

Effective Approaches to Increase Food Skills in Children, Youth, and their Parents



Key Messages

- Being food literate is an important precursor to following a dietary pattern that supports health
- Cooking classes and school garden programs are popular public health interventions that seek to increase food skills
- Food skills programs that are embedded in the school curriculum, include a practical component, are led by a trained instructor, and that provide opportunities to share food with other participants are an effective intervention to increase food skills of children and youth
- Food skills programs that are practical, include a goal-setting component, and provide an opportunity to share a meal together have been demonstrated to be effective for parents, though less evidence exists

This evidence brief is part of a series that highlights effective approaches to increase food literacy in children and youth under 18 years of age and their parents. This evidence review can be used to support the development and implementation of food literacy programming and advance food literacy policy.

Background

A healthy diet helps prevent chronic diseases such as diabetes, heart disease, stroke, and cancer (1). A healthy diet consists of a variety of vegetables, fruit, whole grains, and protein foods with limited amounts of highly processed foods (2). A healthy dietary pattern also includes cooking meals and reading food labels to make informed eating choices (2). Food literacy is an important precursor to following a dietary pattern that supports health (3).

Food literacy includes five interconnected attributes (Figure 1): food and nutrition knowledge; food skills; self-efficacy and confidence; food decisions; and external factors (e.g., the food system, social determinants of health, and socio-cultural influences and eating practices (4). Food skills refer to the skills a person needs throughout their lifespan to prepare meals (4). They include skills related to food purchasing, preparation, handling, and storage (5). It is important to note that the interconnectedness of the various food literacy attributes makes it difficult to fully isolate food skills from other

attributes of food literacy. Examples of food skills are outlined in Table 1.

It can be challenging to develop and maintain healthy eating habits without adequate food skills. Individuals who lack the food skills to purchase and prepare healthy meals may be more likely to regularly consume highly processed foods¹ (e.g., fast food, sugary drinks, candy, chips, cookies, sweetened milks, sweetened cereals, and sauces) that are typically higher in sodium, sugar, and saturated fat (7). Regular consumption of highly processed foods is associated with increased risk of chronic disease (3). Highly processed foods are estimated to make up approximately 57% of total dietary energy of Canadian children aged 9 to 13 (6). For Canadian youth, nearly 55% of total dietary energy comes from highly processed foods (6) while less than 30% of youth consume vegetables and fruit five or more times each day (8). Childhood and adolescence are critical times in which to develop food skills, as eating habits developed early in life are sustained into adulthood (3,9,10).

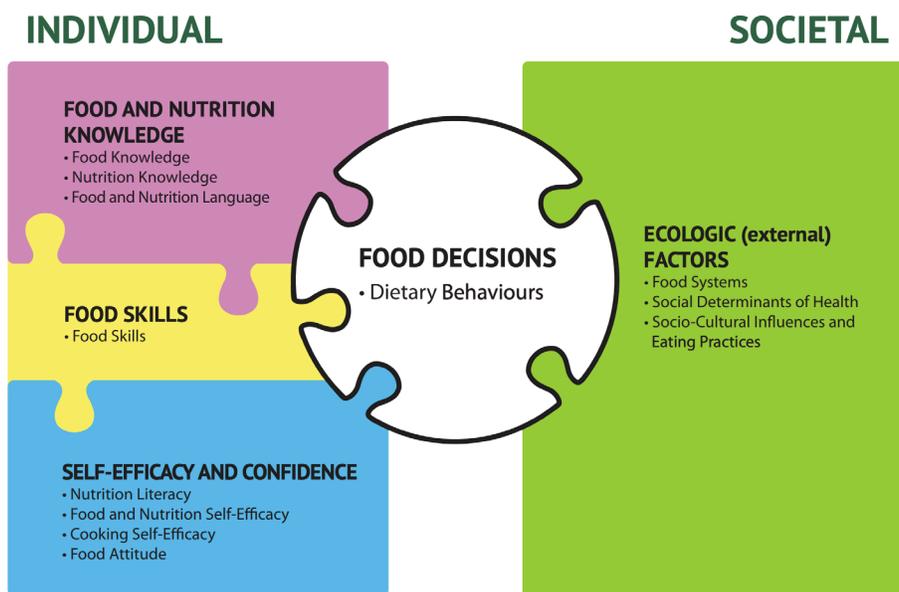


Figure 1: Attributes of food literacy (4).

¹ Highly processed foods (sometimes called ultra-processed foods) are formulations of industrial ingredients, other substances, and additives. They are typically convenient, attractive, and profitable for manufacturers and purveyors. They are usually heavily branded, enticingly packaged, and intensely marketed. (6)

FOOD SKILLS	Examples
Purchasing & Procurement	<ul style="list-style-type: none"> • Reading food labels • Knowing how to select ripe vegetables and fruit • Growing food
Preparation	<ul style="list-style-type: none"> • Reading and adjusting a recipe • Measuring and weighing ingredients • Cutting, chopping, dicing, and other knife skills
Handling	<ul style="list-style-type: none"> • Understanding the clean, separate, cook, chill principles • Knowing how to sanitize kitchen equipment and work spaces • Following appropriate hand washing techniques
Storage	<ul style="list-style-type: none"> • Following safe storage temperatures • Understanding date labelling (e.g., best before date) • Knowing how to store food to minimize the risk of foodborne illness

Table 1: Examples of food skills.

Interventions to help children and youth to develop food skills will support them to establish and maintain healthy eating habits as they develop into adults.

The goal of this evidence brief is to describe effective approaches to increase food skills in children and youth under 18 years of age and their parents.

Discussion

Children

Effective food skills programs for children typically include practical opportunities to learn and practise skills (11–15). Cooking programs that have been demonstrated to have a positive impact on children’s food skills include activities such as reading a recipe, chopping vegetables, baking, and preparing food (12,15). Effective gardening programs include activities such as planting, weeding, watering, harvesting, and tasting (11,13,14).

Effective food skills programs for children also include opportunities to work together (15)

and share a meal (11,15). Both gardening and cooking activities can provide opportunities for teamwork, cooperation, and communication and can leave participants with a sense of ownership and pride over their work (11–13). These feelings are enhanced through the sharing of food that participants grow and/or prepare as part of the program. Importantly, gardening and cooking programs may also increase cultural awareness through growing and cooking foods from different cultures and sharing in meals prepared using these foods (13).

Some evidence suggests that enlisting stakeholder involvement to plan and develop food skills programs is important to the program’s success and sustainability, but more research in this area is needed (11). Stakeholders may include students, parents, teachers, school administrators, and community groups, depending on the program setting. Evidence also suggests that parental involvement in program delivery increases its impact, as does having a home environment that supports the knowledge and skills children gain through food skills programming (11).

Food skills programs are frequently offered in a school setting, either as part of the curriculum (12–14) or outside instructional time (11,13), or in the broader community (15). Although program setting does not appear to impact the effectiveness of food skills programs for children per se, evidence strongly suggests that curriculum-based food skills programs are more effective at improving food skills than are programs outside of instructional time (11–14). This is likely because food skills programs embedded in the curriculum can provide in-depth education, are longer-term, and may facilitate a health and wellness culture within a school that supports food literacy and healthy behaviours throughout the school day (12).

The literature indicates that having a qualified, trained instructor for food skills programs is important for its success (11,14). Some literature suggests that teachers may be more effective than other types of instructors (e.g., chefs, dietitians, gardening instructors) perhaps because teacher-led programs are consistent and can be delivered year over year (13), though the evidence is mixed. There does not seem to be clear optimal length, duration, or frequency that make food skills programs effective (11,12).

Evaluation of children’s cooking classes and gardening programs generally demonstrate a positive impact on food skills such as cutting, measuring, and reading a recipe (12). Other food literacy-related outcomes include increased food and nutrition knowledge (13–15), increased vegetable and fruit consumption (11,13–15), willingness to try new foods (11,14,15), and cooking self-efficacy (11,12,15).

Youth

Similar to children, effective food skills programs for youth typically include

practical opportunities to learn and practise skills through cooking and gardening programs (13,16,17) but unlike in children’s food skills programs, youth programs are more likely to include a didactic component, especially when part of the school curriculum (16,17). Experiential activities in youth food skills programs are similar to those in children’s programs but require more advanced food skills (e.g., reading food labels, knife skills) (16,17).

Similar to programs for children, effective food skills programs for youth include opportunities to work together (13,17) and share a meal (17). Food skills programs for youth that include components such as weekly themes, cooking competitions, and participant recognition (e.g., certificate of completion) have also been demonstrated to be effective (16). Peer modelling (e.g., through peer leaders) that provides an opportunity for youth to develop social support also appears to make youth food skills programs effective (16). Parental involvement in food skills programs has been demonstrated to help younger adolescents improve food literacy skills but not older adolescents (16).

Like children’s food skills programs, food skills programs for youth are frequently offered in a school setting, either as part of the curriculum or through extra-curricular activities (13,17), or in the broader community (16). Youth food skills programs may be more effective if incorporated into the school curriculum due to the challenges with engaging and motivating adolescents (16,17). The literature suggests that having a qualified, trained instructor helps to make these programs for youth a success (17) and that teachers may be more effective at delivering than other types of instructors (13). Unlike programs for children, food skills programs that have a minimum of four sessions and are longer in duration are thought to be

effective for youth (16), though more research is needed to determine optimal program length, duration, and frequency.

Few evaluations of youth food skills programs actually measure food skills as an outcome and instead measure other aspects of food literacy. Youth food skills programs generally demonstrate a positive impact on food and nutrition knowledge (13,16,17), vegetable and fruit consumption (13,16,17), and cooking self-efficacy (13,16,17).

Parents

There is a dearth of evidence for effective strategies to increase food skills of parents. Most food skills programs that have been evaluated to date have primarily targeted children and/or youth, with parents being a secondary target population and often only a means through which to access children (18). Furthermore, few evaluations of adult food skills programs have actually measured food skills as an outcome.

Evidence suggests that intensive interventions that provide knowledge, teach practical cooking skills, and utilise goal-setting are effective at improving the eating habits of adults in the short-term but that this improvement may not be sustained in the long-term (19). Evidence also suggests that food skills programs that include a food exposure component can lead to increased vegetable and fruit intake in adults (18). Like programs for children and youth, ones that include an opportunity to eat together may improve food literacy in adults (18,19).

Similar to children and youth, evidence suggests that practical food skills programs (e.g., cooking programs) for adults can have a positive impact on food and nutrition knowledge (20), willingness to try new foods

(18), meal preparation (18), and cooking self-efficacy (15,18,20).

Implications for Policy and Practice

Food skills programs that are embedded in the school curriculum, include a practical component, are led by a trained instructor, and that provide opportunities to work together and share food with peers are an effective interventions to increase food skills in children and youth. Policy support is needed to further integrate food skills education into the provincial curriculum. For parents, food skills programs that are practical, include a goal-setting component, and provide an opportunity to share a meal appear to increase food skills, but more research is needed with this specific population.

Despite the amount of research investigating the benefits of food skills programs, evidence demonstrating a significant improvement in food skills is lacking. There is a shortage of robust tools to evaluate and measure food skills and therefore most research measures other aspects of food literacy, such as food and nutrition knowledge, cooking self-efficacy, food attitudes, and dietary behaviour (i.e., vegetable and fruit consumption). Although the evaluation of food skills remains difficult, it is clear that food skills programs have a positive impact on food literacy as a whole and enable individuals to make healthy food choices.

Limitations

This evidence brief may be limited by the non-exhaustive search and review of the literature. Additionally, the lack of validated food skills assessment tools and absence of follow-up over the long term make it difficult to understand the long-term impact of food skills programs.

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