

The Role of Schools In Teaching Pupils About Food and Nutrition

Student name

Instructor

Institution

Course

Date

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Introduction

In the present generation, statistics show that about 18% of children are overweight or obese, hence the importance of teaching students about nutrition than ever before (Brennan et al., 2021). Nutrition and food education schools are essential as they assist in promoting healthy eating habits from an early age. Research indicates that early interventions can positively shape lifelong habits, reducing the risk of diet-related chronic diseases like obesity and cardiovascular issues (Roseman et al., 2020). For instance, school-based programs have been shown to improve children's knowledge and consumption of healthy foods, with significant increases in fruit and vegetable intake in schools that integrate nutrition into their curriculum (Velardo et al., 2020).

Furthermore, Zahid et al. (2022) reveal that children in responsive feeding environments experience a 23% positive change in healthy dietary practices after nutrition education interventions. World Health Organization (WHO) underscores that schools as institutions can play a huge role in this process by being change agents for health, promoting healthy eating, and the like. Initiatives like the Nutrition-Friendly Schools Initiative (NFSI) encourage policies that include providing and encouraging healthy foods, limiting unhealthy foods, and including nutrition messages in schools (World Health Organization, 2020). Schools are responsible for making learners eat healthy through good curriculum, co-curricular activities, and parents and stakeholders. This broad strategy helps lay down a good foundation that will help promote positive health-related practices in and out of school.

The Role of Schools in Food and Nutrition Education

Curriculum Integration:

Hamulka et al. (2018) note that Schools are acknowledged as the primary context of education programs—they can engage many children and teenagers. A curriculum focusing on health

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education that covers nutrition and physical activity can assist learners in adopting and sustaining healthy eating and exercise practices (Hung et al., 2015). In different countries, there is a great variety of nutrition education interventions targeting school children, with schools, government, and health promotion agencies providing information about the components of diet and specific education for preventing or controlling diseases related to diet and other aspects of lifestyle.

Physical education ensures the acquisition of practical information, such as the relationship between diet, exercise, and physical fitness; home economics involves teaching food preparation and reading food labels. The UK curriculum has a subject called food and nutrition, where certain

aspects such as a balanced diet, energy balance, and nutrients are taught. Schools are encouraged to teach about food safety, sustainability, and food journeys from "farm to fork"

(Reeves, 2020). This empowers students with the knowledge they need to make better dietary choices. Another research on a pilot curriculum that combined nutrition with other topics evidenced that practical and cross-curriculum lessons effectively captured the interest of teachers and children, promoting healthier food practices (Stapp et al., 2021).

Information regarding intended nutrition should be given as early as possible, for example, through the School Food Plan in the given country. According to studies, integrated curricula are mainly associated with functional areas such as physical education, which enhances the understanding of nutrition and academic achievement (Stage et al., 2017). Thus, schools play a central role in facilitating young people's adoption of reasonable and healthy eating habits from childhood.

Practical Education:

Cooking projects, school garden projects, and other related functions assist children in gaining knowledge about food and food selection. For instance, when children grow fruits and vegetables

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in school gardens, they are more forceful in growing them and, therefore, more willing to try and eat them. A review identified that garden-based programs increased children's interest in fruits and vegetables and their food literacy (Chan et al., 2022). Furthermore, school garden-based programs have been found to positively impact children's knowledge, attitude, and perception towards diet and nutrition, and acceptability of vegetables with a moderate effect on diet behavior, including consumption of fruits and vegetables and dietary diversity (Chan et al., 2022). School garden-based programs can help change children's attitudes and acceptability

toward eating new foods to reduce food neophobia through increasing exposure to fruits and vegetables. Food neophobia is the unwillingness to ingest and experiment with new foods, which hinders efforts toward increasing children's fruit and vegetable preferences and consumption for positive, healthy eating habits (Kim and Park, 2020).

Another type of learning by doing is cooking classes, which have also been proven effective. Integrated cooking and nutrition education interventions enhance children's food-related perceptions and self-confidence in food preparation. Studies show that children who engage in cooking exhibit improved vegetable consumption and knowledge of healthy eating (Bennett et al., 2021). Using concrete experiences, such as gardening and cooking, enhances the children's relationship with food and their behavior and knowledge about it.

School Environment and Food Policies

School Meal Programs:

Programs like The National School Lunch Program (NSLP) in the United States and free school meals in England help children eat better. Studies show that these programs increase the consumption of healthier foods, such as fruits, vegetables, and dairy, contributing to better dietary quality for children, particularly in low-income areas (Simmons et al., 2022). Balanced

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meals provided through these programs are also linked to improved academic performance, as students consuming healthier meals tend to score higher on standardized tests and show better cognitive function (Anderson et al., 2017).

Vending Machines and Cafeteria Offerings:

Measures to ban or restrict junk food and sugary drinks in schools have been proven to impact students positively. School nutrition policies are generally consistent with increased access to

healthier foods and/or reduced access to less healthy foods (Grigsby-Duffy et al., 2022). For instance, prohibiting sweetened products in schools leads to decreased use, which is associated with obesity. A study conducted in Brazil indicates that reduced access to junk foods and soft beverages in school reduces male students' Body mass index (BMI) and the overall risk of being overweight (Levasseur, 2020). Moreover, research in the United States of America shows that schools with sound policies regarding vending machines and foods sold in cafeterias have better dietary habits among students and lower BMI scores (Schwartz et al., 2020). Healthier school environments significantly impact dietary intake because these environments encourage healthier diets.

Impact of Socioeconomic Factors:

Low-income schools can reduce barriers to healthy eating by offering affordable meals and engaging stakeholders outside the school. The government's healthy lunch programs, such as those in New Zealand, have greatly enhanced food access and equality among students, particularly those from a disadvantaged social status. This initiative eased the burden on families, increased students' understanding of healthy foods, and promoted general well-being (Pippa McKelvie-Sebileau et al., 2023). In the U.S., community-supported agriculture programs for low-income families offer cost-offset shares combined with tailored nutrition education, which

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helps increase access to fresh produce and improve dietary behaviors among children (Seguin et al., 2017). These approaches show how partnerships and subsidies can help low-income families with their nutritional needs.

Collaborative Efforts: Schools, Parents, and Communities

Parent-Teacher Collaboration:

Involving parents in nutritional education through workshops, newsletters, and other relevant tools for change at home is crucial. Dev et al. (2017) also noted that children are likelier to make better dietary choices if parents engage with school-based nutrition programs. Meetings or newsletters prepared by schools and given to parents help make them aware of nutrition. It assists the parents in complementing the schools in implementing the lessons learned at home (Dev et al., 2017). Other programs, such as farm schools, aim to cooperate between school and family, engaging parents in activities supporting healthy eating (Rains et al., 2019).

External Partnerships:

Schools can enhance their support of nutrition by collaborating with health departments and food suppliers. These partnerships can fund nutrition workshops, produce food, and enhance professional school nutrition services (Mansfield & Savaiano, 2018). For example, the formation of school gardens, the promotion of an increased understanding of food, and the promotion of sustainable food purchasing by community coalitions show that outside stakeholders are invested in the welfare of students.

Challenges and Limitations

Resource constraints, time constraints, and variations in the quality of teachers are the challenges faced in nutrition education in schools. Teachers are not nutritionists and struggle to fit these lessons when the curriculum is complete. Among the teachers from Shanghai, 18.6% of

the respondents stated that they had received formal nutrition education, and many teachers said they did not have time to teach nutrition (Fan et al., 2019). However, the lack of adequate funds and support makes it even more challenging to address the issues of undernutrition and malnutrition by implementing the appropriate nutrition programs for school-going children, and

many schools end up giving these programs a raw deal because of other academic pressures (Day et al., 2019).

To overcome these barriers, government support is the only solution. This can be done by giving teachers more money for professional development on nutrition, such as nutrition in other subjects, and engaging the community through partnering with local stores or health facilities to help make nutrition education more realistic. They foster a culture that supports the educator and enhances the effectiveness of school-based nutrition solutions.

In conclusion, curriculum integration, practical education, and strong partnerships with parents and communities indicate that schools are crucial in developing children's healthy eating. The analyzed interventions, such as school gardens, cooking classes, and serving controlled meals, showed the approach's effectiveness in enhancing the students' nutrition literacy and food choices. However, some limitations have been defined for implementing them, such as financial and time constraints. Regarding these limitations, the government and other stakeholders can solve these problems quickly. In addition to improving dietary practices, schools can ensure better education and health in the future through nutrition education and a healthy food environment. It is crucial to continue integrating nutrition education into school policies and engage communities to address obesity among children and promote healthy behaviors among students.

References

Anderson, M., Gallagher, J. and Ritchie, E.R. (2017). School Lunch Quality and Academic Performance. *National Bureau of Economic Research*. Available at <https://doi.org/10.3386/w23218>.

Bennett, A.E., Mockler, D., Cunningham, C., Glennon-Slattery, C. and Johnston Molloy, C. (2021). A Review of Experiential School-Based Culinary Interventions for 5–12-Year-Old Children. *Children*, 8(12), p.1080. Available at <https://doi.org/10.3390/children8121080>.

Brennan, S.F., Lavelle, F., Moore, S.E., Dean, M., McKinley, M.C., McCole, P., Hunter, R.F., Dunne, L., O’Connell, N.E., Cardwell, C.R., Elliott, C.T., McCarthy, D. and Woodside, J.V. (2021). Food environment intervention improves food knowledge, well-being, and dietary habits in primary school children: Project Daire, a randomized-controlled, factorial design cluster trial. *International Journal of Behavioral Nutrition and Physical Activity*, 18(1). doi Available at <https://doi.org/10.1186/s12966-021-01086-y>.

Chan, C.L., Tan, P.Y. and Gong, Y.Y. (2022). Evaluating the impacts of school garden-based programs on diet and nutrition-related knowledge, attitudes, and practices among the school children: a systematic review. *BMC Public Health*, 22(1). Available at <https://doi.org/10.1186/s12889-022-13587-x>.

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Day, R.E., Sahota, P. and Christian, M.S. (2019). Effective implementation of primary school-based healthy lifestyle programs: a qualitative study of views of school staff. *BMC Public Health*, [online] 19(1). Available at <https://bmcpublihealth.biomedcentral.com/articles/10.1186/s12889-019-7550-2>.

Dev, D.A., Byrd-Williams, C., Ramsay, S., McBride, B., Srivastava, D., Murriel, A., Arcan, C. and Adachi-Mejia, A.M. (2017). Engaging Parents to Promote Children's Nutrition and Health. *American Journal of Health Promotion*, 31(2), pp.153–162. Available at <https://doi.org/10.1177/0890117116685426>.

Fan, L., Yuan, Y., Xu, X., Chen, J., Li, J., He, G. and Chen, B. (2019). Nutrition Education Practices of Health Teachers from Shanghai K-12 Schools: The Current Status, Barriers and Willingness to Teach. *International Journal of Environmental Research and Public Health*, [online] 17(1), pp.86–86. Available at <https://doi.org/10.3390/ijerph17010086>.

Grigsby-Duffy, L., Brooks, R., Boelsen-Robinson, T., Blake, M.R., Backholer, K., Palermo, C. and Peeters, A. (2022). The impact of primary school nutrition policy on the school food environment: a systematic review. *Health Promotion International*, [online] 37(5). Available at <https://doi.org/10.1093/heapro/daac084>.

Hamulka, J., Wadolowska, L., Hoffmann, M., Kowalkowska, J. and Gutkowska, K. (2018). Effect of an Education Program on Nutrition Knowledge, Attitudes toward Nutrition, Diet Quality, Lifestyle, and Body Composition in Polish Teenagers. The ABC of Healthy Eating Project: Design, Protocol, and Methodology. *Nutrients*, [online] 10(10), p.1439. Available at <https://doi.org/10.3390/nu10101439>.

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Holloway, T.P., Dalton, L., Hughes, R., Jayasinghe, S., Patterson, K.A.E., Murray, S., Soward, R., Byrne, N.M., Hills, A.P. and Ahuja, K.D.K. (2023). School gardening and health and well-being of school-aged children: A realist synthesis. *Nutrients*, [online] 15(5), p.1190.

Available at <https://doi.org/10.3390/nu15051190>.

Hung, L.-S., Tidwell, D.K., Hall, M.E., Lee, M.L., Briley, C.A. and Hunt, B.P. (2015). A meta-analysis of school-based obesity prevention programs demonstrates limited efficacy of decreasing childhood obesity. *Nutrition Research*, 35(3), pp.229–240. Available at <https://doi.org/10.1016/j.nutres.2015.01.002>.

Kim, S.-O. and Park, S.-A. (2020). Garden-Based Integrated Intervention for Improving Children's Eating Behavior for Vegetables. *International Journal of Environmental Research and Public Health*, [online] 17(4). Available at <https://doi.org/10.3390/ijerph17041257>.

Levasseur, P. (2020). Do junk food bans in school reduce childhood overweight? Evidence from Brazil. *Food Policy*, 99, p.101981. Available at <https://doi.org/10.1016/j.foodpol.2020.101981>.

Mansfield, J.L. and Savaiano, D.A. (2018). Collaboration Challenges and Opportunities: A Survey of School Foodservice Directors and Community Health Coalition Members. *Journal of School Health*, 88(7), pp.481–492. Available at <https://doi.org/10.1111/josh.12636>.

Pippa McKelvie-Sebileau, Swinburn, B., Glassey, R., Tipene-Leach, D. and Gerritsen, S. (2023). Health, wellbeing and nutritional impacts after 2 years of free school meals in New Zealand. *Health Promotion International*, 38(4). Available at <https://doi.org/10.1093/heapro/daad093>.

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Rains, C.B., Giombi, K.C. and Joshi, A. (2019). Farm-to-school education grants reach low-income children and encourage them to learn about fruits and vegetables. *Translational Behavioral Medicine*, [online] 9(5), pp.910–921. Available at

<https://doi.org/10.1093/tbm/ibz092>.

Reeves, S. (2020). Current Research in Nutrition in the School Curriculum in England. *Contemporary Issues in Technology Education*, pp.229–242. Available at https://doi.org/10.1007/978-3-030-39339-7_15.

Roseman, M.G., Riddell, M.C. and McGee, J.J. (2020). Kindergarten to 12th Grade School-Based Nutrition Interventions: Putting Past Recommendations Into Practice. *Journal of Nutrition Education and Behavior*. Available at <https://doi.org/10.1016/j.jneb.2020.02.007>.

Schwartz, M.B., Leider, J., Cohen, J.F.W., Turner, L. and Chriqui, J.F. (2020). Association between Nutrition Policies and Student Body Mass Index. *Nutrients*, 13(1), p.13. Available at <https://doi.org/10.3390/nu13010013>.

Seguin, R.A., Morgan, E.H., Hanson, K.L., Ammerman, A.S., Jilcott Pitts, S.B., Kolodinsky, J., Sitaker, M., Becot, F.A., Connor, L.M., Garner, J.A. and McGuirt, J.T. (2017). Farm Fresh Foods for Healthy Kids (F3HK): An innovative community-supported agriculture intervention to prevent childhood obesity in low-income families and strengthen local agricultural economies. *BMC Public Health*, 17(1).A available at <https://doi.org/10.1186/s12889-017-4202-2>.

Simmons, M., Hildebrand, D. and Joyce, J. (2022). Impact of Child Nutrition Programs Offered in Schools on Daily Nutrition and Dietary Quality. *Current Developments in Nutrition*, 6(Supplement_1), pp.399–399. Available at <https://doi.org/10.1093/cdn/nzac054.054>.

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Stage, V.C., Kolasa, K.M., Díaz, S.R. and Duffrin, M.W. (2017). Exploring the Associations

Among Nutrition, Science, and Mathematics Knowledge for an Integrative, Food-Based Curriculum. *Journal of School Health*, 88(1), pp.15–22. Available at <https://doi.org/10.1111/josh.12576>.

Stapp, A.C., Mann, G., Lambert, L. and Wolff, K. (2021). Growing Healthy Minds, Bodies, and Communities: Early childhood teachers’ perceptions of a nutrition-integrated pilot curriculum. *Public Health Nutrition*, pp.1–24. Available at <https://doi.org/10.1017/s136898002100118x>.

Velardo, S., Fane, J., Jong, S. and Watson, M. (2020). Nutrition and Learning in the Australian Context. *Health and Education Interdependence*, pp.159–177. Available at https://doi.org/10.1007/978-981-15-3959-6_9.

World Health Organization (2020). *Noncommunicable diseases: Childhood Overweight and Obesity*. [online] www.who.int. Available at: <https://www.who.int/news-room/questions-and-answers/item/noncommunicable-diseases-childhood-overweight-and-obesity>.

Zahid, M., Jabeen, S., Khalid, S., Rehman, H. - and Aslam, M. (2022). Impact of Maternal Nutrition Education on Dietary Practices of School Going Children (3-6 years of age). *Pakistan BioMedical Journal*, pp.99–103. Available at <https://doi.org/10.54393/pbmj.v5i5.290>.