9%	17.0%

Breakfast

We sought to collect data from pupils to inform us as to what they were doing for breakfast and what they were eating. Some key points to emerge were that each year more boys than girls reported having breakfast at home. When we examined the responses by year group, it was consistently the younger pupils who were reporting eating breakfast at home on fewer occasions than their older peers. Over the three years of the project, the data show a small increase in the percentage of pupils from the 'key group' who report having breakfast at home from 68.3% in 2005 to 69.3% in 2007.

Examination of data from pupils in the 'key group' reporting their take up of breakfast clubs showed an increase during the three years of the project from 9.3% in 2005 to 11.6% in 2007. Over the whole of the pupil sample, take up by boys and girls at breakfast clubs was equal in 2005 and 2006 but in 2007 21.8% more boys than girls reported having breakfast at a school breakfast club.

Eating on the way to school shows a decline over the period of the project reducing from 6.4% in 2005 to 4.7% in 2007. Also in decline was the percentage of pupils reporting having no breakfast. Within the 'key group' this more than halved in percentage terms from 7.9% in 2005 to 3.0% in 2007.

Pupils were asked to indicate from a list, which items they had consumed for breakfast that day. Of these, the most concerning was the continued consumption of fizzy drinks at breakfast. Whilst this did show a decline over the period of the project from 9.0% in 2005 to 7.6% in 2007, it still means that over 500 pupils have a fizzy drink for breakfast and of these two thirds are boys. There may be important behavioural considerations as a result of this particular finding.

Evening meals

Pupils were asked what sort of evening meal they had, if any. Over the period, with the 'key group' this showed an increase from 42.7% in 2005 to

58.0% in 2007. On the surface this looks like a positive outcome in that children are eating more (one of the findings reported in our first interim report was the issue of children feeling hungry). These data look like an indication that children are being fed more. Taken in line with other findings from the project a possible inference is that this is the case, given the more positive reactions children were reporting to the free healthy school meals and their overall eating habits. However, it could be suggested that more pupils were eating evening meals because they felt they might not have been getting enough at lunchtime. Time did not permit the evaluation team to explore the content of these evening meals, and this would be an important issue for future consideration.

In terms of less good habits in evening meals, we did record that fewer pupils were reporting going to bed feeling hungry, down from 8.0% in 2005 to 2.4% in 2007 with a comparable decline in the percentage of pupils reporting that they had nothing to eat in the evening, down from 8.5% in 2005 to 3.6% in 2007.

Feeling hungry

This was a key outcome from our first interim report for 2005 and because some of the findings were of concern, we tracked this issue throughout the project. This was particularly important as the project became known as 'eat well do well' and it is well known that learning can be impaired by feeling hungry. To that end we asked five key questions about feeling hungry:

Do you often feel hungry?

Do you feel hungry when you get to school?

Would you like more for dinner?

Do you feel hungry before dinner?

Do you feel hungry before going home?

In response to 'Do you often feel hungry?' a larger percentage of boys consistently report this in comparison with girls. Over the three years of the project our data show that it is the younger pupils in Year 4 who are the

largest percentage of pupils reporting often feeling hungry. At the start of the project, the percentages of pupils reporting feeling hungry were substantially higher; in 2005 55.0% of boys were reporting feeling hungry as were 45.6% of girls. By 2007 these figures had dropped to 44.2% of boys and 37.8% of girls.

In response to 'Do you feel hungry when you get to school?' the highest percentages of pupils reporting this are to be found in the younger pupils from Year 4. Again a consistently larger percentage of boys report this in comparison with girls, in 2005 36.8% of boys and 25.9% of girls reported this but by 2007 the figures had changed to boys 24.7% and girls 18.2%.

In response to 'Would you like more for dinner?' the highest percentages of pupils reporting this are to be found in the younger pupils in Year 4 where in 2005 56.3% of boys and 47.5% of girls reported this. By 2007 this had changed to 46.0% of boys and 42% of girls.

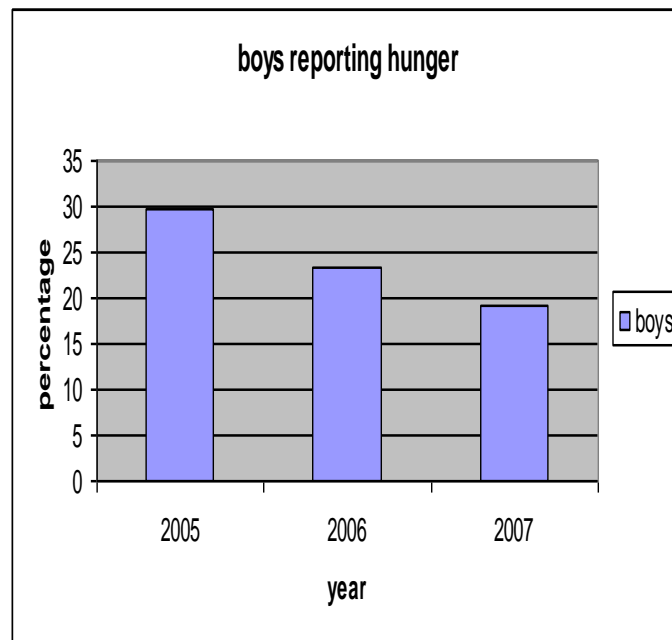
In response to 'Do you feel hungry before dinner?' the data present the most homogeneous response in that there is little difference between the percentages of boys and girls reporting this and equally little difference between the responses of different year groups.

In response to 'Do you feel hungry before going home?' the data suggest that larger percentages of younger pupils in Year 4 report feeling hungry before going home and that more boys than girls also report this.

It is worth pointing out that with three of these items, 'Do you often feel hungry?' 'Do you feel hungry when you get to school?' and 'Would you like more for dinner?' the responses from the 'key group' show a marked decline in their responses to each item, year on year. Reporting 'often feeling hungry' has fallen from 54.6% in 2005 to 34.6% in 2007; 'feeling hungry when getting to school' has fallen from 37.0% in 2005 to 15.8% in 2007 and 'wanting more for dinner' has fallen from 54.3% in 2005 to 43.3% in 2007. All of these indicate that the emphasis on foods and eating engendered through the Eat Well, Do Well project has had some effect!

In our first interim report we recorded that feeling hungry was particularly prevalent among boys and so we tracked the responses of boys from the 'key group' across the three years of the project. Figure 4 presents the evidence that there has been a change in their reporting on this issue.

Figure 4. Boys from the 'key group' reporting feeling hungry



Healthiness

Each year we asked pupils whether they tried to eat healthily and whether they thought they were healthy or not. In trying to eat more healthily, the trend is upward over the three years from 30.9% reporting this in 2005 to 36.3% reporting this in 2007. More girls report trying to eat healthily than do boys. Interest in trying to eat healthily is reported in stronger terms by younger pupils, among year 4s in 2005 this was 43.2% but had increased to 40.3% by 2007.

More girls than boys report thinking they are healthy and similarly, more girls than boys thought that their school taught them about healthy eating.

Dental Issues

Closely associated with healthy eating are dental issues, as the former implies a reduction in sugars and other substances which adversely affect teeth. Over the three years of the project, there are a number of interesting and important outcomes from this part of the survey, particularly in relation to their reported visits to the dentist. Over the period 2005-2007, the percentage of pupils reporting that they have not visited the dentist has more than doubled, from 10.7% in 2005 to 23.4% in 2007. Correspondingly, those reporting going once have increased from 16.9% in 2005 to 25.5% in 2007. In line with this those reporting going twice reduced from 24.3% to 17.8% and a similar reduction for those reporting going three times, down from 21.4% in 2005 to 13.2% in 2007. Pupils self reporting of treatments received are largely the same with the exception of extractions which are down from 14.9% reporting this in 2005 to 11.6% in 2007.

The results of the pupil survey reflecting the views of 17,776 pupils over the three years of the project are impressive. We suggest that the findings show, in a number of interesting ways, evidence of how pupils' eating habits may have been changed as a result of their participation in the 'Eat Well Do Well' project and the wider impact which the project has had in focusing attention on healthy eating across the city.

Reducing Disadvantage

The measure of 'eligibility' for a free school dinner has led to potentially the most interesting findings from the surveys. This is that by 2007, the responses of eligible and non eligible pupils were **not statistically different** across some 35 out of 41 measures of pupils eating habits (types of food eaten for breakfast, during the last week, prevalence of takeaways, and amount of fruit eaten on a daily basis). The number of aspects which show statistically significant differences has declined over the three years of the project as data in Table 4 show.

Table 4: Statistically significant differences between eligible and non eligible pupils on 41 items from the pupil survey

Item	2005	2006	2007
Hot meal	0.727	0.168	0.071
Cold meal	0.030	0.307	0.358
Snack	0.390	0.068	0.006
Went to bed hungry	0.004	0.223	0.027
Take Away	0.001	0.015	0.894
Nothing	0.009	0.007	0.007
Feel hungry when get to school	0.512	0.122	0.335
More for dinner	0.994	0.418	0.667
Often hungry	0.419	0.699	0.133
hungry before dinner	0.005	0.464	0.452
Hungry before going home	0.173	0.391	0.852
Try to eat healthily	0.240	0.001	0.252
School teaches healthy eating	0.055	0.082	0.116
Think you are healthy	0.023	0.000	0.552
Stay to dinners	0.000	0.000	0.053
In last week: take away	0.010	0.050	0.793
In last week: Veggies	0.001	0.018	0.078
In the last week: fresh Fruit	0.135	0.473	0.024
In the last week: Crisps	0.088	0.020	0.864
In the last week: Sweets	0.007	0.023	0.023
In the last week choc	0.293	0.114	0.730
Pieces of fruit per day	0.691	0.008	0.271
Breakfast at home	0.000	0.000	0.078
Breakfast at breakfast club	0.000	0.000	0.001
Ate something on the way to school	0.000	0.000	0.000
No breakfast	0.000	0.001	0.283
For breakfast: Milk	0.061	0.970	0.921
For breakfast: Juice	0.474	0.969	0.222
For breakfast: Fizz	0.155	0.020	0.000
For breakfast: Cereal	0.926	0.411	0.214
For breakfast: Toast / bread	0.250	0.000	0.077
For breakfast: Cooked breakfast	0.449	0.026	0.728
For breakfast: Fruit	0.499	0.121	0.029
For breakfast: Yoghurt	0.918	0.627	0.879
For breakfast: Crisps	0.000	0.024	0.246
For breakfast: Sweets	0.057	0.128	0.165
For breakfast: Biscuits	0.052	0.819	0.093
For breakfast: Tea	0.840	0.140	0.017

p < 0.01

Over the course of the project the number of items on which there were significant differences has declined from 13 to 5.

In our view this reflects a much greater degree of homogeneity among pupils in relation to what they eat and their perceptions of what it is to be healthy. If

'eligible' pupils need a free healthy school meal for nutritional reasons, then equally, so do their non eligible counterparts. The corollary of this is that in the current climate where there is national emphasis on healthy eating and the concomitant dangers of obesity, the City Council in 2004 was forward looking in its decision to implement a programme to provide a free healthy school meal for every pupil. The free element should be justified on the grounds that it greatly enhanced uptake of school meals in the city where uptake doubled (bucking the national trend).

Given the size of the data set, the homogeneity of the responses is striking, indicating that the disadvantage suffered by 'eligible' children in relation to perceptions of health and health behaviours has reduced remarkably over the 3 years of Eat Well Do Well. Put another way, this suggests that if the notion that certain pupils needed a 'free school dinner' and were classified as 'eligible' for this, then the data suggest that there are no discernible differences between the groups. This is in terms of responses to a wide range of items covering views about foods, school meals, breakfast consumption, daily fruit consumption, perceptions of hunger and aspects of self reported dental care. The argument could be made therefore that all should receive a free healthy school dinner. Eat Well Do Well has had a significant impact on reducing disadvantage across the city in relation to children's perceptions of health and more importantly healthy eating behaviour.

Headline figures from the Pupil Questionnaire 2007

Total number of questionnaires returned: 6655

Percentage boys: 51.1

Percentage girls: 48.9

Table 1: Gender split and year groups

Year group	Boys	Girls
Year 4	50.0%	50.0%
Year 5	52.6%	47.4%
Year6	49.5%	50.5%

A key issue throughout the project has been the question of whether or not the meals should be free. To that end the data have been analysed to provide comparative percentages between responses from those pupils who were eligible (in the old sense) and those who would not have been. For each of the three years of the project the percentage of pupils whose parents have claimed eligibility has declined (hardly surprising) as follows:

Table 2a: Total percentage of pupils claiming eligibility 2005-07

Year	Percentage claiming eligibility
2005	22.5%
2006	15.8%
2007	15.3%

Table 2b: Gender of pupils claiming eligibility for free school meals, 2007

Gender	Not Eligible	Eligible
Boy	85.4%	14.6%
Girl	83.9%	16.1%
Total	84.7%	15.3%

For comparative purposes percentages are shown for those pupils who were 'technically eligible' for a free school meal and these are indicated in the tables below in red.

The most striking aspect of the data set is that there is virtually no identifiable difference between the percentages of responses by pupils who were eligible and those who were not. The percentages indicate this in the tables below and in addition, a Chi squared test (not shown below) was used on the actual data to test for statistically significant differences between the outcomes for

both groups. Across the 61 items, significant differences can only be reported in respect of two items, first 'eating something on the way to school for breakfast' where larger percentages of 'eligible' children reported this and second having 'a fizzy drink for breakfast' where again a larger percentage of 'eligible' pupils reported doing this (see table 5 below and section following).

Percentage of pupils reporting having eaten the school dinners

Yes	91.8%	95.0%	No	6.5%	4.7%
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If you have eaten them did you like them?

Yes	19.8%	19.4%	No	13.6%	19.4%
Sometimes	66.2%	67.2%			

What you usually do at dinner time?

Stay to school dinner	64.2%	74.7%
Packed lunch	31.7%	19.5%
Go home for dinner	3.4%	4.5%
Only have a drink	0.6%	1.3%

Do you want school dinners to be:

Free	70.3%	70.9%
Healthy	50.4%	48.8%
Neither	11.6%	11.3%
Don't know	23.5%	23.4%

How do you feel after you have eaten the dinner?

Happy	26.5%
Energetic	21.6%
Hungry	14.9%
Tired	9.6%
Fidgety	5.8%
Full up	22.0%

If you *don't* stay for school dinners why not?

Mum / Dad / Carer don't want me to	5.5%	4.6%
Tried it and I didn't like it	19.9%	18.8%
Don't have the foods I like	14.1%	22.8%
I just don't want it	6.9%	6.6%
I get teased if I do	0.7%	0.5%
I prefer my pack up	43.4%	35.5%
Other	9.4%	11.2%

How much water did you drink yesterday?

None	16.0%	19.6%
One or two cups	39.8%	39.5%
3-5 cups	26.7%	23.2%
More than 5	17.5%	17.7%

Are you able to get a drink of water at school?

Yes	86.5%
No	2.5%
Not easily	10.9%

How many pieces of fruit and veg. do you usually eat on a school day?

None	7.2%	5.7%
1	16.4%	18.5%
2	20.7%	20.5%
3	19.3%	18.6%
4	12.8%	12.9%
5	12.1%	11.1%
6	4.7%	3.3%
7	2.1%	1.9%
8	4.6%	7.5%

Table 3: In the last week how often did you eat....

Item	Every day		Some days		Never	
Take away	2.3%	2.5%	64.2%	63.4%	33.5%	34.0%
Vegetables	42.5%	39.8%	47.9%	48.1%	9.7%	12.1%
Fresh Fruit	61.5%	59.6%	33.5%	36.9%	5.0%	3.5%
Crisps	21.9%	20.9%	63.3%	64.8%	14.8%	14.2%
Sweets	16.2%	21.4%	69.5%	65.1%	14.3%	13.5%
Chocolate	22.4%	24.9%	64.6%	62.4%	13.0%	12.7%

Table 4: My last meal in the evening during last week was

Item	Every day		Some days		Never	
Hot meal	54.8%	57.5%	42.4%	40.3%	2.8%	2.2%
Cold meal	5.8%	5.5%	53.4%	52.4%	40.8%	42.1%
Snack	12.2%	14.9%	44.4%	44.7%	43.4%	40.4%
Went to bed hungry	4.7%	6.5%	14.9%	16.9%	80.4%	76.6%
Take away	2.9%	3.0%	59.4%	60.1%	37.7%	36.9%
Didn't have anything	6.4%%	8.0%	10.4%	13.6%	83.2%	78.4%

Table 5: For breakfast last week I ...

Item	Every day		Some days		Never	
Had breakfast at home	68.7%	66.0%	23.0%	16.3%	8.3%	9.0%
Had breakfast at breakfast club	12.2%	16.3%	19.0%	20.2%	68.7%	63.5%
Ate something on the way to school	3.8%	5.7%	28.1%	35.4%	68.2%	58.9%
Didn't have breakfast	3.5%	3.3%	16.0%	17.9%	80.5%	78.8%

On the day of the survey, 236 pupils reported not having eaten breakfast. The percentages of non eligible and eligible children reporting this were almost identical.

The following items were consumed for breakfast on the morning of the completion of the questionnaire by the following percentages of respondents:

Cereal	48.5%	47.8%
Toast / bread	38.2%	41.9%
Cooked breakfast	7.0%	6.8%
Fruit	18.9%	22.0%
Yoghurt	10.8%	10.2%
Sweets	4.9%	6.3%
Crisps	4.8%	5.4%
Biscuits	16.1%	18.3%
Tea or coffee	19.3%	23.3%
Milk	25.3%	25.8%
Water	19.9%	17.5%
Juice	25.0%	24.5%
Fizzy drink	7.9%	11.5%

Table 6: I'm hungry

	Yes		No		Don't know	
I'd like more for breakfast	24.4%	26.3%	61.1%	60.7%	14.5%	13.1%
I'm hungry when morning lesson starts	31.9%	31.1%	58.0%	59.4%	10.1%	9.5%
When I get to school	21.1%	23.2%	69.9%	68.0%	9.0%	8.8%
I'd like more for dinner	43.4%	43.2%	43.5%	45.2%	13.1%	11.6%
I'm often hungry	42.7%	44.8%	42.7%	41.8%	14.6%	13.4%
I'm hungry before dinner	73.3%	72.0%	19.6%	21.2%	7.1%	6.9%
I'm hungry before going home	52.5%	51.4%	32.7%	36.3%	14.3%	12.2%

Table 7: How many times a day do you usually clean you teeth?

None	1.7%	1.2%
Once	15.8%	15.0%
Twice	63.1%	59.3%
Three times or more	19.0%	24.4%

Table 8: How many times have you been to the dentist this school year?

None	23.4%	24.7%
Once	27.4%	25.5%
Twice	17.0%	16.9%
Three times or more	12.4%	14.1%
Don't know	19.9%	18.8%

Table 9: What treatment did the dentist give you on your last visit?

Check up	54.7%	52.3%
Teeth removed	11.8%	12.6%
Fillings	22.5%	24.7%
Braces	1.4%	1.2%
Don't remember	9.2%	10.2%

Table 10: Generally do you think you are healthy?

Yes	69.8%	68.0%
No	8.0%	8.1%
Don't know	22.1%	23.9%

Table 11: When you can choose what to eat, do you try to eat healthily?

A lot of the time	39.2%	35.4%
Some of the time	54.9%	57.9%
Never	6.0%	6.7%

Table 12: Does your school teach about healthy eating?

Yes	81.6%	82.8%
No	6.8%	7.5%
Don't know	11.5%	9.8%

With any intervention, especially when it involves changing a culture, in this case eating, changes are not normally seen overnight. That we have been able to detect quite substantial changes over the three year period of the project is clear evidence that prolonged exposure produces results and that leadership in bringing about change is necessary.

The results show clear evidence of a decline in many 'bad habits', eating on the way to school, not having any breakfast, not having an evening meal and going to bed feeling hungry.

There are gender differences in the results which suggest that overall, girls are more attuned to eating issues and that they adopt a healthier approach to what they eat. Boys on the other hand, whilst not all bad, for example in the reduction of reported hunger (see Fig 4 above), might benefit from good male role models to encourage them further that healthy eating is actually 'cool' and not to be shunned.

Our final observation resulting from these surveys is that, as we advised in the early stages of the project, besides providing the healthy food for eating, there needs to be a clear curricular message which is also reinforced by example in the city's schools.

Section 2

Nutritional Aspects of Eat Well Do Well

Introduction

The nutritional analysis provides information on the food served by schools in EWDW as well as details of the food and nutrients *actually consumed* by children both from the healthy hot dinners and packed lunches brought from home, as well as monitoring full day food consumption of a small number of children. In order for a school meal to be labelled as healthy it should be nutritionally balanced over the week in compliance with the Caroline Walker Trust nutritional guidelines.

This section of the report provides details of the nutritional content of the healthy hot dinners served and consumed in 2006 compared to 2005. Analysis has also been conducted to assess the nutritional content of packed lunches consumed by children, and how this compared to the nutrients obtained from hot dinner consumption. In addition, this section compares the nutritional content of the hot lunches served in two different schools: one with low eligibility and the other with high eligibility. This will detail how the food served by the schools differed and how the nutritional content of the food consumed compared. Finally, the daily total food consumption of those children staying for hot dinners is compared with that for those children who take a packed lunch to school.

Methodology

In order to assess the nutritional content of the food served recipes were obtained for the week's menu and were inputted into a nutritional analysis package. Each day 10 portions of every food item available were weighed in order to determine average portion sizes. As several options are available on each day the food served was assessed as the most popular food choice available each day.

Children's actual food intake was assessed by determining average portion. Children returned to the assessment station once they had finished their meal and any waste was weighed and photographed. This allowed exact quantities of the food actually consumed to be entered into a Weighted Intake Software Analysis Package (WISP) which was used to assess the mean daily lunchtime nutrient intake for each child and analysed to produce statistics on children's average lunchtime nutrient intake.

The position in 2006

Sample

The sample was comprised from willing children from years 5 or 6 who stayed for hot dinners each school day. 32 children took part in 2005 and 37 children in 2006.

Gender

2005	Female - 41%	Male - 59%
2006	Female - 74%	Male - 26%

Year Group

2005	Year 5 – 100%	
2006	Year 5 – 53%	Year 6 – 47%

Table 4.0 Nutrients of food served in 2005 and 2006

Nutrients	Recommended	Food Served 2005	Food Served 2006
Energy (kcal)	≥ 557	581	659
Fat (g)	≤ 21.6	25.4	11.9
Saturated Fat (g)	≤ 6.8	7.2	3.8
Carbohydrate (g)	≥ 74.2	71.5	106.1
NME Sugar (g)	≤ 16.3	24.6	13.5
Fibre (g)	≥ 4.5	4.6	7.2
Protein (g)	≥ 8.5	20.3	38.3
Iron (mg)	≥ 3.5	2.6	3.9
Zinc (mg)	≥ 2.8	1.7	3.4
Calcium (mg)	≥ 220	237	403
Vitamin A (µg)	≥ 200	483	393
Vitamin C (mg)	≥ 12	25	60
Folate (µg)	≥ 60	61	124
Sodium (mg)	≤ 600	849	556

Comparisons between the food served in 2006 to the food served in 2005 highlight improvements in the nutritional value of the food provided by the schools. These improvements in the current 2006 menu have led to the provision of increased amounts of carbohydrates, meaning the food provided in the 2006 menu met the Caroline Walker Trust (CWT) recommended guidelines. The balance of carbohydrate provided during analysis in 2006 had improved, resulting in the level of non-milk extrinsic sugar, which in 2005 was provided at more than 50% of the recommended maximum amount, and in 2006 was at just over 80% of the recommended guideline.

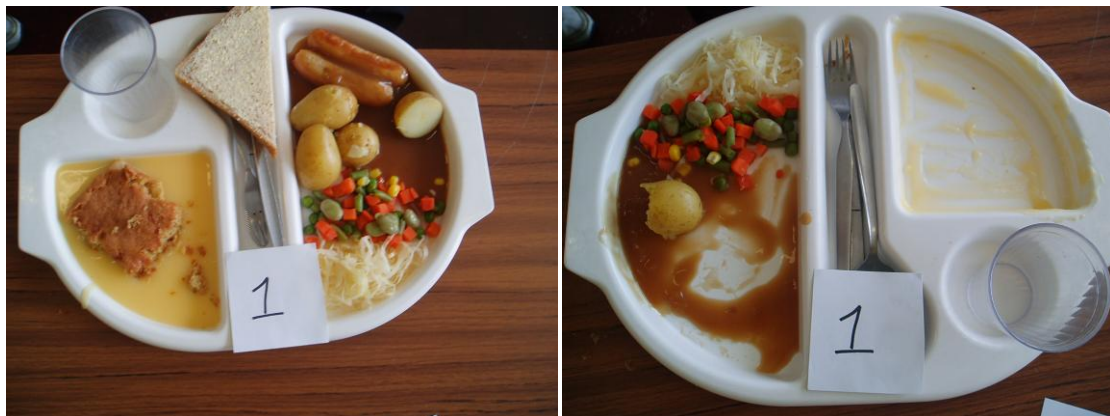
The levels of fat and saturated fat have reduced by more than 50% leading to an improvement with them both being provided within the recommended

guidelines. The 2006 menu provided increased levels of the micronutrients; fibre, calcium zinc and folate, making it possible for children to consume these nutrients at levels above the recommended minimum amounts.

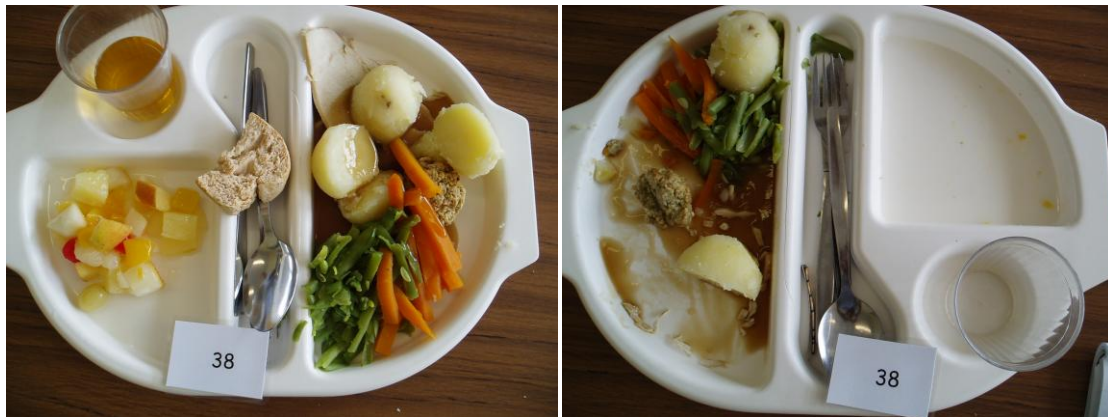
The level of iron now provided by the 2006 menu has improved by over 15%, and is now provided at above the recommended minimum amounts that should be served at lunch.

The pictures below visibly detail the improvements in the menu. The provision of fresh vegetables and availability of homemade bread made with half white and half wholemeal flour help to provide an increase in the availability of nutrients.

School Meals 2005



School Meals 2006



In 2005 children made comments that they did not like the vegetables, that they were watery or had a 'funny' texture. Children making these comments did not realise that the vegetables were frozen, but just made comments that they did not like them and so choose not to eat them. These pictures were picked at random and show how the menu has developed and although they also demonstrate that children will often eat the foods they like and leave the rest, they do show that the children are beginning to eat a more varied diet, including some of the vegetables provided.

Table 4.1 details the nutritional content of the food actually consumed and highlights improvements in food consumption

Table 4.1 A comparison of the nutritional values of the food actually consumed by children in 2005 and 2006

Nutrient	Recommended	Average intake 2005	Average intake 2006
Energy (kcal)	≤ 557	456	400
Fat (g)	≤ 21.6	20.6	8.1
Saturated Fat (g)	≤ 6.8	6	2.8
Carbohydrate (g)	≥ 74.2	54.6	65

NME Sugars (g)	≤ 16.3	19	12.7
Englyst Fibre (g)	≥ 4.5	2.6	3.2
Protein (g)	≥ 8.5	16.3	20.9
Iron (mg)	≥ 3.5	1.79	1.9
Zinc (mg)	≥ 2.8	1.34	1.8
Calcium (mg)	≥ 220	221	291
Vitamin A (μg)	≥ 200	254	350
Vitamin C (mg)	≥ 12	10	37.6
Folate (μg)	≥ 60	35.3	61.5
Sodium (mg)	≤ 600	624	375

These results highlight that for many areas children are actually consuming an improved diet at lunchtime. The intake of calories has reduced slightly, however there has been an increase of food with higher nutritional values leading to improved intakes of micronutrients. Interestingly, analysis highlights statistically significant increases in the nutrients; zinc, calcium, vitamin A, vitamin C and folate and a significant reduction in fat, saturated fat, sugars and sodium.

However the intake of some of these micronutrients remain below the CWT guidelines and analysis reveals that 49% of the 37 children taking part in the 2006 lunch study actually had intakes of the essential micronutrients; calcium, iron zinc, folate that were below the guidelines.

In summary the quality of the food provided in 2006 had improved upon the 2005 menu, providing fresh vegetables rather than frozen, homemade bread, increased availability of fresh fruit with fruit juice or milk as accompanying drinks rather than squash. The nutritional content of the food served in 2006 had improved for every nutrient assessed and meets the recommended guidelines for all but one nutrient. The only nutrient which was lower than the

guidelines was iron, which had improved by 15% on last year's analysis and was just 11% short of the recommended amount.

The actually food consumed by the children had improved to provide more essential micronutrients, however for many nutrients remain below the recommended minimum of what children should be obtaining from their school lunch.

Nutritional comparisons between high and low eligibility schools

The evaluation team also conducted a nutritional analysis of the food consumed in a more affluent school (<10% free school meal eligibility) and a less affluent school (>47% free school meal eligibility).

Sample

The sample was comprised from willing children from years 5 or 6 who stayed for hot dinners each school day. 37 children in the affluent school took part and 39 in the less affluent school. In the less affluent school year 4 children were also included for analysis to ensure enough participant numbers for analysis.

Gender

Affluent	Female - 74%	Male - 26%
Less affluent	Female - 41%	Male - 59%

Year Group

Affluent	Year 5 – 53%	Year 6 – 47%	
Less affluent	Year 4 - 41%	Year 5 – 23%	Year 6 – 36%

The menu during this period consisted of:

Monday: Spicy Beef with rice and a pitta bread, carrots, broccoli, sugar free jam, scone and apple juice.

Tuesday: Roast turkey with stuffing, boiled potatoes, green beans and carrots, tomato and herb bread, fruit cocktail and glass of milk

Wednesday: Jacket potato with tuna, cauliflower and cabbage, tomato and herb bread, semolina and glass of water

Thursday: Lemon chicken, tomato pasta, broccoli, cauliflower, bread, yoghurt and a glass of orange juice

Friday: Haddock in breadcrumbs, boiled potatoes, peas, sweetcorn, bread, fruit mousse and crumble topping and a glass of apple juice.

Table 4.2 Food served in both schools

Nutrients	Recommended	Affluent	Less affluent
Energy (kcal)	≥ 557	659	746
Fat (g)	≤ 21.6	11.9	13.3
Saturated Fat (g)	≤ 6.8	3.8	4.4
Carbohydrate (g)	≥ 74.2	106.1	125.6
NME Sugar (g)	≤ 16.3	13.5	29.5
Fibre (g)	≥ 4.5	7.2	6.5
Protein (g)	≥ 8.5	38.3	38.9
Iron (mg)	≥ 3.5	3.9	3.7
Zinc (mg)	≥ 2.8	3.4	3.6
Calcium (mg)	≥ 220	403	631
Vitamin A (µg)	≥ 200	393	255
Vitamin C (mg)	≥ 12	60	82
Folate (µg)	≥ 60	124	138
Sodium (mg)	≤ 600	556	580

These results show that the food offered in both the affluent and less affluent school assessed met the Caroline Walker Trust (CWT) recommended guidelines for the majority of nutrients assessed.

The schools offered the same menu, although some differences in serving sizes was apparent, the biggest difference being with drinks and bread. A glass of juice in the affluent school averaged 75g whereas a glass of juice in the less affluent school was anywhere between 116g – 150g, twice that of the affluent school. The less affluent school also offered larger chunks of bread and larger scones, resulting in nutritional differences between the carbohydrate and non-milk extrinsic sugar levels served.

Example of a meal in the affluent school



Example of a meal in the less affluent school



Table 4.3 Average nutrients consumed

Nutrients	Recommended	Affluent Average intake	Less affluent Average intake
Energy (kcal)	≥ 557	400	373
Fat (g)	≤ 21.6	8.1	7.4
Saturated Fat (g)	≤ 6.8	2.8	2.8
Carbohydrate (g)	≥ 74.2	65	58.9
NME Sugar (g)	≤ 16.3	12.7	8.3
Fibre (g)	≥ 4.5	3.2	2.7
Protein (g)	≥ 8.5	20.9	21.1
Iron (mg)	≥ 3.5	1.9	1.5
Zinc (mg)	≥ 2.8	1.8	1.7
Calcium (mg)	≥ 220	291	297
Vitamin C (mg)	≥ 12	37.6	38.9
Folate (µg)	≥ 60	61.5	63.7
Sodium (mg)	≤ 600	375	335

There are several differences in the actual food consumed by the children. It was expected that children in the less affluent school would consume more of the school lunch provided, as this may be their only substantial meal of the day. However, as the table highlights, children in the less affluent school are consuming less food and with that obtaining less energy and less nutrients than children in the more affluent school. It is of concern that in both schools children are not consuming amounts which meet the Caroline Walker Trust (CWT) guidelines for several nutrients. Analysis revealed a statistically significant difference in the consumption of iron between the two schools, with children in the less affluent school obtaining less of this nutrient at lunch. There is evidence to suggest that a low intake of iron can suppress learning and hamper academic achievement.

One major difference noted between the two schools was that the affluent school served vegetables and potatoes to all children whereas the less

affluent school only maintained that children must take a main protein source and could refuse the potatoes and vegetables if they wished. Although the provision of vegetables and potatoes to all children produces increased waste, it seems also to encourage children to eat a little of these items.

Minimum amounts consumed at lunch

Analysis was conducted to assess the minimum amounts that were consumed by children at lunchtime. Again surprisingly the less affluent school children fared worse than the children from the more affluent school.

Table 4.4 Minimum nutrients consumed

Nutrients	Recommended	Affluent Minimum	Less affluent Minimum
Energy (kcal)	≥ 557	163	119
Fat (g)	≤ 21.6	0.5	1.7
Saturated Fat (g)	≤ 6.8	0.1	0.3
Carbohydrate (g)	≥ 74.2	32.1	16.1
Sugar (g)	≤ 16.3	0.0	0.0
Fibre (g)	≥ 4.5	1.2	0.4
Protein (g)	≥ 8.5	6.1	8.5
Iron (mg)	≥ 3.5	0.8	0.5
Zinc (mg)	≥ 2.8	0.7	0.5
Calcium (mg)	≥ 220	147	62
Vitamin C (mg)	≥ 12	5	8
Folate (µg)	≥ 60	17	19
Sodium (mg)	≤ 600	99	50

There were several children in the study who ate very little at lunch. They may have a scoop of their jacket potato and their dessert. This results in some children consuming very little food, in turn, delivering very little in nutritional significance to their overall diet.

The same menu was assessed in both schools. Differences were apparent in the methods of service that the schools used, resulting in differences in the nutritional content of the food when assessed. Larger portions of certain foods, such as scones and fruit juice, in the less affluent school resulted in increased levels of carbohydrates and non-milk extrinsic sugars being available in this school. Children in the two schools chose to consume different variations of the menu available, resulting in differences between the average nutrient intake. One of the principle differences between the schools was that in the affluent school children had to have main course, potatoes and the vegetables on their plate, whereas in the less affluent school children had to select a main course and the rest was optional. Children in the more affluent school did consume on average slightly more micronutrients than children at the less affluent school and the requirement of vegetables and potato provision plays a role in this.

Hot dinners and packed lunches

The evaluation team were also interested in comparing the nutritional values of hot dinners and packed lunches:

Sample

The sample was comprised from willing children from years 5 or 6 who stayed for hot dinners or packed lunch each school day. 37 hot dinner and 38 packed lunch children participated

Gender

Hot dinners	Female - 74%	Male - 26%
Packed lunch	Female - 40%	Male - 60%

Year Group

Hot dinners	Year 5 – 53%	Year 6 – 47%
Packed lunch	Year 5 – 53%	Year 6 – 47%

These pictures demonstrate some typical packed lunches



Typical free healthy school meals



Table 4.5 The average nutrients consumed from hot dinners in comparison to packed lunches

Nutrient	Recommended	Average intake Hot Dinners	Average intake Packed Lunch
Energy (kcal)	≤ 557	400	707
Fat (g)	≤ 21.7	8.1	28.9
Saturated Fat (g)	≤ 6.8	2.8	11.7
Carbohydrate (g)	≥ 74.3	65	98.9
NME Sugars (g)	≤ 16.3	12.7	32.1
Englyst Fibre (g)	≥ 4.5	3.2	3.7
Protein (g)	≥ 8.5	20.9	19
Iron (mg)	≥ 3.5	1.9	2.6
Zinc (mg)	≥ 2.8	1.8	2.0
Calcium (mg)	≥ 193	291	318
Vitamin A (µg)	≥ 150	350	112
Vitamin C (mg)	≥ 11	37.6	35.5
Folate (µg)	≥ 60	61.5	56
Sodium (mg)	≤ 600	375	1010

Analysis highlights that children choosing to bring a packed lunch actually consume an increased quantity of food at lunch and with this they are obtaining the energy required for lunch. However, they are still not obtaining essential micronutrients and are actually consuming less of many micronutrients and a great excess of sugar, fat, saturated fat and sodium.

When analysing these results for statistical significance, it was found that packed lunch children consumed significantly more calories, fat, saturated fat, sugar and sodium and significantly less folate, vitamin C and B vitamins. Interestingly, children having a packed lunch consumed significantly more iron - this is due to sheer quantity of food consumed.

The average calorie content of a packed lunch is 125% of the recommended guidelines for lunch, this along with saturated fat levels that are nearly twice

the recommended maximum may begin to contribute towards an excess in children's overall energy intake which may ultimately result in weight gain.

The types of food consumed at lunchtime in a packed lunch do not require children to learn how to use knives and forks. Teachers have commented on increases in children who have a lack of table manners and an inability to hold cutlery correctly. The daily provision of crisps, sweets and snack foods leads children to believe these are everyday foods rather than occasional foods which should act as treats within a healthy balanced diet.

Overall, children choosing to have a packed lunch were obtaining more calories, but with this more fat, saturated fat, sodium and sugar. Children staying for hot school dinners were obtaining less calories but a more balanced meal providing significantly more micronutrients.

The position in 2007

The evaluation team also examined total food intake for a small number of children in two schools in the city. The evaluation aimed to ascertain if there was a relationship between lunch time food intake and food consumed at other times of the day. This was the first analysis undertaken comparing children provided with free, healthy school dinners in Hull with those who have a packed lunch.

It was assumed that children having a free healthy school dinner would consume a more nutritious meal than children who consumed a packed lunch. It was also assumed that children from a school with low eligibility for free school meals would consume a more nutritious diet than children who were from a school with a low eligibility. In order to test these assumptions, children who stayed for packed lunches and hot dinners in two schools in Hull were recruited to take part in the study. The number of pupils on roll and free school meal eligibility were used to select the two suitable schools.

Hot school dinners

Analysis of the food provided highlighted that in school B (the school with high eligibility - 47%) two nutrients, non-milk extrinsic sugar (NMES) and iron, were provided outside of the recommended guidelines. NMES was provided at 4.9g more than school A (the schools with low eligibility – 9.8%) and 2.1g more than the 16.3g maximum recommended at lunch. Iron was provided at 0.2mg below the recommended guidelines of 3.5mg. However, the remaining nutrients assessed in school B met the CWT recommended guidelines and all food provided by school A conformed to the guidelines.

Analysis showed children's mean daily intakes of energy, fat, saturated fat, NMES and sodium, were all within the guidelines. However, carbohydrates, fibre, iron, zinc and vitamin A intakes were all below the minimum amounts recommended. The reason for the low nutritional intake was due to children eating small amounts of the food they were provided with. Vegetables and potatoes were often wasted, children simply ate the food they liked.

It may be concluded that the school meals in the present study were meeting the recommendations to reduce children's intakes of fat, sugar and sodium.

The menu provided in the study schools allowed children a choice of meal options each day. The findings highlight that, despite the meals being nutritionally balanced, options were provided which allowed the children to choose a similar dish over a number of days which could lead to large

variations in nutrient intakes, which over a prolonged period of time could lead to nutritional deficiencies. Individual children's nutritional intake from school meals varied greatly, ranging from 692 calories to as little as 119 calories.

This study highlighted that at lunchtime the children's nutritional intakes did not meet the recommended amounts for fibre, iron, zinc and vitamin A.

Packed lunches

The first important factor about packed lunches is that the types of foods provided by a packed lunch generally do not require children to learn how to use knives and forks. Teachers have commented on the increased number of children who have a lack of table manners and inability to hold cutlery correctly and we reported this in our second interim findings. Children having a school dinner could therefore benefit from peer modelling through teacher and peers in the social situation of eating with a knife and fork and sitting around a dinner table. The daily provision of crisps, sweets and snack foods in a packed lunch leads children to believe these are everyday foods rather than occasional foods which should act as treats within a healthy balanced diet. An independent T test carried out in the present analysis, found that those children who had a packed lunch obtained far higher intakes of energy, fat, saturated fat, sugar and sodium than the children who had a hot school dinner.

It was evident that packed lunch children, despite the increased food intake, were still consuming low levels of many of the micronutrients assessed.

Fibre, iron, zinc, vitamin A and folate intakes were all below the recommended minimum amounts; however, with the exception of folate, these nutrients were consumed in higher amounts by the children in the packed lunch groups than the children from the hot dinner groups.

In the present study an independent T test highlighted statistical differences between some of the micronutrients assessed, with children having a packed lunch consuming significantly more iron and vitamin C in school A and in school B more fibre, iron and vitamin A. The low micronutrient intake in children having hot dinners is due to their low consumption of the food provided, this is a significant finding as the introduction of free healthy school meals was intended to help improve children's nutritional intake.

Individual children's intakes revealed that the children with both the highest and lowest energy intakes were children having packed lunch or hot dinners in school B, highlighting that children from this school had poorer lunch time intakes than those from school A. When individual children's micronutrient intakes were assessed, it was found that the packed lunch children had a higher intake than the hot dinner children and the children with the lowest intakes were children who stayed for hot school dinner in school B. This is a significant finding if these children may not be able, through poor food provision in the home, to make up for this low nutrient intake.

The results clearly show that food intakes in both groups of children did not meet the CWT lunch time recommended guidelines and although children

consuming a free healthy school meal had low intakes of fat, sugar and sodium they also had low intakes of the micronutrients assessed and these micronutrient intakes were actually lower in the children staying for hot school dinners than the children having a packed lunch.

Food Diaries

The food diaries provided an insight into children's total food and nutrient intakes and an understanding of the foods and nutrients consumed at different meal times. The meal time analysis allowed comparisons to be made between the different groups of children taking part in the study. Overall, the results showed that the school children came from had a greater impact on the total nutrient intake than whether children were from the hot dinner or packed lunch groups. This may be due to the socio-economic backgrounds that children come from.

At breakfast time children in school A obtained more energy and nutrients than children in school B. Despite both schools offering a breakfast club, breakfast skipping occurred on various occasions in school B. The research suggests that children, especially those who are at nutritional risk, who skip breakfast suffer from increased errors and slower memory recall in tests. In the current study, one child from school B did not consume breakfast on four out of the five days assessed.

The lunch time analysis of the food diaries presented similar results as the larger initial lunch time assessments conducted earlier in the evaluation. The

packed lunch children consumed more than the CWT recommended maximums for energy, fat, saturated fat and sugar, consuming more than the hot dinner children. None of the groups of children from the hot dinner or packed lunch groups met the requirements for all the micronutrients assessed, with children from the hot dinner groups having intakes which were even lower than the children in the packed lunch group.

The large difference in nutrient intake observed at lunch time began to balance out through the consumption of afternoon snacks: the hot dinner children tended to consume crisps, biscuits and chocolate, but the packed lunch children either did not have an afternoon snack, or consumed less of these high fat, high sugar and sodium foods.

The evening meal analysis went on to highlight that all groups of children consumed more than the recommended maximum amounts of calories, saturated fat, NMES and sodium, but with this they increased their intakes of fibre, iron, zinc, calcium, vitamin A and C and folate. Children from school A obtained higher average intakes of the micronutrients assessed than the children from school B. Evening meals in school A generally were made from raw ingredients, consisting generally of meat, potatoes and vegetables, whereas evening meals in school B had a heavy reliance on convenience foods, which were not served with vegetables.

The final meal at supper time resulted in the children from the hot dinner groups obtaining far more calories, fat, saturated fat, sugars and sodium than

the children from the packed lunch groups. This, along with the afternoon snack, reduced the overall dietary differences between total daily nutrient intakes in the hot dinner and packed lunch children. Popular supper time foods in hot dinner children from school A were chocolate and biscuits and the hot dinner children from school B often consumed pizza or chips. Therefore, when the full day's nutritional intake was assessed, the large and significant differences in nutrients intakes between hot dinner and packed lunch children had diminished.

Assessments of overall mean daily intakes highlighted that the hot dinner group in school A actually ended up consuming more energy, fat, saturated fat, sugar and sodium than the children in the packed lunch group, and more than the recommended amounts, despite their low lunch time intake of these nutrients. The consumption of high fat, sugar and sodium snacks after school and at supper time led to this result. Children from school A consumed more energy and macro and micro nutrients than those children in school B.

Assessments of mean daily micronutrient intakes highlighted that children from school A met more of the recommended guidelines than children from school B. The hot dinner group in school A were low on fibre and the packed lunch group low on fibre and zinc. In school B the hot dinner children had the lowest overall micronutrient intakes, being low in fibre, iron, zinc, calcium and vitamin A and the packed lunch children were low on fibre, iron, zinc and vitamin A.

The deficiency in fibre intakes began at breakfast, where popular choices consisted of high sugar/ low fibre cereals. There was a general low consumption of fruits and vegetables. This is found in most dietary analysis and therefore came as no surprise to the evaluation team. Although it was hoped that Hull's provision of free school fruit and the healthy school dinners would help to address this issue, the study found that the highest intake of fruits and vegetables recorded was 18 portions over the five day study period, which remained below the 25 portions which the department of health 5 a day programme recommends. The results also highlighted that during the five day study period one packed lunch boy from school B consumed no fruits or vegetables at all and, again in school B, there was a boy who stayed for hot school dinners who did not consume any vegetables and only consumed one piece of fruit in the five days assessed. Findings from the current study suggest that the lowest intakes of fruits and vegetables came from children in school B. The highest fruit and vegetable intake came from the children who stayed for hot school dinners in school A. The Department of Health and local authority investment in the free school fruit and vegetable scheme and in the free school meal provision through the EWDW initiative needs to be carefully considered when these findings still highlight that there were children not consuming fruits or vegetables during this study.

The low energy and micronutrient intakes in those children from school B suggests that these children may be at nutritional risk. The low intakes may be having a detrimental effect on the cognitive development of these children and their future academic attainment.

Overall the food diaries revealed that even though some of the study children were consuming healthy hot school dinners, which resulted in a low fat, sugar and sodium intake at lunch, children would then go on to consume foods which contained higher amounts of fats, sugars and sodium at other meal times. This is a significant finding which needs to be carefully considered and investigated further to ascertain why this may be so. Meetings with some parents, undertaken as part of the evaluation of the Eat Well Do Well initiative suggested that parents believed one of two things. First, that parents believed that if their child stayed for free school dinners they would have already consumed a healthy balanced lunch and therefore they do not have to ‘worry’ so much about the nutritional balance of the evening meal. The difference seen between afternoon snacks and supper consumption between children in the hot dinner and packed lunch groups, may be a result of the increased hunger in those children who had hot school dinner or it may be due to parents allowing children these treat foods as they have not had them as part of their lunch. Second, and as we state elsewhere in this report, parents don’t actually know what their children eat if they stay for school dinners. The evaluation team believes there needs to be considerable investment in the collaboration between schools and families if we are to see an improvement in children’s overall nutrient intakes.

During the data collection for this report one child, who was not included in the overall analysis, from the packed lunches assessed from school B had mouldy sandwiches on two of the five days assessed, which he therefore did

not eat. The sandwiches were simply bread and margarine placed in his rucksack, unwrapped, this boy had very little food and on these days only consumed crisps and a chocolate bar. The availability of free school meals makes it difficult to understand why he did not stay for school dinners instead of bringing a packed lunch. This perhaps suggests that more needs to be done to promote free school meals to families (we are conscious that uptake is an unreliable measure). Schools and the local authority need to work with parents to encourage school meal uptake.

This study highlighted that during the study period no child consumed any oily fish, which provides essential fatty acids (EFAs) which cannot be synthesised by the body and therefore must be provided by the diet. Again, this finding was not surprising. Oily fish was provided by the school dinner menu as salmon fishcakes, however children chose to avoid this option for the more appealing option of roast turkey or jacket potato with coleslaw which was also served on the same day. More needs to be done to encourage children to eat oily fish, and this needs to start from an early age. This could be done through school meals, by making the fish option the more attractive option of the day and through educating children in the importance of oily fish and maybe having a fish supplier visit the school to enthuse children in this area. At a push the Council might even consider oil supplements. Parents also need to be educated in the importance of EFAs and perhaps the school could offer culinary sessions for families to attend.

This research would suggest that although undoubtedly free universal free school meals reduces the stigma attached to those children classed as eligible for free school meals, it may not help these or other children to reach their daily recommended nutrient intakes. The results of the present study suggest that more needs to be done to improve the diets of children both in school and at home.

Section 3

Readiness to Learn Class Teacher Questionnaire

“Three of the primary schools visited reported that the skills of younger pupils were poorly developed: they could not manage a knife and fork or make conversation during a meal. In the best instances, schools recognised the contribution that a good dining experience could make. In these cases, teaching staff often ate in the dining room with the pupils and the atmosphere was warm and friendly, with sufficient time for all to eat their lunch comfortably and to enjoy socialising.”

Food in Schools - Ofsted - October 2007

Introduction

The class teacher questionnaire provides data for the attainment strand of the Free Healthy School Meals (FHSM) Evaluation project. The aim of the attainment strand is to assess the impact that the universal provision of free healthy school meals has upon children’s levels of educational achievement. A fundamental determinant of children’s academic attainment is what has been termed, pupils’ ‘readiness to learn’. Education professionals have long recognised that when pupils arrive at school late, tired, hungry, or ill equipped to cope with the school day, their ability to engage with the learning process is adversely affected.

The concept of readiness to learn reflects those issues which underpin children’s educational attainment but are not immediately apparent through analysis of test results, such as KS1 and KS2 scores. These factors include children’s ability to concentrate, communicate and co-operate in addition to more practical concerns such as lesson preparedness, attendance and punctuality. The class teacher questionnaire was developed as a tool to enable researchers to begin to ‘measure’ teachers’ perceptions of their pupils’ readiness to learn.

One of the methodological challenges posed by the use of the “readiness to learn” framework was the lack of pre FHSM intervention data. In order to

provide a comparison between children's behaviour and academic performance prior to and after the introduction of the programme, teaching staff were given the opportunity to comment upon changes that they felt were directly attributable to the programme. The questionnaire also enabled comparisons to be made between those children eating school dinners and those eating packed lunches or going home for dinner. Additionally, the questionnaire sought to provide baseline data to enable perceived changes to be monitored over the course of the programme. In summary, the questionnaire aims to provide the following;

- Assessment of teachers' and teaching assistants' perception of the impact of the scheme through pre-intervention comparison
- Comparison between teachers' and teaching assistants' perception of those children who eat FHSM and those who do not
- Baseline data from which to monitor subsequent changes in children's readiness to learn

This report outlines results for the 2007 survey and all figures quoted refer to the 2007 dataset. Figures given in brackets refer to the 2005 and 2006 survey and significant aspects of trend data are commented upon in the text. **E.g. The number of years spent teaching ranged from less than a year to 38 (36) years. The average number of years spent teaching was 11.10 (11.43) years with a median of 8 (7) years.**

Methodology

The survey was carried out in schools in February 2007. Surveys were distributed to the schools along with instruction sheets on how to complete the questionnaires. The completed questionnaires were collected from the schools by University researchers, two weeks later. The sample size was ascertained using data from the LEA. The number of teachers and teaching assistants was confirmed with all the primary schools in the LEA. However, because of unpredictable shifts in the employment of teaching staff, the split

of year groups in some schools and the assignment of teaching assistants to pupils across different year groups, an exact sample size was difficult to determine. Therefore, in order to ensure that adequate numbers of questionnaires were distributed, the sample size was over-estimated. Consequently, it is not possible to ascertain an exact response rate but it is estimated that approximately 600 questionnaires were distributed and 224 were returned, giving a 38% response rate. This is a slight decrease from last year when 259 questionnaires were returned with an estimated 43% response rate.

The questionnaire was distributed to 72 schools in July 2006, 59 schools responded. In 2006, 65 schools completed the questionnaire. Class teachers and teaching assistants from years 4, 5 and 6 were asked to complete the questionnaires. Envelopes were provided to maintain respondents' anonymity. Completed questionnaires were collected from the schools between 2 and 3 weeks after distribution.

Completed questionnaires were analysed using SPSS and Atlas.ti software.

Amendments to the Survey

The 2007 survey consisted of a number of additional questions. These questions were included to enable researchers to explore aspects of the school dining environment and its related effects upon pupils' behaviour. Further questions invited teachers to consider the ways in which the scheme had influenced their perception of Hull City Council. Although lack of trend data makes comparative analysis impossible, it was considered important to collect these data in view of the council's need to consider the cost effectiveness of the scheme.

Key findings

The 2007 data shows that children have more energy and are less tired as a result of the free school lunches. While respondents acknowledge that children's levels of tiredness and irritability increases through the course of the day, this appears to be levelling out as the effects of the scheme become

evident. Fewer respondents reported children being tired and irritable after lunch and more reported greater levels of alertness, energy and eagerness to work after the lunch period. There has been a very significant increase in respondents stating that children have more energy and are less tired. This is also true of those children attending the breakfast clubs, who increasingly show greater alertness and levels of concentration which they sustain throughout the morning period.

Qualitative data indicates that respondents regard the scheme primarily as a health scheme for children. However, when asked about the effects of the scheme, respondents pointed to a much broader picture. Many spoke of the social benefits, the educational benefits, the removal of stigma and the support to parents and families. Those that were more ambivalent about the scheme were keen to stress the competing financial demands on the Council. This may be understandable due to the well publicised budget deficit at the time of the survey. However, these respondents also stressed the idea of parental responsibility and suggested that the feeding of children should not be the taxpayers' responsibility. Interestingly, there were some respondents who supported the removal of the free element of the scheme who also regarded the scheme as successful.

Opinions as to the benefits of the scheme appeared to be less ambivalent in many areas, particularly in comparing the readiness to learn of children staying school dinners, packed lunches and going home. While the proportion of those stating that children staying school dinners are more ready to learn has increased, the proportion stating that there is no difference has also increased. Qualitative comments are illuminating in this respect, as respondents comment that it becomes increasingly difficult to ascertain differences between children as the majority now stay for school lunches in many classes.

It would appear that very few respondents require convincing of the health benefits of the scheme, although some express concern over the financial cost.

Key Statistics

- The majority of respondents were in favour of the scheme 80% (89% - 2006, 85% - 2005)
- The 2007 data shows that the proportion of respondents eating the school dinners had stabilised over the last year. 41% stated that they eat the school dinners in 2007 and 2006 compared with 28% in 2005
- Self reported knowledge of children's lunch choice was high at 90%. This was the same in 2006 (91% in 2005)
- The majority of respondents in 2007 had noticed a difference in their pupils since the introduction of the scheme. This was the first year that this happened with 42% of respondents stating that they had seen no differences as opposed to 56% in 2006 and 55% in 2005
- 42% of respondents felt that children had more energy and 31% felt that children were less tired. These figures were 22% and 18% in 2006 and 16% and 20% in 2005
- A very low percentage of respondents felt that the scheme was not a good idea. Only 4% stated that they didn't think the scheme was a good idea
- 39% of respondents ate their dinner in the staffroom, 22% in the classroom and 20% in the dining room
- Teachers were more likely to eat in the dining room with the children than teaching assistants
- Respondents who ate in the dining room were more likely to support the scheme. 91% of those that ate in the dining room supported the scheme, 79% of those that ate in the staffroom or the classroom supported the scheme
- 47% of respondents were opposed to the reintroduction of charges, 28% supported charging for the meals and 24% did not know
- 56% of respondents stated that since the introduction of the scheme, they had more trust in the Council to make the right decisions for children's health and to make children a priority.

- 11% of respondents had more trust in the Council to manage finances, while 26% trusted the Council less to manage finances since the introduction of the scheme
- Respondents felt that children had learnt more about healthy eating since the scheme was introduced (86%) and more about the social aspects of dining (67%)
- Respondents did not feel that there had been any increase in bullying since the introduction of the scheme. 72% no increase, 25% don't know, 3% an increase
- 27% of respondents felt that there were fewer behavioural problems over the lunchtime period as a result of the scheme
- 71% of staff felt that there was less stigma attached to children on free school meals than before
- The proportion of respondents reporting a difference in the behaviour of those children attending breakfast clubs rose from 27% in 2005 and 2006 to 39% in 2007

Sample

The majority of the sample was comprised of female teachers of years 5 or 6 classes.

Gender

2005	Female – 76%	Male - 24%
2006	Female - 82%	Male – 18%
2007	Female - 84%	Male - 16%

Job title

2005	Teacher – 86%	Teaching assistant – 14%
2006	Teacher – 78%	Teaching assistant – 22%
2007	Teacher - 72%	Teaching assistant - 28%

Number of years spent teaching ranged from less than a year to 40 years (2005 - 36, 2006 - 38) years. The average number of years spent teaching

was 9.99 (2005 - 11.43, 2006 - 11.10) years with a median of 7 years (2005 - 7 years, 2006 - 8 years)

Year Group

Respondents were asked which year group they worked with. Some gave more than one response to this question, for example years 3 and 4. Possible explanations for this include split classes or teaching assistants who work with a number of pupils. Consequently data were analysed separately and therefore percentages total more than 100.

Table 1

Year Group	% cases
Year 3	14
Year 4	35
Year 5	40
Year 6	42

Schools

59 of the 72 schools returned questionnaires giving an 82% response rate. In 2005, 45 schools responded giving a 58% response rate and in 2006, 65 schools out of 77 responded giving an 84% response rate.

Respondents' Consumption of Meals

41% of teachers and teaching assistants surveyed ate the meals and 58% did not. Results demonstrate that the proportion of teachers and teaching assistants eating the meals has remained constant over the past year. In 2005 only 28% of respondents reported eating the meals and 71% did not.

Choice of Dining Environment

20% of teachers and teaching assistants reported that in general they ate lunch in the dining room. The most popular location was the staff room, where 39% of respondents said they generally ate their dinner. 22% of teaching staff ate their lunch in the classroom while 7% stated that they went home for lunch.

Dining Location and Job Title

Results demonstrate that there is a strong relationship between respondents' job and their choice of dining environment. Teaching assistants were much more likely to eat in the staff room or to go home for lunch. 47% of teaching assistants chose to eat in the staff room, compared with 36% of teachers. 27% of teaching assistants went home for lunch compared with 1% of teachers. Only 13% of teaching assistants ate in the dining room compared with 22% of teachers and 5% ate in the classroom compared with 29% of teachers.

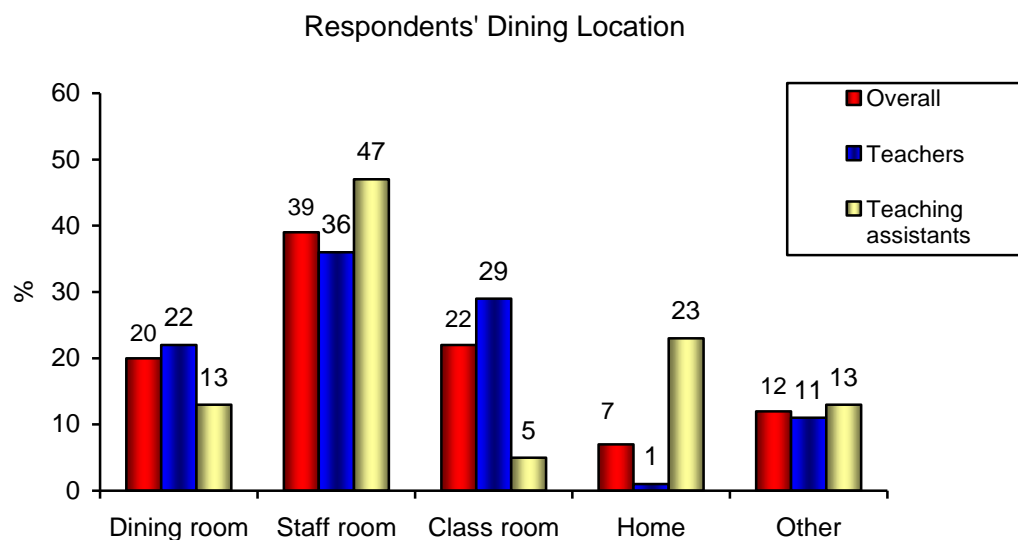


Figure 1

These data demonstrate that different areas of the school are used by teachers and teaching assistants. Possible reasons for this are that many teaching assistants work part time and therefore have greater opportunity to eat lunch at home. Teachers on the other hand are more likely to work for the whole day and to use the lunch break as an opportunity to prepare for afternoon classes. This would tend to be done within the classroom. However, teaching assistants who remain in school over the lunchtime period prefer to eat their lunch in the staff room 47%, rather than the dining room 13%, or the classroom 5%. This preference was much less marked among teachers where 36% ate in the staffroom, 29% in the classroom and 22% in the dining

room. It is likely then, that teaching assistants regard the classroom as the domain of the teacher and the staffroom as a more appropriate space for them to eat lunch. Reasons why the dining room is not used by teaching assistants to the same extent as teachers remains unclear and should be further investigated using qualitative methods. Interestingly, one respondent commented that her dining location was dependent on whether she had paid for the meal or not. If she had not paid she was required to eat in the dining room, if she did pay she could choose to eat in the classroom. Some respondents also mentioned the need for space away from children as a motivating factor in their choice of dining environment.

I do occasionally, for example Christmas dinner. But it's nice to have some adult company at lunchtime. Plus, the staffroom is far more peaceful!- Teacher, yr 5

However, respondents who ate in the dining room with the children did so in order to monitor behaviour, to ensure that children ate the meals and model healthy and appropriate eating behaviours and to socialise with the children.

“Will occasionally go into the hall to eat with pupils. Reason- monitor behaviour and talk to pupils out of classroom context”. Teacher yrs 3/4

I have lunch with pupils once a week to encourage the children to have a free healthy school meal. Also good manners at the table”. Teaching assistant yrs 3/4

The meals are excellent quality and with vigilant staff we can ensure that children - that otherwise wouldn't eat healthily- manage to eat at least 3 of their '5 A DAY'! Teacher yrs 5/6

I eat with the children and help the younger children cut up their food. Teacher yr 5

Dining location and school meals consumption

There was also a strong correlation between eating the school meals and choice of dining environment. Of those respondents that stated that they ate the free school meals, 47% did so in the dining room, 30% did so in the staff room and 10% in the classroom. Respondents who stated that they did not eat the meals were more likely to eat in the staff room, 46% or the classroom

31%. None of the respondents who did not eat the meals ate in the dining room. This indicates that the decision to eat in the dining room with children is dependent on the availability of a free healthy school meal.

Dining location and support for the scheme

In analysing the relationship between dining environment and support for the scheme, caution should be exercised in interpreting these data as the sample of non-supporters is very small (34). However, those respondents who ate in the dining room were more likely to support the scheme than those who ate in the classroom or the staff room. Of those that ate in the dining room, 91% supported the scheme. Of those that ate in the classroom or the staffroom, 79% supported the scheme.

The table below compares the dining locations of respondents who support the scheme with those that do not support the scheme. This table shows that the dining room is the second most popular place to eat lunch among supporters of the scheme, while it is the fourth choice of non-supporters along with home. Please note, figures are rounded to the nearest whole percentage and therefore figures in the total row may be +/- 100%.

Table 2

Dining location	Do you think the meals are a good idea?		
	Yes %	No %	Overall %
Dining room	22	9	19
Staff room	41	35	39
Class room	20	29	22
Home	7	9	7
Other	11	18	12
Total	101%	100%	99%

Respondents Not Eating the Meals

58% of respondents did not eat the free school meals. Reasons given for not eating the meals included the cost of the meals. Some teachers were still

unaware that they were entitled to a free school meal if they supervised children and many felt that the charges were too high for teachers. Teaching staff felt that £2, £2.10, £2.32, £2.38 was too much to pay for a midday meal. This has been the case throughout the scheme. In other cases, teachers relinquish their entitlement because they would have to perform supervisory duties in order to receive the meal.

The meals are not free to the adults. If we stay, we have to pay £2.32 and the meals aren't always worth it. Teaching assistant yr 5

We are not offered free school meals unless we work a dinner duty. Teaching assistant year 6

We were instructed we were not allowed anymore. Teacher yr 5

Some respondents felt that the food was unpleasant or simply not to their taste. However, these type of comments were far less frequent than in previous years. This could indicate an improvement in the quality of the food. Others had special diets, including low calorie, diabetic and vegan. These were not felt to be adequately catered for by the school meals. Time was also a significant factor in deterring respondents from eating the meals. Many teachers prepared for afternoon lessons and teaching assistants often went home for lunch due to the cost and having to balance domestic responsibilities. Teachers and teaching assistants states that they often did not have a break over lunchtime

I have certain dietary requirements and cannot eat a large amount at lunchtime. Also, I don't have time to eat a lot. Teacher yr 4

Sometimes I don't get time for a lunch break. Teaching assistant yr4

Time - not enough to sit down for lunch with children each day. Teacher yr 4

I am a carer for my parents and I go to check on them over lunch. Teaching assistant yrs 3/4

I do not have time to eat a school meal. I eat my lunch (fruit) while working. Teacher yr 5/6

Due to allergies, I bring my own dinner. Teacher yr 4

Respondents Eating the Meals

The reasons that respondents gave for eating the school meals included the meals themselves (enjoyable, healthy and free),

I have always eaten school meals. I have found them satisfying, cheap and nutritious. I enjoy sharing lunchtime with pupils and they benefit from being with an adult. Teacher yr 6

They are nutritious, varied and tasty. They maintain my energy throughout the day. I do not need a cooked meal in the evening. Teacher yr 5

However, other reasons included wanting to teach children how to eat with a knife and fork and how to behave in the dining room. This is particularly interesting in light of the recent Ofsted report which stated that children in some primary schools were unable to use cutlery (Polly Curtis, Guardian, 3/10/07). Many felt that modelling appropriate eating behaviour was an important element of their role and spoke of the importance of showing children that they ate the meals and being seen to eat healthily.

To interact with pupils in a social context. And to have a warm jacket spud for lunch. Teacher yr 5

I think it is good to eat with the children as it shows them we all eat the same foods. Teacher yr5

I encourage the children to eat and teach them how to use cutlery. Teacher yr 3/4

Because I feel it is important to show the children that the food tastes great and also how to eat it properly. Teacher yr 3/4

I like to socialise with children at mealtimes, encouraging them to eat well and with good table manners. Teacher yr 4

It is clear that the experience of dining with pupils is one of the factors determining respondents' lunchtime choice. While some teachers and teaching assistants preferred time away from children and the peace and quiet of the staffroom, others valued the social experience of dining with the children. This was consistent with previous years' responses. However,

qualitative data does show a marked decrease in the proportion of teaching staff wishing to 'escape' from children over the lunchtime period. It appears that teaching staff tend not eat with children because of time constraints and work commitments. Very few stated that they did not wish to eat with the children. Those that did valued the chance to socialise out of the classroom context and felt it provided an opportunity to reinforce healthy eating practices and to teach social skills and table manners. A minority of respondents (2) expressed some resentment at the free school meals being offered on the basis of eating with the children.

Knowledge of Children's Lunch Choice

The vast majority of respondents knew which children ate the school dinners. 91% stated that they knew which children stayed for school dinners and this figure was 90% in both 2005 and 2006, 7% (2006 - 7%, 2005 - 8%) did not know which children ate the free school dinners and 2% (2006 - 3%, 2005 - 1%) did not know whether they knew who ate the free school dinners. Significantly, respondents commented that they also knew exactly which items were eaten and in what proportion, by particular members of their class. This was due to eating lunch in the dining room with their class.

Response to Scheme

Support for the Free Healthy School Meal Programme peaked in 2006 with 89% agreeing that the scheme was a good idea overall. This figure increased from 85% in 2005 and decreased to 80% in 2007. Nevertheless, this figure still demonstrates a high level of support for the scheme among teaching staff across the city. In 2007, the proportion of respondents who either did not think the scheme was a good idea or did not know, increased from 9% to 16% in the former case and 2% to 4% in the second case. In previous surveys support for the scheme was shown to be highest among those teaching staff that ate the school meals themselves. In 2007 support for the scheme remained higher among among school dinner eaters (87%) than non dinner eaters (80%). However, the proportion of school dinner eaters supporting the scheme in 2005 and 2006 was around 94%.

There was no significant difference between the proportion of teachers and teaching assistants that supported the scheme.

Is the scheme a good idea?

In light of the impending decision over the re-introduction of school meals charges, opinions over the scheme were much less ambivalent than previous years. Support for the scheme far outweighed opposition and it is worth noting that respondents' support for the scheme did not always correlate with their reporting of the benefits of the scheme. One of the reasons for this was that respondents opposing the scheme did so on financial grounds and on the basis that the meals undermined parental responsibility. Consequently, they were able to state that they had seen health and educational benefits of the scheme, but wished to see more targeted provision. Similarly, a minority of supporters of the scheme expressed children's right to receive a decent meal and therefore were still able to state that they had seen no differences in children's behaviour or readiness to learn.

Opposition to the Scheme

Comments from respondents who did not feel that the scheme was a good idea were exclusively concerned with the free element of the scheme and fell into two themes. The first was the cost of the scheme. This included comments around the better direction of resources into education more generally and one particularly fervent respondent's comments about the Council's closure of Newland Avenue school. The feeling was that monies could have been better spent elsewhere, particularly in education. The second included comments about parental responsibility. This included comments around the lack of parental responsibility and the perceived penalisation of taxpayers in having to pay for children whose parents were able to cover the cost of school meals themselves. Here there was confusion between central and local government policy with some respondents expressing views reflecting a belief that extended schools for example, was a local council policy.

To enable money to be spent elsewhere. Teacher yr 5/6

Parents are given allowances for their children - they should pay for lunches. Why should I pay for other people's children from my tax? Teaching assistant, all years

I believe parents should have ultimate responsibility for feeding their children. This is a basic requirement of being a parent. The government are taking this fundamental responsibility away from parents, which is wrong - the tax payer should not have to pay for other people's children to eat! Yet another addition to the disintegration of the family unit. Teacher yr 6

Waste of money - if have kids - should feed them!! We are breeding a generation of parents who have no responsibility/knowledge of food. Free fruit, free dinners, free after school stuff, free breakfasts - it must end!! Teacher yr 6

Support for the Scheme

In general, those respondents who felt that the scheme had been a good idea expressed a wider variety of reasons for holding this opinion. Reasons related to health benefits, educational benefits and the welfare of children. Respondents felt that the scheme had encouraged children to stay for hot dinners rather than consume packed lunches containing crisps and chocolate. Some respondents felt that the scheme had enabled more children to increase their consumption of fruit and vegetables.

More children stay school lunch which ensures they get a balanced meal, unlike some of their packed lunches which are often full of sugar and carbohydrates. Teacher yrs 5/6

It encourages children to eat a school meal which is balanced and nutritious. Many of our children would otherwise bring a packed lunch containing poor quality, unbalanced food. Teacher yr 6

Children are more alert and ready to learn. Teacher yr 6

Children seem to be more alert and responsive against when children's parents had to pay for a meal. Teaching assistant yrs 3/4

Children are provided with a balanced meal. Many of these pupils belong to out of school clubs e.g. gymnastics, music, swimming and teatime is rushed. Therefore eating a main meal at lunch time is vital for them. Teacher yr 6

In previous years, respondents have tended to focus on the health benefits of the scheme and have noted that the free school meal at lunchtime is the only hot, nutritious meal that many children have throughout the day. Respondents this year also reiterated concerns that many children were not eating healthily at home and some were not eating at all. Often these comments accompanied other concerns around disadvantage, low income and deprivation. However, while the 2007 data set still included this type of comment, analysis revealed that teachers from more affluent schools were also concerned about children from poor families and the poor quality of packed lunches. For the first year, respondents have used this area of the survey to comment independently about the effect the scheme has had on children’s readiness to learn. This may indicate that respondents are just beginning to see the effects of the scheme upon education.

School Meals Charges

In the 2007 survey, teaching staff were asked to indicate whether they would support the reintroduction of charges for school meals. 47% were opposed to implementing charges for school meals and 24% did not know. 28% of teaching staff therefore felt that it was appropriate to charge for the meals. One of the factors that influenced this opinion was consumption of school meals, with non meal eaters being more likely to support the re-introduction of charges than those who ate the school meals. The table below shows respondents’ support for the reintroduction of charges according to their meal consumption.

Table 3

Do you support charges for school meals?	Do you eat the meals?	
	Yes	No
Yes	24	31
No	47	47
Don't know	28	22

These data show that eating the meals appears to make respondents more likely to demonstrate ambivalence to charges. The same proportion of dinner eaters and non dinner eaters were opposed to the reintroduction of charges.

Teaching assistants were more likely to support the introduction of charges than teachers, with 32% of teaching assistants stating charges should be reapplied and 27% of teachers.

Opposition to charges

Respondents were concerned that the reintroduction of charges would mean a drop in school meal take up. This would mean an increase in cheaper and less healthy packed lunches. Some mentioned the difficulty for parents in choosing between the cheaper price of a packed lunch and the healthiness of a school lunch. Respondents noted frequently that the cost of a school lunch would be prohibitive for families with more than one child. A small number of respondents mentioned the administrative “nightmare” associated with collecting money for school lunches.

The reintroduction of stigma attached to free school meals was also mentioned by a number of respondents and this is discussed later in this report.

There appeared to be an acknowledgement by some respondents that some children lived in families with chaotic lifestyles, whose parents were not good at filling in forms or where children had to look after themselves. Concerns were expressed that these children would miss out if charges were reintroduced.

Pupils have the right to decent food as children are our future. Malnutrition leads to problems later in life - medical problems which are very costly. Teacher yr 4

How can you? If you make it a child’s right, and they benefit from it, they maintain that right from then on, whether this is financially viable or not. Teacher yr 6

Because if we are to take education seriously, we need to ensure that we are giving our children every possibility to learn. Teacher yr 3/4

Because I think that some children will be undernourished, even malnourished. Quite a few children are responsible for themselves. Teacher yr 4

Support for charges

Support for the reintroduction of charges was expressed in terms of parental responsibility and the perception of the Council's spending priorities. Many respondents supported the reintroduction of charges, providing that the money raised was spent in schools, for example on curriculum materials, resources and additional staff.

Many respondents felt that children who needed a free school meal already received one under the old system.

As a community charge payer with no children, why should I pay! Council would be better to put money into schools instead of closing them down.

Teacher yr 6

Children who were entitled to a free school meal received one anyway. Although, I would like to know where the money goes if the scheme is stopped.

Teaching assistant, yr 5

There are too many children whose parents can afford meals having them free.

Teacher yr 3/4

Support for the scheme and response to the reintroduction of charges

Respondents were asked whether they thought the scheme was a good idea and also whether they would support the reintroduction of charges. While it would appear self evident that there is a relationship between opposition to the scheme and the support for the reintroduction of charges, this relationship is not entirely straightforward. Those respondents who opposed charging for school meals all thought that the scheme had been a good idea. Those respondents who did not think the scheme was a good idea nearly all supported charging for the meals (97%).

However, some respondents (15%) who stated that the scheme was a good idea also thought that charges should be reintroduced. These responses were analysed in detail to determine the reasons for this apparent contradiction. It appeared that there were three themes within respondents' qualitative statements; first, that they supported the healthy but not the free element of the scheme; second, that they were happy to support the reintroduction of

charges under given circumstances, namely that charges would not be prohibitive, or that free school meal entitlement could be extended to reach more children and finally, that the Council was in financial difficulty and that revenue had to be raised from somewhere. There were one or two respondents who had misunderstood the question, as their qualitative statements made it clear that they did not support the reintroduction of charges.

Only if other services will suffer if this does not happen. Teacher yr 5/6

Problems with the LA's budget. Teacher yr 6

Because they are not that expensive and if it continues to improve because the council are receiving money.....Teacher yr 4

Views of the Council

The 2007 survey asked teaching staff to comment upon how the scheme had affected their views of the City Council. The questions were formulated with respect to literature on social capital and aimed to assess whether the scheme had any influence over teachers' levels of civic engagement and trust.

Data shows that the introduction of the scheme has increased teachers' trust in the Council to make the right choices for children's health and to make children a priority. 50% of respondents felt that they now had more trust in the council in terms of putting children first and 56% had more trust in the Council to make the right decisions for children's health. Only 5% stated they had less trust in the Council with respect to making children a priority and 4% with respect to children's health. Overall the scheme appears to have increased trust in the Council over a number of areas, the notable exception being budget management. While 11% stated that they trusted the Council to manage finances more than before, 26% stated that they trusted the Council to manage finances less than before. 63% stated that the scheme had not

affected their level of trust in the Council's ability to manage finances. The table below summarises results.

Table 4

Since the introduction of the free healthy school meals scheme I trust the council to ...

	More than before %	Less than before %	About the same %
Make the right choices for children's health	56	4	40
Make the right choices for children's education	26	8	65
Put the interests of Hull people first	24	12	63
Listen to the views of Hull people	25	13	61
Solve problems in innovative ways	19	10	70
Manage finances	11	26	63
Make children a priority	50	5	45

Respondents who ate the school meals themselves were no more or less likely to have changed their perception of the Council than those who did not eat the meals, the notable exception being in relation to making children a priority. Of those respondents that ate the meals, 55% stated that since the introduction of the scheme they have more trust in the Council to make children a priority. This figure was 46% among those that did not eat the school dinners.

Impact of the Scheme

For the first time, the 2007 survey asked teaching staff to comment on some of the social aspects of school dining, including the dining environment, pupil behaviour at lunchtime and the extent to which children and adults, (teachers, school staff and parents) are able to mix during lunchtime.

A very high proportion of respondents reported that children had learnt more about healthier eating and about the social aspects of eating since the introduction of the scheme. 86% agreed or strongly agreed that children know more about healthier eating and 67% agreed or strongly agreed that children know more about the social aspects of eating. With the increased volume of

children staying for school lunch in the dining room, concerns were expressed early on in the scheme that this shouldn't lead to an increase in bullying or behaviour problems over the lunch period. Only 3% of teachers felt that there was more bullying as a result of the scheme, with 72% stating that there was no increase in bullying. 25% did not know. In fact, 27% of teaching staff felt that there were less behavioural problems at lunchtime as a result of the scheme, 42% did not feel that there were less behaviour problems and 30% did not know.

Teaching staff also indicated that the scheme had provided greater opportunities for interaction between pupils and staff, with 53% stating that children and teachers mix more now and 42% stating that the dining room is now a more pleasant place to be. However, the scheme does not appear to have encouraged a greater degree of parental involvement, as only 7% of teachers felt that the scheme had resulted in more parents being around at lunchtime. Only 8% of teachers felt that lunchtime had become more stressful as a result of the scheme.

Stigma

The 2007 data set included spontaneous comments around the stigmatisation of school meals. It is likely that the prospect of the removal of the free element of the scheme motivated some respondents to consider this aspect. For example, when asked if they thought the scheme was a good idea and why, several respondents mentioned the removal of stigma for those children who were previously eligible for free school meals.

Children receive a balanced diet and disadvantaged parents do not have to think about what to pack up. Other children enjoy the meals and there is no stigma of who is free at registration. Teacher yr 5/6

Children who were on free meals are less stigmatised. Teaching assistant yr 3/4

Furthermore, some respondents felt that the reintroduction of charges would reintroduce the stigma of claiming free meals. When asked whether they

would support the charges and why, some respondents pointed to the negative effects of charges on less affluent children

So that there is no discrimination between children ‘I’ve got more than you ‘cos I’m paying’. Teaching assistant yr 3/4

The take up rate would drop considerably and reintroduce the ‘stigma’ attached to ordering a ‘free’ meal based on means tested methods. Teacher yr 4

Later on in the survey, respondents were asked to agree or disagree with a series of statements about the impact of the scheme. One of these statements specifically referred to children who were previously entitled to a free school meal. 71% of teaching staff felt that these children were less stigmatised as a result of the scheme.

Children’s behaviour

Respondents were asked whether they had noticed any differences in specific aspects of children’s behaviour since the introduction of the scheme. In previous years the majority of respondents stated that they had noticed no differences in children’s behaviour. However, in 2007 the majority of respondents had noticed a difference in children’s behaviour. Respondents were able to indicate more than one area in which they had noticed a difference and therefore percentages do not add up to 100. The most common response was that children were seen to have more energy 42%. This figure rose from 16% in 2005 and 22% in 2006. A significantly higher proportion of respondents had noticed that children were less tired

Table 5

	2007 %	2006 %	2005 %
I have noticed no differences	42	56	55
Children have more energy	42	22	16
Children are less tired	31	18	20

Children have longer attention span	25	12	18
There are fewer absences	9	11	6
Children are more relaxed	18	11	5
Children are more punctual in the morning	12	10	10
Children are better behaved	17	6	10
Pupil performance has improved	13	5	7
Quality of work has improved	13	4	6
Children have better memory	12	3	6

These figures show a dramatic increase in teaching staff noticing differences in all areas of children's behaviour and academic performance, particularly in relation to children's energy levels and tiredness. There was a slight decrease in the proportion of teachers reporting fewer absences. However, it must be noted that effect of the scheme is likely to be cumulative, therefore in order for a decrease in absences to be recognised by respondents, the rate of absence needs to decrease year on year. This is also the case with punctuality.

Teachers who eat the meals

Previous years' data showed that teachers who ate the meals themselves were slightly more likely to notice differences in children's behaviour and performance. This is also the case in the 2007 dataset. However, in 2007 there were significantly fewer respondents who ate the meals that reported seeing no differences and significantly more respondents who ate the meals that reported children having more energy. This is true when compared with the sample as a whole.

Table 6

	2007%	2006 %	2005%
I have noticed no differences	36	46	39
Children have more energy	57	28	24

Children are less tired	35	26	27
Children have longer attention span	26	12	27
Children are better behaved	22	12	12
Children are more relaxed	21	15	2
Quality of work has improved	18	4	10
Pupil performance has improved	15	4	7
There are fewer absences	14	15	5
Children are more punctual in the morning	13	10	17
Children have better memory	10	6	10

Comparisons between FHSM children and others

The majority of teachers felt that there was no difference in the behaviour of children eating the free school meals and those who do not. Only 14% felt they had seen a difference and 67% felt there was no difference. 18% did not know. However, while this figure remains relatively low, there has been an increase in the proportion of teaching staff who have seen a difference in behaviour. In 2005, 73% stated there was no observable difference in FHSM children's behaviour and in 2006 this figure was 77%. It must be noted that many respondents who stated that they had observed no differences between those children who stayed for school dinners and those who had pack up or went home for lunch indicated that this was because most of the children in their class now stayed for school dinners. Consequently, it was difficult to make a comparison.

Those that noticed a difference mentioned energy levels, settling down and attentiveness during the afternoon session. Most of these comments

suggested that packed lunch children were less attentive than school lunch children. However, one comment indicated that children who go home for lunch appeared more settled in the afternoon than those who stayed at school. No distinction was made between those that stayed school dinners and those that stayed packed lunch in this instance.

In the afternoon, pack up pupils often have shorter attention spans. Teacher yr 5

I can see differences with a few children whose packed lunches need to be monitored....hyper. Teacher yr 4

Chocolate, crisps, sugary drinks can show a decline in behaviour. Most children who stay for the healthy option seem more content and ready to work. Teaching assistant yr 3/4/5

Children seem to be better behaved and are more settled after lunchtime. Teaching assistant yr 4/5

Children who stay dinners are less hyperactive than those who eat packed lunches. Teacher yr 4

Generally, children who eat a packed lunch are more likely to be inattentive and silly in the afternoon. Teacher yr6

Some don't appear to be hungry during afternoon lessons and pay more attention to lessons. Teaching assistant yr 6

2 boys who are pack up are badly behaved most days. 1 boy who is dinners is only badly behaved occasionally. Teacher yr 5

Comparison between breakfast club children and others

Respondents were asked to indicate whether they had notice a difference between those children who attended breakfast club and those who did not in relation to their behaviour and levels of concentration. On this question, respondents were given the opportunity to indicate if the question was not applicable, for example if the school did not have a breakfast club, or if the children in the respondent's class did not attend. These figures were removed from the analysis so that only applicable responses were included. The following tables indicate responses.

Table 7

Is there a difference in the behaviour of those children attending breakfast clubs

		Frequency	Valid Percent
Valid	Yes	75	39
	No	75	39
	Don't Know	42	22
	Total	192	100.0

The table above demonstrates that a high level of respondents felt that they had observed a difference in the behaviour of children who attended breakfast clubs. However, the same proportion did not notice a difference. Nevertheless, this represents a significant increase on the 2005 and 2006 data where 27% of applicable respondents stated that they had seen a difference in behaviour among those children attending breakfast clubs.

Table 8

Is there a difference in the concentration of those children attending breakfast clubs

		Frequency	Valid Percent
Valid	Yes	55	29
	No	80	42
	Don't Know	56	29
	Total	191	100.0

The table above shows that fewer respondents noticed a difference in levels of concentration between breakfast club attendees and non attendees. There is also a less marked increase between the 2007 data and that of previous years. In 2005 and 2006 the proportion of respondents noticing a difference in levels of concentration was 24%.

These data indicate that differences are detected in relation to overall behaviour and fewer respondents detect differences specifically in relation to concentration. It must be noted that although there was no assumption that these differences would be positive, all comments except for two concerned improvements to levels of concentration and behaviour. As with previous

years, these differences were felt mainly to relate to punctuality, alertness and being quicker to settle. Below are a range of indicative comments.

Children who would normally be wilting at 11.15 can carry on working and being co-operative until lunchtime. Teacher yr 4

They come to school on time! One girl's reading has particularly improved. Teacher yr 5

These children appear to be able to concentrate better during the first morning sessions. Teacher yr 5/6

They are less tired and arrive into class in a happy settled mood. Teacher yr 4

Those attending breakfast club tend to come in more ready to work and settle down. Teacher yr 5

They settle more quickly and don't complain of being hungry. Teacher yr 4

Fewer children complaining about being hungry. Less likely to be lethargic during the morning. One pupil in particular who does not attend breakfast club frequently complains about being hungry. Teacher yr 5

Readiness to Learn

The concept of readiness to learn encompasses the following areas;

Concentration

Co-operation

Communication

Achievement

Self esteem

Health

Respondents were asked a range of questions designed to identify perceptible changes in children's behaviour in relation to the above headings and to establish baselines to enable future changes in behaviour to be monitored.

Respondents were also asked to indicate what time of day they felt children in their class were most likely to be able to concentrate, communicate, co-

operate, etc. This allows us to build a picture of the school day, to suggest possible associations with free healthy school meals and to assess any changes over time. This question was a multiple response question, meaning that respondents were able to indicate, for example, that children are most alert in the periods before and after morning break. Furthermore, the questions were not limited to the 6 areas listed above, but incorporated some of the factors that contribute to children’s readiness to learn. Table 9 below illustrates respondents’ perceptions of children’s abilities throughout the day.

Table 9

	Arrival at school	Before morning break	After morning break	After lunch	Last period
Children in the class are most tired	20	7	7	8	69
Children are most eager to work	33	61	30	15	1
Children are most alert	30	57	31	14	-
Children are most calm/relaxed	32	46	21	16	7
Children are most energetic	19	24	35	43	9
Children are most irritable	7	6	13	32	53
Children are most able to concentrate	31	66	36	12	-
Children are most able to communicate	30	60	36	21	6
Children are most co-operative	36	64	38	23	8

Results show that teachers and teaching assistants continue to feel that children get more tired and irritable throughout the day, reaching a peak towards the end of the day. Energy levels appear to curve throughout the day, reaching their highest point immediately before and after lunch break. Children appear to take some time to settle down into the school day, as eagerness to work, alertness and calmness are highest during the period before morning break. The periods immediately prior to and following morning break appear to be the most productive since children are felt to be most able to concentrate, communicate and co-operate effectively during this time.

After Lunch

The table below provides a picture of children’s lunchtime behaviour over the course of the project. The table shows that there has been an increase in the

proportion of respondents who report that children are eager to work, alert, energetic, able to concentrate and communicate, and cooperate. There has been a decrease in the proportion of respondents who report that children are tired and the proportion of respondents reporting that children are calm and relaxed over lunchtime has remained roughly the same. Children's levels of irritability over the lunchtime period appear to have peaked during 2006 and fallen back to around the 2005 level in 2007.

Table 10

	2005	2006	2007
Children in the class are most tired	13	13	8
Children are most eager to work	7	8	15
Children are most alert	8	8	14
Children are most calm/relaxed	12	15	16
Children are most energetic	25	40	43
Children are most irritable	28	46	32
Children are most able to concentrate	5	8	12
Children are most able to communicate	13	14	21
Children are most co-operative	12	14	23

Concentration

14% (10% - 2006, 12% - 2005) of teachers agreed that FHSM children had better concentration than packed lunch children, 34% (29% - 2006, 28% - 2005) disagreed and 51% (62% - 2006, 60% - 2005) neither agreed nor disagreed.

17% (12% - 2006, 15% - 2005) agreed that FHSM children have better concentration than those who go home for lunch, 30% (31% - 2006, 25% - 2005) disagreed and 52% (57% - 2006, 60% - 2005)) neither agreed not disagreed.

53% (57% - 2006, 50% - 2005) thought that lunch choice did not affect concentration 23% (30% - 2006, 32% - 2005) neither agreed nor disagreed and 25% (13% - 2006, 18% - 2005) thought that it did.

Co-operation

9% (6% - 2006, 7% - 2005) of teachers agreed that FHSM children were better able to co-operate than children eating packed lunches. 53% (62% - 2006, 60% - 2005) neither agreed nor disagreed and 38% (32% - 2006, 33% - 2005) disagreed.

11% (9% - 2006, 11% - 2005) agreed that FHSM children were better able to co-operate than children going home for lunch. 52% (58% - 2006, 56% - 2005) neither agreed nor disagreed and 38% (34% - 2006, 34% - 2005) disagreed.

56% (57% - 2006, 59% - 2005) of teachers considered that lunch choice did not affect levels of co-operation. 13% (8% - 2006, 12% - 2005) agreed that it did and 31% (35% - 2006, 30% - 2005) neither agreed nor disagreed.

Communication

6% (7% - 2006, 4% - 2005) of teachers agreed that FHSM children had better communication than packed lunch children, 42% (33% - 2006, 38% - 2005) disagreed and 60% (59%) neither agreed nor disagreed.

9% (6% - 2006, 7% - 2005) agreed that FHSM children have better communication than those who go home for lunch, 40% (34% - 2006, 35% - 2005) disagreed and 52% (60% - 2006, 59% - 2005) neither agreed nor disagreed.

56% (56% - 2006, 63% - 2005) thought that lunch choice did not affect communication 31% (35% - 2006, 29% - 2005) neither agreed nor disagreed and 13% (9% - 2006, 8% - 2005) thought that it did.

Achievement

7% (6% - 2006, 6% - 2005) of teachers agreed that FHSM children had better levels of achievement than packed lunch children, 44% (39% - 2006, 43% - 2005) disagreed and 49% (56% - 2006, 51% - 2005) neither agreed nor disagreed.

7% (3% - 2006, 5% - 2005) agreed that FHSM children have better levels of achievement than those who go home for lunch, 42% (41% - 2006, 40% - 2005) disagreed and 49% (56% - 2006, 55% - 2005) neither agreed nor disagreed.

57% (59% - 2006, 61% - 2005) thought that lunch choice did not affect levels of achievement 29% (31% - 2006, 32% - 2005) neither agreed nor disagreed and 14% (9% - 2006, 7% - 2005) thought that it did.

Self Esteem

7% (4% - 2006, 5% - 2005) of teachers agreed that FHSM children had greater self esteem than packed lunch children, 41% (38% - 2006, 40% - 2005) disagreed and 52% (58% - 2006, 55% - 2005) neither agreed nor disagreed.

8% (5% - 2006, 6% - 2005) agreed that FHSM children have greater self esteem than those who go home for lunch, 42% (38% - 2006, 37% - 2005) disagreed and 50% (57% - 2006, 57% - 2005) neither agreed nor disagreed.

57% (62% - 2006, 62% - 2005) thought that lunch choice did not affect self esteem 30% (32% - 2006, 32% - 2005) neither agreed nor disagreed and 13% (7% - 2006, 6% - 2005) thought that it did.

Readiness to Learn - Trend Data

The following results demonstrate trends in children's readiness to learn. The bases for the charts are not shown, as the bases have varied from year to year and the data is not intended to be comparative across questions. Data shows very small fluctuations in the responses to particular statements.

Attendance

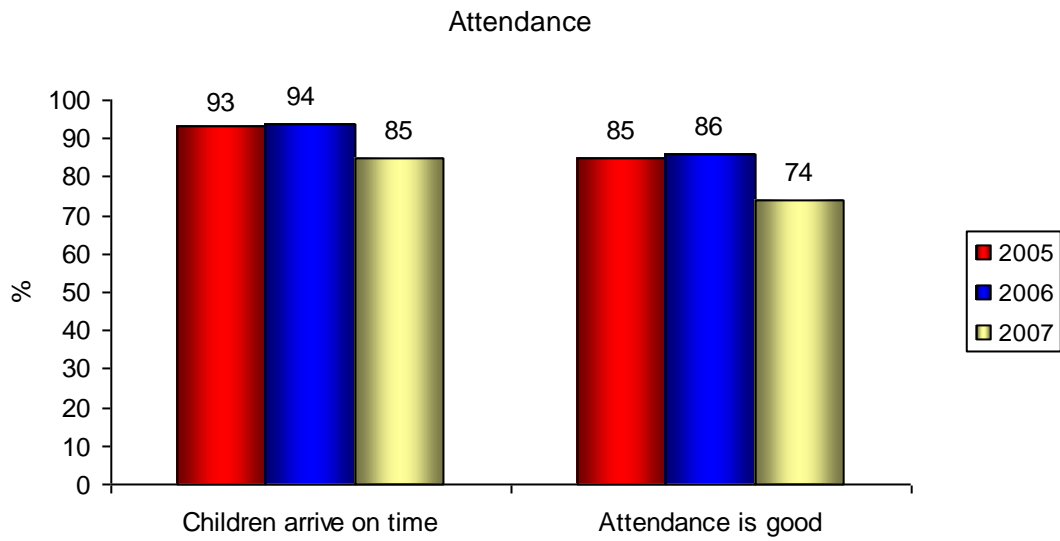


Figure 2

Concentration

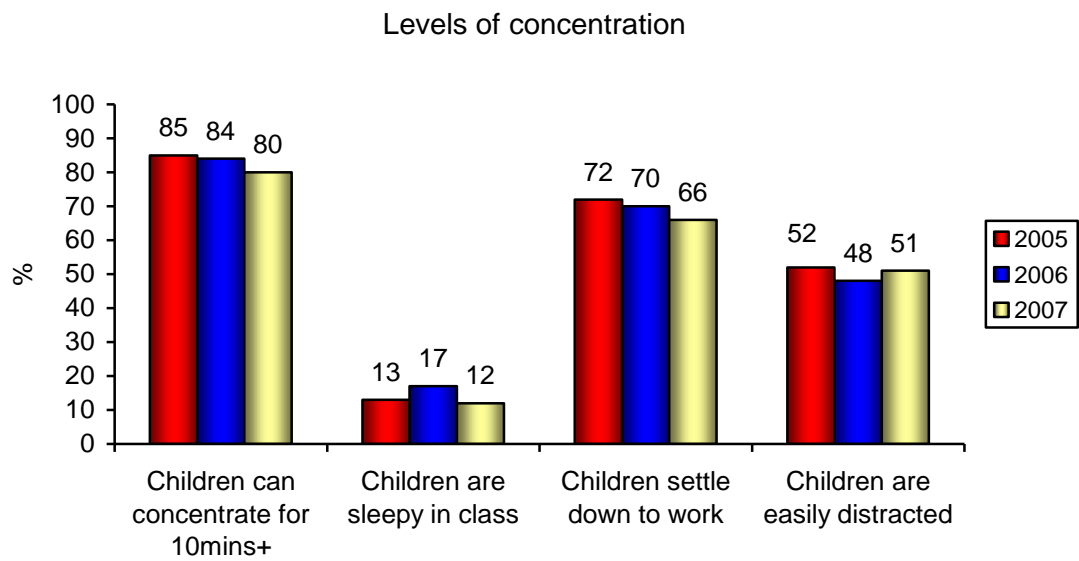


Figure 3

Co-operation

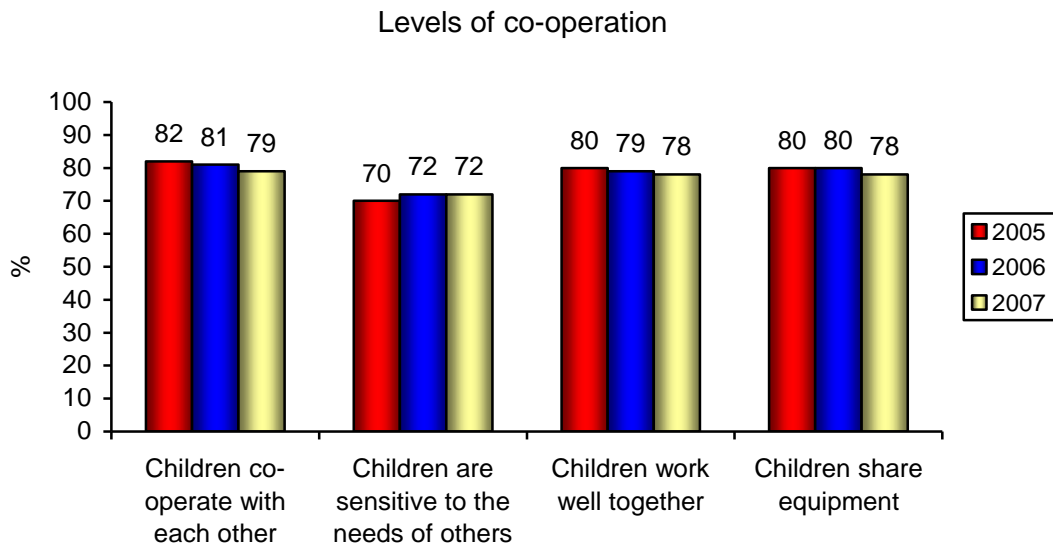


Figure 4

Communication

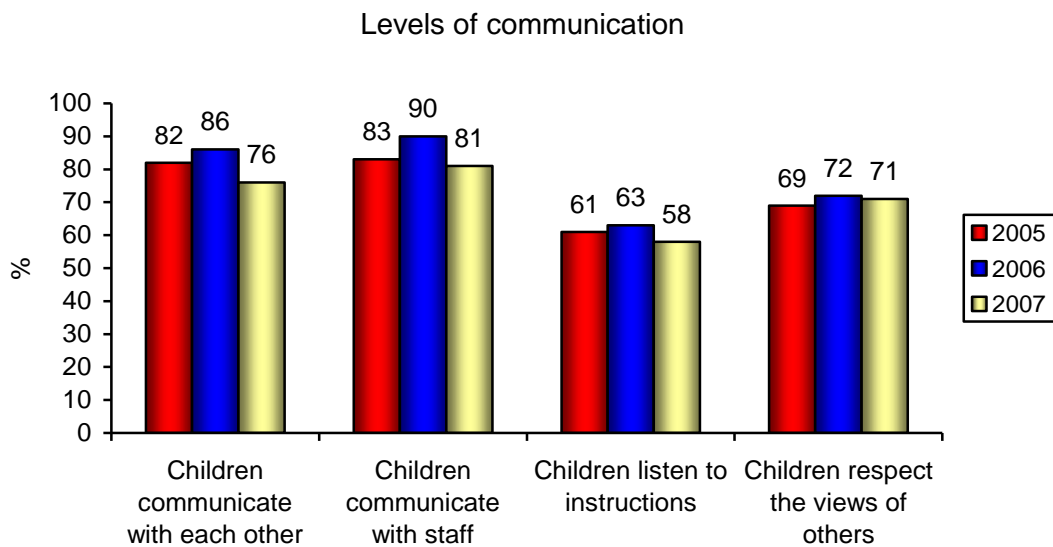


Figure 5

Achievement

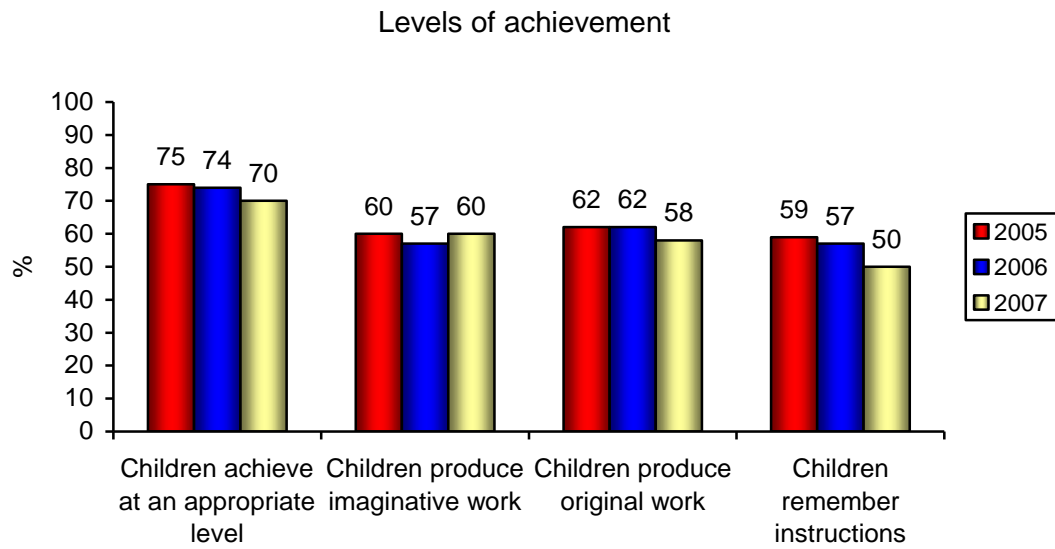


Figure 6

Self Esteem

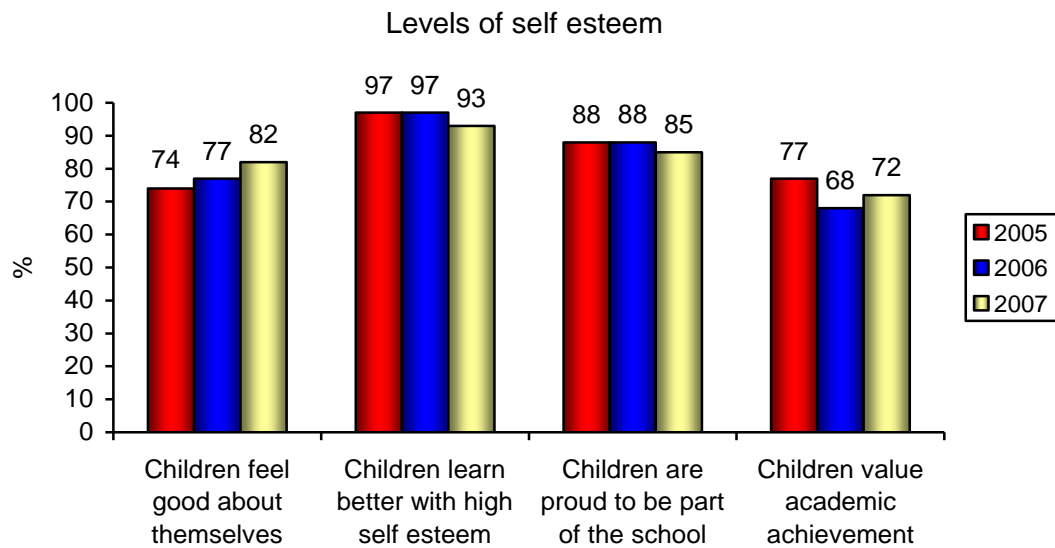


Figure 7

Section 4

Examples of good practice

Throughout the three years of the evaluation we came across many examples of good practice. We would like to share some of these in this report.

Longhill

Longhill Primary School caters for children between the ages of 4 -11 years. There is a nursery attached to the school which looks after children under the age of 4 years. There are currently 224 children at the school

Longhill school commenced with free and healthy school meals provision in April 2004. Prior to the start of the scheme free school meals entitlement stood at 31.7%. This is significantly higher than the national average of 21% but in line with the Local Authority average of 32%.

The school lacks its own kitchen and school meals are brought in from a neighbouring school (Spring Cottage). The take up of the free healthy school meals in this school has been very slightly below the average for the local authority. Take up figures for the school are shown below in Table 1.

Table 11

	Longhill	LEA average
Year 1	50%	52%
Year 2	62.3%	63.2%
Year 3	61.5%	64%

Longhill school has shown particularly innovative practice in 2 regards: First the display of the menu and children's involvement and second, the golden spoon award.

Menu display and children's involvement

Longhill dining room occupies a very small physical space and although it is not a dual purpose hall, i.e. used for assembly, PE and drama, the size of the space means it is a challenge for dinner ladies (lunchtime supervisors) to ensure all children are fed in the time allowed. The counter where meals are served is very high and because food remains in the yellow delivery containers it is impossible for many children to see what is being served at lunchtimes. The cooks generally lift up spoonfuls of food to show children what is on offer. Nevertheless, this situation meant that children were making the decision about what to choose for lunch when they arrived at the counter. This resulted in a very slow queue through the dining room and increased congestion in the space. In order to overcome this problem the school developed a menu display board. This was done during ICT lessons with a year 6 group. The children were asked to design the menu display using written words and pictures. The menus were then laminated and displayed on a flipboard outside the dining room where children pick up their dinner plates. Consequently, children were able to think about what they wanted for lunch while waiting in the queue and this resulted in less time spent queuing and less congestion in the dining room. Pictures of menu items were also displayed above the counter and changed on a daily basis by breakfast club attendees. This further informed children about their lunch options providing an image of the food to ensure that access to menu information was not dependent on reading ability. Children felt that there was a sense of ownership in the dining room. They had renamed their dining room 'Longhill Cool Café' and a sign was displayed on the door. Children in year 5 commented that this helped to deliver an important message that the dining room was 'their' space.

Golden Spoon

The golden spoon award was created by the headteacher to encourage positive behaviour in the dining room. As previously stated, lunch is served in a very small space in this school and this means that children can get frustrated with each other very quickly. In order to promote good behaviour and to encourage children to try new foods and show courtesy to their fellow

diners, the golden spoon award was developed. Each week one of the pupils is nominated by the dinner ladies to receive the golden spoon. Winners of the spoon are entitled to choose a number of friends and a teacher to dine with them on the golden table on the following Tuesday. The Golden table is set with a table cloth and flowers. Diners at the golden table are allowed to enter the dining room first and the golden spoon is presented by the headteacher at a special assembly on a Friday morning in front of the whole school. Everyone claps and cheers the recipient. This has proved extremely popular with the children and has had a tangible effect in promoting positive behaviour in the dining room.

Maybury

Maybury school has approximately 250 children on roll and is regarded as being in a challenging catchment area with significant levels of deprivation. The proportion of children receiving free school meals was 57.7% at the start of the scheme, the second highest in the LEA and far exceeding both the national average 21% and the LA average 32%. Take up of the meals was among the highest in the local authority and far exceeded the proportion of eligible students. See Table 2 below.

Table 12

	Maybury	LEA average
Year 1	73.9%	52%
Year 2	100%	63.2%
Year 3	85.9%	64%

Maybury commenced free healthy school meals provision in January 2005 and take up immediately rose from 68% in December to 80% in January. The school improved upon and maintained excellent take up rates throughout the course of the 'Eat Well Do Well' project.

Maybury school also had a delivery kitchen for the duration of the project and the dining room was large, cold and noisy. The dining room was not a dual purpose space and was solely used for the purposes of having lunch. Nevertheless, the immediate impression on entering the dining room was that it was cold and unwelcoming. Maybury school implemented particularly innovative practice in respect of their organisation of the dining room at lunchtime.

Seamless provision

In the early stages of the project evaluation observations revealed that there were considerable problems with discipline in this school dining room. This was already acknowledged by the head teacher and by lunchtime staff including dinner ladies and cooks. The school embarked on a process of lunchtime reorganisation, whereby teachers were encouraged to eat with the children in the dining room to maintain discipline and to socialise with children around the table. In order to achieve this the lunchtime period was included as part of school day so that teachers did not have to give up their own time to sit and eat with the children. Teachers still had an equivalent lunch break, but this was staggered so that their break might come before or after the children's lunchtime. This ensured that over the lunch period in the dining room, teachers were available to supervise children. This supervision started in the classroom where children were encouraged to wash their hands and to line up in the class. The whole class then walked down to the dining room together. The class lined up outside the dining room and the lunchtime supervisors would allocate six children to each table. Once seated, children remained at the table until they were told to approach the counter. Bread and water were provided on the table so that children could help themselves when they wished. Tables were also laid with plates and cutlery and this helped to add to a restaurant style atmosphere.

Children were called up to the counter table by table. This reduced the amount of time that they spent standing in a queue and thus children were less likely to become bored and frustrated and engage in inappropriate behaviour. Children received their main course and their dessert at the same

time and sat back in their allocated seats. Many children sat with their class teacher on their table and this meant that there were fewer arguments between children. Additionally, lunchtime supervisors were also at liberty to monitor the queue, organise children going up to the counter, cut up food and keep the area clean and tidy, dealing with any spillages as they occurred. Teachers regarded it as their role to encourage children to try different foods and to inculcate appropriate table manners. In the school this was known as Social Etiquette Training. Once all children had finished their meal, they were allowed to leave the table at the teacher's discretion. However, some children that were particularly fast eaters were allowed to leave earlier to avoid stigmatising the slower eaters. Over the course of the 'Eat Well Do Well' Scheme the dining room was transformed into a pleasant dining environment. Crucial to this was the incorporation of the lunchtime into the school day so that lunchtime practices began in the classroom and carried through into the dining room.

Bricknell

Children in this school were called up for lunch on a rotating basis so that each year group had a chance to have lunch first. Children were called for lunch a class at a time so that children were able to play for as long as possible and were not left waiting and queuing for too long. In the summer time children are able to eat outside on picnic benches. This is hugely popular with the children.

Fifth Avenue

Two dining rooms were available in this school so that the noise levels were reduced as each room was not filled to capacity. This also meant that children were not rushed to eat their lunch quickly as there was room for everyone.

Newland St Johns

This school encouraged children to try new foods, often tasters would be available for children to try something new. Children having a packed lunch as well as those staying for school dinners were able to sample the foods to

see if they liked them. Bagged lunches were trialled in this school so that children involved in a lunch club could choose a nutritionally balanced bagged lunch instead of a hot dinner. The school council often discussed the food options available and, following a suggestion by the council, the school made available vegetable soup as a starter in winter. This school purchased colourful dishes on which to serve the food instead of using large institutional trays.

Francis Askew

Francis askew used a buddy system at lunch time where older children helped the younger children collect their meals and assisted with carrying their dinner to the table. The different age groups ate their meal together which often resulted in positive peer modelling.

Pupils at this school worked on a rotating basis to act as dining room monitors, helping others scrape and stack their trays neatly at the end of lunch.

Francis Askew's breakfast club encouraged children to get involved in activity exercises. Balls were provided for games, music played as children practiced dance routines and the breakfast supervisor organised games of musical chairs each day. This school invited each child, one class at a time, to invite a parent, carer or relative to join them for lunch, this was a successful way to allow the family members to see how good the school meals provision actually was.

Clifton

The staff at this school are all encouraged to stay for school dinners, leading to positive peer modelling. As this is a small school the cook was able to have a good understanding of children's likes and dislikes and used this to her advantage when preparing the food on the menu. This school changed its meal service so that children were first served their main meal, which they would sit down and eat and then go back up for their pudding. This process was put in place to encourage children to eat more of their main meal before

filling up on their pudding. This school also purchased crockery and stopped serving meals on flight trays.

Section 5

Since the reintroduction of charges for school dinners by the Liberal Democrat administration

Since the reintroduction of charges by the Liberal Democrat administration in September 2007, we have been advised by the Council that uptake fell back to worse than previous levels but is on the rise again. Unfortunately, obtaining accurate data on school meal uptake from the Council has proven to be very difficult since the system to collect these data was untried and untested. As a result we cannot record the current level of uptake of school meals.

Interviews with Headteachers

Several headteachers were interviewed about the impact of the re-introduction of charges on their school communities. All the headteachers were concerned about the re-introduction for a variety of reasons. It is worth noting that these interviews took place only a few months after the re-introduction of charges and some suggested that the true impact might not be seen for over a term. The gradual rise in uptake after the re-introduction could be a natural trend in that more children stay for hot dinners during the colder months. In other words the rise in uptake is 'typical' for this time of the year.

The first point made by the headteachers is that there will be a return of 'chaos' and 'mess' to many dining rooms. More children will be staying for packed lunch – they will be segregated one way or another from those children staying for school dinners, leading to cramped eating or dining conditions for the children. In addition, packed lunches usually mean more mess in the dining room – especially litter on the floor under the tables. Interestingly, some dinner ladies do not see it as their role to 'service' children staying for packed lunch. In one school, dinner ladies refuse to tidy up after packed lunch children or even prepare tables for them.

Significantly, the headteachers tell us that there will be a considerable cost to collect dinner money again. One headteacher told the evaluation team that he thinks it will cost his school approximately £100.00 per week. This is funding

from the school budget. Several headteachers complained that they weren't given any financial support by the Council to manage the re-introduction of charges.

The extra dinner money had to be collected and the process of doing so, according to several headteachers meant that time was taken away from teaching and learning – another unintended consequence which headteachers thought hadn't really been thought through by the Council.

According to the headteachers interviewed, their schools are now facing an increased debt as a result of the re-introduction of charges. Not only as a result of the costs incurred with directly collecting dinner money but also because a large proportion of parents aren't paying when they should be. One school told the evaluation team they have to employ a staff member on Fridays specifically to contact and chase up parents who don't pay for their children's dinners when they should. This is leading to an increase in some schools' debt. Unfortunately the headteachers do not expect the Council to be sympathetic to their plight.

Headteachers are concerned that over time there will be an increase in the number of poor quality packed lunches. One headteacher called this "the return of the Jaffa Cake" in recognition that some packed lunches are simply a packet of biscuits.

Headteachers were also concerned that, with the increase in the number of packed lunches, there will also be a concomitant increase in peer pressure on children, stigma and worsening behaviour. Headteachers have already provided evidence to the evaluation team that behaviour, especially of boys, has worsened with the increased number of packed lunches.

Comments from Parents on the re-introduction of charges

Now that parents are paying for their children's school meals they are definitely becoming more discerning over the quality and available choice of food. If you like, they are becoming 'critical consumers' of children's meals at

lunchtime. It was quite clear from the focus groups that the parents wanted to have more say in the choice of food available to their children (actually in the whole menu). Some were critical over the amount of food their children were given..."I'm paying £1.10 for nothing! My kids are starving when they get home from school". Parents weren't able to determine for sure what their children had had to eat nor the amount when they stayed for school dinners. This was one reason why some parents preferred packed lunches...they felt they actually knew what their children had eaten because the wrappers came home in the packed lunch box. Parents of year 6 children wanted bigger portions for their children and certainly enough food provided by schools to last for all the children each lunchtime. Parents were convinced that schools ran out of food for the later sittings (the evaluation team have witnessed this too).

Parents are also demanding now more awareness by schools of the dietary needs of special needs children and vegetarians.

For some families meeting the cost of the school dinners is prohibitive. One parent commented how the grandparents were paying for the children's school dinners because she couldn't afford them. Others stated that other family activities such as swimming classes were being denied to their children. For families with more than one child the cost is prohibitive. The parents commented that in addition to the cost of the school dinner they also have to pay £25-£30 for childcare per day and some suggested that they can't afford the expensive uniforms currently demanded by schools.

Mothers in particular are noticing that they are spending less time with their children in the morning. Instead, they are preparing packed lunches in the kitchen. When their children do stay for hot dinners and the parents are unsure what they have eaten, the parents will often cook a hot tea. One issue related to this according to some parents is that their children are now going to bed later.

In the parent questionnaire administered and completed by about 500 parents after the re-introduction of charges the parents also commented:

Free school meals for all was proven in some schools to increase attendance, educational achievement and children's health. They are sorely missed. Poverty and social deprivation are widespread in Hull - it may not be a coincidence that educational achievement is also low. Hull really needs innovative boosts like this to make a difference to our children.

Very short sighted by the Council. All children should receive free healthy school meals. This would keep the majority of children in school over lunchtime. Less accidents, less litter, less hassle for local residents. Also, healthy meals provided over a prolonged period would mean healthier children, less illness, improved educational standards and exam results.

Support for EWDW from parents was very high when the scheme was first introduced - 92% supported the healthy element, 92% supported the free element and 99% supported the free fruit. Indeed, overall, 93% of parents thought the scheme was a good idea and only 5% thought the scheme was a waste of money.

After three years of the scheme 92% still supported the healthy part of the scheme, 82% supported the free element and 99% still supported the fruit.

Of those parents who paid for school meals:

50% paid less than £6.00 per week

30% £6.00 - 12.00 and

20% above £12.

Only 11% of 'pack up parents' spent more than £12 per week which suggests that for those parents with larger families, pack ups are more economical.

We asked the parents about the lunch choice for their children during the time the dinners were free and then for after charges were re-introduced. We compared the choices of the first two children in any one family with the choices for low income families in particular (low income being defined as household income between £20-30,000 per annum – we assumed those families on incomes below £20,000 were generally eligible to free school meals).

Changes in Lunch Choice						
	Hot dins pre charges	Hot dinners post charges	Differ ence	pack up pre charges	pack up post charges	Differ ence
Child 1 overall	73%	46%	-27%	24%	52%	+28%
Low income	76%	37%	-39%	18%	63%	+45%
Child 2 overall	74%	45%	-29%	23%	53%	+30%
Low income	78%	33%	-45%	17%	67%	+50%
Low Income = Household income between £20-30, 000 per annum						

We were interested in the food choices of the parents in this level of household income because many educators believe this ‘band’ of parents, just above the eligibility ‘threshold’, are the ones hardest hit by the reintroduction of charges for school dinners. The data in the table above confirm this view. For the first child in families overall there has been a reduction of 27% of the numbers of these children staying for school dinners...with a rise of 28% of these children now taking a packed lunch to school. For the second child in families overall there has been a reduction of

29% of the numbers of these children staying for school dinners...with a rise of 30% of these children now taking packed lunch.

However, for the first child from low income families staying for school dinners there is a reduction of 39% and an increase in these children taking packed lunch in the order of 45%. This is exacerbated for the second child in low income families: there has been a 45% reduction in second children staying for school dinners with a huge increase of 50% of these children now taking packed lunch daily.

We also asked the parents their views of the Council in several key areas:

Whether they trusted the Council to make the right choices for their children's health and education.

Whether the Council put the people of Hull first.

Whether the Council could solve problems in innovative ways.

Whether the Council could manage finances and

Whether the Council made children a priority.

The responses were remarkable. There was a high degree of trust in the Council during the Eat Well Do Well initiative (apart from parent's perceptions of the Council's ability to manage finances at 41%). However, after the re-introduction of charges parent's views of the Council have plummeted.

Parents' views of the Council

	Then	Now	Difference
Right choices for children's health	87%	19%	-68%
Right choices for children's education	75%	18%	-57%
Put Hull people first	62%	11%	-51%
Solve problems in innovative ways	52%	9%	-43%
Manage Finances	41%	14%	-27%
Make children a priority	77%	14%	-63%

Clearly, the biggest changes in parents thoughts of the Council are in whether or not the Council makes the right choices for children's health and education as well as whether or not the Council puts children first. It would be interesting to repeat this parent survey later in 2008 to see if these parental perceptions have embedded or changed.

Conclusion

There are many other pointers for future research and activity for the Council: the re-measurement of children's perceptions of health and their school meals in May/June 2008 to examine further the impact of the re-introduction of charges; interviewing headteachers and parents again in May/June 2008; the investigation of gender issues in relation to children's experiences of lunchtime; the engagement of parents in school meals (and probably curriculum in healthy eating); examining family food practices across a longer time span with a particular focus on eating choices and healthy purchasing; monitoring the long term impact on those children who have experienced the EWDW over three years, especially as they transition into secondary school; following the training of lunchtime supervisors and monitor the impact of this training on children's eating and dining room behaviour, to name but a few.

For the three year duration of Eat Well Do Well Hull City Council was the envy of local authorities up and down the country. In 2004 it displayed a vision, ambition and action to invest in the future of its children and families. This report has shown the many tangible benefits of the initiative to schools, families and children across the city. It is clear from the evaluation that the longer the initiative was in place the greater the impact and benefits on a range of measures. It is significant that, in relation to children's perceptions of health and their health behaviours, there are little if any differences between those children who are eligible for school dinners and those who are not.

The evaluation also suggests that the learning environment for all children is supported by the provision of free, healthy school meals. Headteachers tell us that schools are calmer places within which to learn and socialise. It is a pity that the City will not see the benefits of this supportive learning environment since the re-introduction of charges by the Liberal Democrat administration in September 2007.