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School food environments in North Yorkshire: Practical systems interventions for health and sustainability

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School food environments provide a clear opportunity to address government priorities such as health, environment, food education and sustainable consumption. Local councils can support schools in implementing a whole school approach to school food policy which considers procurement, space and meal enjoyment, education, waste and the wider community. By taking a holistic perspective using systems thinking, schools can play a key role in transforming local food culture and promoting healthy sustainable diets.

INTRODUCTION

Health, environment and unequal education are societal challenges facing the UK and therefore clear [government priorities](#). Large-scale pressure events such as climate change, Brexit and fall-outs from COVID-19 (including mental health concerns, increased poverty and economic recovery) [contribute](#) to these priorities. [School food environments](#) are one type of framework that uses *systems thinking* to bridge these complex challenges and break long-term cycles of unhealthy eating in childhood. As [one expert from the Lancet](#) put it, “thinking systematically [about food] and at an interdisciplinary level can help ensure that challenges are tackled from multiple perspectives and in a holistic way.” [The Soil Association’s Food For Life](#) programme helped develop the [‘whole school approach’](#) to food, which “involves leadership from the top and the engagement of the wider workforce to transform food culture and promote healthy food behaviours.” Schools provide unique opportunities to develop practical interventions that will have long-term benefits for pupils, such as forming habits to eat healthy and sustainably.

This policy brief aims to summarise current evidence on school food environments and identify common benefits and challenges of using systems thinking for school food interventions. Findings are drawn from UK and international evidence and are organised by the different elements of a school food system, including food procurement, meal options, dining space, education, policy, green space and the local community. We end with six recommendations on practical interventions for school food in North Yorkshire.

MEALS

Procurement

Public food procurement, including school food, has clear impacts for health, sustainability and local economies. [Public food procurement](#) accounts for £2 billion of annual government spend, about £1.2 billion of which is spent on school catering. [The Environment, Food and Rural Affairs Committee](#) in 2021 expressed “disappointment” that the government has not leveraged this to promote “buying British”, which is [common practice](#) for public procurement in countries such as France and Sweden. Studies have shown that adopting local procurement practices for school meals increases social return on investment (i.e. rises in social, economic and environmental value). For example, the [New Economics Foundation](#) in 2011 determined that for every £1 spent in Nottinghamshire, a value of £3.11 returned to the community. A multiplier calculation of this impact showed that for every £1 spent on seasonal, local ingredients, £1.13 is recirculated and generates local economic activity.

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Most recommendations in the [Government Buying Standards for Food and Catering Services](#) (GBSF) that address sustainable consumption are not mandatory and fall short of animal welfare and climate goals. This is made clear by recommendation 13 of the (English) [National Food Strategy](#): “strengthen government procurement rules to ensure that taxpayer money is spent on healthy and sustainable food.” Early use of [Dynamic Purchasing Systems](#) (DPS) in the UK demonstrates that buying local, seasonal produce is both cost-effective and supports British producers. Additionally, [DPS pilot studies](#) show that food costs do not increase when buying from local small and medium enterprises (SMEs). The Local Government Association (2021) provides [advice and guidance](#) on implementing DPS within a local council.

Meal options

School food nutritional value and quality [directly affect](#) childhood health and, by extension, their learning. Within the UK, there has been [a clear rise in childhood obesity](#), risk for food-related noncommunicable diseases and poor dental health. The UK Government provides [National School Food Standards](#) for meals and nutritional guidance through NHS public health campaigns (for example, 5-a-day). [Recent calls](#) have been made to reform these standards and enforce them in schools that are not meeting the mandatory requirements. Not all of these programmes are mandatory, however, and the [impact](#) of these programmes on student food choice is unclear. [Student food choice](#) is a complex process and schools face many day-to-day challenges in providing convenient, healthy and ‘tasty’ meal options. Despite this, [evidence](#) shows that pupils are willing to accept school food menus that provide healthier and more sustainable food options, including fewer offerings of cakes/cookies/pizza and more plant-based meals. Healthier options are [more popular](#) when [students are consulted](#) on the menu changes and new options are taste-tested before being implemented.

[Research](#) shows that in addition to long-term physical health benefits, more offerings of increased fruit and vegetables support pupils' wellbeing and mental health and improve short-term concentration and energy in the classroom. For students living in low socio-economic conditions, nutritious meal options that include fresh fruit and vegetables are even more important because this [may be the only food](#) they eat all day. [Universal Free School Meals](#) (UFSM), policy schemes to provide all children free meals at school regardless of household income or benefit status, and [Holiday Clubs](#), local schemes to provide food and activities to children during school holidays, are [two initiatives](#) that aim to help these vulnerable groups. Islington, Southwark, Tower Hamlets and Newham are all examples of London Councils that support such initiatives, and the [Department of Education](#) has announced that programmes like these will be expanded in 2021. A [recent report](#) by [FixOurFood](#) (in partnership with the [Food Foundation](#)) found that in Yorkshire, holiday clubs have had positive impacts on food insecurity and health while providing benefits for both children and the wider communities. It is important to note, however, that food poverty is a [systemic challenge](#). School schemes such as these may help alleviate the effects of food insecurity and advance right-to-food thinking, but they cannot eradicate the problem; [broader policy change](#) at the national level is necessary to address the root causes of poverty and economic inequality and have long-term impact.

The North Yorkshire County Council’s [school food policy](#) “is based on local and regional sourcing of food which supports local business, provides traceability of produce and contributes to the health and wellbeing of its children and young people.” The [policy](#) is accredited by the Food for Life Award scheme run by the Soil Association; however, of the [28 schools registered](#) only twelve have achieved ‘Bronze’ status and one has achieved ‘Silver’. A new partner project, [Jamie Oliver’s Kitchen Garden](#), is available to all Food For Life award members and provides resources for schools including recipes, lesson plans, teaching notes, growing units and classroom activities – all of which support schools with meeting award criteria. Other healthy and sustainable school food initiatives include the Department for Education’s [healthy schools rating scheme](#) and [School Food Matters](#). All of these schemes have similar criteria that prioritise education, health and nutrition. Although the schemes recommend a ‘whole-systems’ approach to food, especially in developing a school food policy, the criteria are often vague with benchmarks on local food procurement, physical activity and wider community impacts. For example, the economic contribution for local food purchasing or school partnerships with high street shops, farms and markets are not addressed or evaluated.

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EDUCATION

Student education about food, health and environment [enables students](#) to make healthier meal choices and provides a practical way to teach children about the complex challenges of climate change and health. Practical guides, toolkits and advice on how to integrate food education into the curriculum are widely available and outline positive long-term benefits. Within the UK, there is an [ongoing petition](#) supported by MPs to include food growing as a dedicated subject within the national curriculum.

Food education is unique because it is cross-disciplinary and can be included within multiple subjects. For example, the [Health Promoting Schools](#) (HPS) framework was developed by the World Health Organisation (WHO) as a whole-school approach to health education. Topics such as the food chain, product development, growing food, animal welfare, sustainability, food labels, cooking, business skills and healthy eating can be incorporated into [STEAM](#) (science, technology, engineering, arts and mathematics), literacy and physical activity curricula. The (English) [National Food Strategy: The Plan](#) also reinforces the need for adopting a whole-school approach for food education. [Take A Bite out of Climate Change](#), a [multi-disciplinary team of researchers](#) in the UK and abroad, propose that COVID-19 and the lockdowns have further provided a “window of opportunity” to educate children about the role of food systems in climate change. Through the [#TakeABiteAtHome project](#), the research team developed online videos, lesson plans and educational materials for parents to use during the June 2020 lockdown. [Results](#) show that integrated curriculum projects such as this can promote and encourage STEAM; be engaging, creative and flexible; support the social sciences and vocational disciplines; and encourage students to explore new themes and connections between disciplines. The website also provides a list of [useful resources](#) for further reading and support.

Schools can also foster a ‘culture’ of sustainability and health by [empowering students](#) to drive change, based on their learning and own experiences. [Eco-Schools](#) provides a free digital platform to support schools in facilitating these student groups. Pupils undertake a seven-step framework to build environmental awareness within the school and the community. At the end, the school can apply for ‘[Green Flag](#)’ accreditation to “recognise, reward and celebrate the environmental sustainability of young people”.

PUPIL EXPERIENCE

Dining halls

The [physical environment](#) and atmosphere of the dining space also influences students’ food choices during breakfast times, throughout the school day, and during after school clubs. Social activity, time queuing and room aesthetics all contribute to [students' lived experience](#) of lunch and affect overall wellbeing and mental health. [Small dining spaces](#) with poor lighting and limited seating reduce opportunity for social engagement. [Long queues](#) and short lunch breaks, especially in temporary cafeteria spaces, can increase stress and cause lunch to be more of a ‘chore’ rather than a time to relax or socialise. Additionally, these conditions [pressure students](#) into choosing quick and easy meal options that can be eaten ‘on the go’ or do not require a table or cutlery to eat. Some students choose to buy meals outside of the school and find ‘better’ food with greater value for money because their [perceptions of school lunch](#) are so negative; this is especially common in areas of low socio-economic status (SES). Others seek to ‘escape’ negative perceptions of school grounds. For example, [one study showed](#) that staff at high street shops are often ‘nicer’ to students than lunchroom staff.

Each dining space is [unique to the school](#) and the students; an effective design at one school may be stressful and disturbing at another. The Department of Education (2009) has developed [guidance](#) for planning welcoming and comfortable dining spaces in primary and secondary schools. They include step-by-step advice on how to modify existing spaces, including: developing the plan, selecting the space, managing time, encouraging healthy food choices, meeting diverse student needs, gaining parent support and promoting healthy social activities. Additional guides, toolkits and resources from the Department of Education on improving school food are available through the [School Food Plan](#) digital platform.

Around the school

Green space is another important aspect of the [dining experience](#). Expanding the dining space to include outdoor areas (especially in the warmer seasons) can encourage physical activity, healthy socialisation and increased comfort. [Integrating growing space](#) into these areas can be especially effective. For example, [school gardens](#) can help students develop a sense of ownership over the space, provide educational opportunities and reduce the school's environmental impact by contributing food for meals.

The local community around a school also influences students' behaviour and food choices. [Evidence](#) shows that the surrounding high streets are filled with unsafe or busy roads, limited green spaces, junk food advertisements and cheap food options high in salt, sugar and fat. This affects the [local food 'culture'](#) and pushes students to make unhealthy choices. The [Healthy School Zone Project](#), developed in partnership with School Food Matters, highlights the importance of considering factors outside of the school grounds such as advertising, food safety standards and wider food culture. Council support for community food initiatives and local projects encourages ingenuity, which in turn supports a dynamic local food culture. One such example is the (English) [National Food Strategy's](#) proposed "[Community Eatwell](#)" trials (recommendation #7), which supports those on low incomes to improve their diets.

RECOMMENDATIONS

[Research evidence](#) demonstrates that school food interventions are most effective when implemented using a 'systems approach' that considers all aspects of the school food environment (i.e. linking procurement with diet, with learning and with health). For example, a recent [study](#) in Daire demonstrates that whole-school food environment intervention [led to improvements](#) in childhood emotional and behavioural wellbeing, dietary intake, knowledge about food, cooking skills and willingness to try new food. Given the weight of evidence presented on the positive benefits to the economy, community, schools and students, the following policy actions at a local level are recommended:

- 1. Explore implementation of a Dynamic Purchasing System for food procurement within North Yorkshire County Council jurisdiction**
 - a. Apply to be a pilot study for DPS, an initiative supported by local organisations in Yorkshire
 - b. Use the [Local Government Association tool](#) for evaluating the use of DPS in North Yorkshire
 - c. Build/ develop relationships with local growers and food markets

- 2. Support schools to develop *Food Policy Plans* that employ a whole school approach and utilise systems thinking**
 - a. School governing bodies should incorporate school food policy considerations, with a dedicated link governor for school food
 - b. Policies should consider the multiple aspects of food systems including: procurement, dining and green spaces, education, waste and wider community impact
 - c. Raise awareness of available resources and support to develop school food policies, including Food for Life, School Food Plan (Department of Education) and Sustainable Food Places.

- 3. Improve pupil experience to facilitate healthy and sustainable food choices**
 - a. Invest in the design of pleasant dining environments with sufficient time for meals, especially in larger schools where lunches are often short to accommodate scheduling
 - b. Co-create these environments and meals with pupils, parents and teachers
 - c. Empower students to take ownership their food choices and sustainability by starting eco-communities in schools

4. Increase engagement with school food membership and award schemes

- a. Raise awareness of the Food for Life programme in all schools and support engagement, such as with Jamie Oliver's Kitchen Garden Project
- b. Incentivise meeting Food for Life and/or Healthy School Rating award criteria and achieving a Bronze, Silver or Gold status

5. Engage the local community in shifting toward a culture of healthy, sustainable food

- a. Further connectivity with [Fix Our Food at University of York](#) to foster strong relationships with community food actors and support collaboration
- b. Participate as a trial pilot for the National Food Strategy's "Community Eatwell" programme
- c. Restrict junk food advertising in the communities surrounding schools
- d. Encourage acceptance of Healthy Start vouchers in food outlets and support smaller shops with training and resources
- e. Restrict planning applications for fast food outlets within 800m of the school
- f. Support shops to achieve high food safety standards and engage with volunteer schemes for sustainable and healthy food such as Sustainable Food Places
- g. Continue to engage, and increase engagement where possible, with the Holiday Activities and Food programme to help alleviate the effects of food insecurity and poverty which have been exacerbated by the COVID-19 pandemic

6. Encourage parent involvement in food education

- a. Support schools in providing opportunities for parent engagement, for example with 'guest lessons' with cooking, gardening, etc.
- b. Raise awareness of opportunities to contribute to food policy debates, for example with the [Parent's Jury](#) through the Children's Food Campaign

Future research projects could explore how COVID-19 has directly impacted schools in North Yorkshire and build on these recommendations. Strong opportunities exist to develop project collaborations between the council, schools and food system actors (including private sector, civil society and third sector organisations) in supporting a cultural shift toward healthy and sustainable consumption.

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Disclaimer

This policy brief represents author views only. The authors believe all information to be reliable and accurate; if any errors are found please contact us so that we can correct them. We welcome discussion of the points raised.

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