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### Exploring primary school teachers' experiences of implementing a healthy eating intervention.

In response to rising levels of childhood obesity, schools have become an influential environment in the promotion of health behaviours and in particular programmes aimed at increasing children's consumption of fruit and vegetables. A range of UK school-based interventions have been developed to target children's fruit and vegetable consumption (Ransley et al, 2007; Wardle, Herrera, Cooke & Gibson). One intervention that has been suggested to be particularly effective is the *Food Dudes* programme.

The programme is based upon psychological principles of behaviour change and aims to increase children's fruit and vegetable consumption through repeated tasting, peer modelling and rewards (Lowe, Dowey & Horne, 1995). The *Food Dudes* are four superheroes who gain special powers by eating their favourite fruit and vegetables that help them maintain the life force in their quest to defeat General Junk and the Junk Punks. The *Food Dudes* encourage children to 'keep the life force strong' through letters and DVD episodes of their adventures. Evidence suggests that the programme is effective in producing substantial increases in fruit and vegetable consumption (Lowe et al., 2004; Horne et al., 2004, 2009, 2011). However, the effectiveness of interventions such as the *Food Dudes* programme is arguably dependent upon a number of other factors including the perceptions of those responsible for implementing programmes (Baranowski & Stables, 2000). Indeed, health behaviour change programmes are embedded within a system of structures including participating agencies (e.g. schools) and programme implementers (e.g. teachers). Furthermore, following the introduction of the National Healthy Schools Programme and the Enhancement Model

(Department of Children, Schools and Families, 2009), all schools in England are required to adopt the ethos of a health promoting school. Teachers are therefore influential agents in the promotion of healthy eating within schools (Speller, et al, 2010) and perceptions of this group are likely to be integral to beliefs about programme effectiveness.

This study aimed to gain an understanding of the experiences of primary school teachers responsible for implementing the *Food Dudes* programme. More specifically, to explore what teachers perceived to be the successes of the programme, barriers to implementation and areas for further development.

#### Method

Semi structured interviews were conducted with six teachers of the *Food Dudes* programme from six primary schools in one West Midlands city.

#### Procedure

Following completion of the intervention, all teachers responsible for co-ordinating the programme within their school were contacted via telephone and asked to participate in an interview regarding their experiences of the programme. Interviews were arranged at a mutually convenient time for both the researcher and teachers. Two out of the eight teachers contacted by the researcher were unavailable for interview. An interview schedule was developed to guide the semi-structured interviews with teachers. A funnelling approach was adopted to elicit not only teachers' general views about the *Food Dudes* Programme but also to explore more specific issues. Four main areas were identified to be explored throughout the course of the

discussion:

- a) Their understanding of *Food Dudes* before the intervention took place
- b) Aspects of the intervention that worked well
- c) Any aspect(s) of the intervention that they felt to be challenging
- d) How the intervention affected the children in their school

Initial prompts were drafted and subsequently refined to ensure neutrality, avoid assumptions and increase an open discussion by the use of open rather than closed questions. Interviews were conducted, digitally recorded and transcribed in full.

Ethical approval was gained from the Institute of Health and Society's Ethics Committee and verbal consent given from teachers prior to interview.

### Analytic framework

Transcripts from each focus group discussion were analysed using Ritchie and Spencer's (1994) Thematic Framework method. This enabled a detailed exploration of how teachers made sense of their experiences, their understandings, perceptions and views while providing a systematic and rigorous framework enabling the researcher to carefully rework ideas as the analysis developed. Initial themes were identified and an index was constructed by identifying links between categories, grouping them thematically and developing a hierarchy of main and subthemes.

### Analytic procedure

The analysis was guided by Ritchie and Spencer's (1994) Framework which depicts five key stages of the analytic process: familiarisation, the identification of initial themes or concepts, indexing, charting and mapping and interpretation.

In order to become familiar with the teachers' accounts, each transcript was examined individually and read multiple times by the researcher. Digital recordings of each of the interviews were also revisited to facilitate this process. The next stage involved identifying initial themes present in the data and interesting and significant issues were noted in the margins. To ensure conceptual clarity, an index was constructed by identifying links between

categories, grouping them thematically and developing a hierarchy of main and subthemes. Following this, each main theme and associated subthemes were plotted on a separate thematic chart. Finally, the charted data were examined in order to identify patterns and develop explanations for the data and discuss their application to health promotion within schools.

## Results

Analysis of the data revealed three main themes: successful aspects of the intervention, challenges to implementation and maintenance of healthy eating in the long term.

### Successful aspects of the intervention

Teachers suggested that the intervention had raised children's awareness of healthy eating, increasing their exposure to fruit and vegetables and providing increased opportunities to try different fruits and vegetables.

*"It has raised awareness of fruit and veg to children, a lot of children are having fruit as a snack."* Teacher, School 3

*"Where it's changed and where I think it's had the most impact is that those, the minority of pupils that don't like fruit and veg, it has changed them, opened their minds a little bit."* Teacher, School 2

*"I thought 'I'll just ask them (children) 'are there any fruits or vegetables that you would eat now that you wouldn't before?' and a number of children mentioned peppers which I think is a really good example, people have a perception around the word 'pepper' that it's not going to be edible. They were saying that they were genuinely eating peppers and they didn't before, they wouldn't have eaten them or wouldn't have tasted them."* Teacher, School 4

However, there was also some recognition that increased exposure to fruit and vegetables did not necessarily produce behaviour change. Children are aware of the importance of healthy eating but their knowledge of what is healthy may not always result in quantifiable changes in consumption suggesting a gap between children's intentions and actual behaviour.

*"I mean these children they really know what's healthy, what's good for them, so they've got the*

*knowledge even if they don't necessarily choose to follow it, they know, they've got the understanding."* Teacher, School 1

*"The fact that it was about widening children's eating experiences I think is one of the real strengths. Now, whether it's successful or not I'm not sure but it's clearly got to make sense to try that because I genuinely think it's an issue, children make value judgements based on little or nothing or hearsay and if you can get out of that, or at least try to that's got to be positive."* Teacher, School 3

The prizes given to children as rewards for tasting the fruit and vegetables were regarded as a particularly positive aspect of the intervention. The prizes were perceived to be well-developed and age-appropriate. Teachers suggested that the prizes encouraged children to try fruit and vegetables.

*"The children were highly motivated by the prizes. The prizes, I thought, were very well planned in terms of; they were very well pitched in terms of the age appropriateness of them and in addition, in terms of the materials that we used were actually also very well pitched. Quite often when organisations come into schools, primary schools, they will have programmes that are run and due to their not having full knowledge of, the range of if you like, emotional and intellectual abilities of children, sometimes these programmes don't always match their abilities and age ranges."* Teacher, School 2

*"Simple things like the prizes were really good, little things. I think the prizes, and it's hard to think of lots of different prizes worked well and kids loved them and so that was good."* Teacher, School 4

Teachers also commented on the effectiveness of the DVD episodes shown to the children during the intervention phase. These were enjoyed by the younger children in particular, perhaps reflecting the developmental stage of this age group. It was suggested that these were not as appropriate for older children.

*"They loved the little film clips on the DVD. They loved the fact that they were other children telling them about fruit and vegetables and they put it into the villain and the superhero*

*situation and they, they got it spot actually because that's what children like, the baddies and the goodies. The younger ones, responded to we've got a letter from the Food Dudes like wah! I think the older ones perhaps thought...you're having us on here."* Teacher, School 6

*"The children really liked it, I mean that's important. They buy into the whole experience. The characters may be a little bit twee but they work really well, particularly with the younger children. I'd say the upper juniors start saw it as a little bit patronising. I know it's not age related but I think probably more powerful with the younger children than the older ones possibly."* Teacher, School 4

### **Challenges to implementation and maintenance of healthy heating**

The time required to implement the programme was a significant challenge for teachers, particularly the difficulties associated in incorporating the programme into the busy school day. There was also recognition of competing priorities with regard to academic aspects of the curriculum.

*"We had some issues with the running of it, it is, on occasions something that is in the way of teaching literacy ... when I'm putting something else in the curriculum they see it as taking away, as stripping away."* Teacher, School 2

*"The problem is that we have a very busy timetable and all primary schools have a curriculum that barely fits into the time that we're given to deliver it and so it was very difficult trying to fit it in to the day."* Teacher, School 6

*"Timetables are really tight in school and you're giving up some time. You've got to allocate that time and it becomes every day and it can impact on other things even though it's 10 or 15 minutes whatever but that is still a significant time."* Teacher, School 4

The *Food Dudes* intervention was viewed positively by the majority of school teachers, however it was suggested that the programme should be rolled out on a cyclical basis rather than as a one off intervention thus encouraging

children to revisit the importance of eating fruit and vegetables as part of a healthy diet.

"What might concern me is that really children should be educated like this on a regular basis so every subsequent year group should be educated in years to come so really it probably needs building into the curriculum, on a rolling programme." Teacher, School 2

"Whether someone could invest some time revisiting, sharing those same messages again but in different ways, in assemblies, in classes would have been good."  
Teacher, School 4

"It needs to be something we need to do again and again and again. If it is just seen as a one-off, it won't work. Anyone who's taught primary school children will know that for a child to learn how to write a simple sentence can take years and the same applies to attitudes to healthy eating. It's not a one off lesson or one-off week." Teacher, School 2

## Discussion

This study explored the perceptions and experiences of primary school teachers responsible for implementing the *Food Dudes* programme in one West Midlands city. Overall, teachers were positive about the programme and agreed that they would participate in the programme if it were to be rolled out in the future. Teachers perceived the programme to have a beneficial impact upon children's awareness of healthy eating and the opportunities provided to taste new foods. The materials associated with the programme, particularly the rewards given to children, were also potent. This is important as the use of incentives to change behaviour is only likely to be effective if these are highly desirable to the child (Lowe et al., 1998).

However, a number of barriers to implementing the programme were identified. The time required to implement the programme was highlighted as a significant challenge. As Langille and Rodgers (2010) identified, schools may have difficulty implementing health promotion programmes due to competing priorities, particularly raising standards of academic attainment. Consequently, it is

important that health promotion initiatives such as the *Food Dudes* programme consider the needs and interest of teachers and are incorporated into the primary curriculum (Pérez-Rodrigo & Aranceta, 2003). The need to maintain children's interest and consumption of fruit and vegetables in the long term was also recognised by teachers. Sustaining behaviour change is a crucial issue within health promotion programmes and as such may require more than just a one-off intervention found to be efficacious in a controlled research environment (Altman, 2009). This highlights the importance of continual education to children regarding healthy eating and the integration of nutrition education into the primary curriculum to reinforce these messages once the programme has come to an end.

In conclusion, the perceptions and experiences of teachers involved in implementing the *Food Dudes* programme should be taken into account when developing and refining the programme. Further work is required to develop ways in which the programme could be integrated into the curriculum to support the maintenance of healthy eating behaviours.

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