

# Necessity and Strategies for Developing Food Education in China

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**Abstract:** Food education is an integrated education. From the three-dimensional perspective of implementing the Healthy China Initiative, residents' nutritional status, and adolescents' health data, the necessity of developing food education in China is analyzed, the main problems existing in food education are summarized, and strategies for developing food education are proposed in this paper.

**Keywords:** Food education; Healthy China; Nutrition and health; Strategies

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## 1. Introduction

Food education is an integrated education. It is the basis of the five-dimension education and plays an important part in the establishment of a high-quality education system in China. In recent years, China has made major decisions and arrangements to promote the construction of a "Healthy China," giving priority to the improvement of people's health. The prevailing new viral pneumonia across the globe highlights the importance of strengthening the food education work in China. Promoting food education has become a social need and a pressing situation in China <sup>[1]</sup>.

## 2. Necessity of developing food education in China

Food education not only popularizes the knowledge of a healthy diet, but also disseminates the excellent traditional Chinese culture, shapes individual behavior, and promotes lifelong development <sup>[2]</sup>. Promoting food education is not only in line with the needs of the national strategic development and the urgent requirements of the national health status, but also an important path to cultivating healthy and cultured adolescents <sup>[3]</sup>.

### 2.1. Developing food education as a need in the implementation of the Healthy China Initiative

"Without national health, there will be no comprehensive well-being <sup>[4]</sup>." Building a "Healthy China" is central to achieving a well-off society in an all-round way. In October 2016, the "Healthy China 2030" action plan was put forward, marking its preferment as a national development strategy. In 2019, important documents such as the *Plan for the Organization, Implementation, and Assessment of the Healthy China Initiative*, the *Opinions on the Implementation of the Healthy China Initiative*, and the *Healthy China Initiative (2019–2030)* were successively released. These documents have provided a "timetable" and a "road map" for implementing the Healthy China Initiative with indications of specific directions and path <sup>[5]</sup>.

## 2.2. Carrying out food education as a need to address the worrying nutritional status

According to the 2018 China National Health and Nutrition Big Data Report, the average daily energy intake of residents in China is 2,172 kcal, 65 grams of protein, 80 grams of fat, and 301 grams of carbohydrates. These data reflected that the consumption of food with empty calorie (refined sugar, refined fatty oil, beef, *etc.*) has increased in China's social human dietary structure. "Large intake of meat" and "excessive calorie intake" are predominantly the issues here. Although food nutrition guidelines have recommended that fat should make up about 25%–30% of our total energy intake, it has exceeded 30% among residents in China. The grain-based food supply ratio in their diet was 47% in urban areas and 58.8% in rural areas, with the recommended amount being 60% <sup>[6]</sup>. On the other hand, pork consumption has increased significantly but the consumption of fruits, milk, and soybean-based products has decreased. It is appreciable that the unreasonable dietary structure has caused a serious health burden and affected the national nutritional status.

## 2.3. Carrying out food education as a need to address the unoptimistic adolescent health data

According to a survey, the nutritional quality of breakfast for 80% of students in China is poor <sup>[7]</sup>. The rate of myopia in primary school students, junior high school students, senior high school students, and college students is 32.5%, 59.4%, 77.3%, and 80%, respectively. According to a survey of the Chinese Academy of Preventive Medicine, the protein intake of 270 million students in China is only 65% of the standard. Iron, calcium, and zinc intakes are insufficient; in addition, the intake of vitamin A is only 15% of the standard. The incidence of anemia in adolescence is 38%, while the rate of obesity in primary and secondary schools in Beijing is 19.5%, of which 10% have fatty liver. Overall, the incidence of fatty liver in obese children in China is 40%–50%, and the incidence of type 2 diabetes has increased 11–33 times over the past 20 years <sup>[8]</sup>. The unoptimistic adolescent health data must be addressed and emphasized by the whole society.

## 3. Status quo of food education in China

In terms of theoretical research, through internet search, more than 100 academic papers, 27 master's thesis, and 20 monographs, textbooks, or readings on food education can be found; academic seminars (such as the National Food Education Conference, the National Food and Education Summit Forum, *etc.*) have also been extensively carried out across the country. Among them, two primary school textbooks on food have been published: (1) *Food Education for Primary School Students* (divided into spring, summer, autumn, and winter), which was edited by Liu Chunguang and published by the People's Education Press; (2) *Food Education for Primary School* (divided into a student book and a teacher book), which was edited by the project team of the "Food Education" promotion program of the Capital Health, Nutrition And Gastronomy Society and published by Beijing Publishing Group. Nanchang Normal University has arranged the compilation of food education textbooks for kindergartens, primary and secondary schools, as well as universities <sup>[9]</sup>. The food education textbook for normal students, *Introduction to Food Education*, was published in August 2020. In the published papers on food education, kindergarten food education occupies a large territory.

In terms of practical exploration, some experts, scholars, schools, social figures, news media, and social organizations have done their best to promote and explore the development of food education. During the National People's Congress sessions, which are held yearly, the concept of food education has attracted much attention from the representatives, who actively made suggestions for the development of food education <sup>[10]</sup>. Normal universities have also made some practical explorations relying on the advantageous resources of teacher education. For example, Nanchang Normal University and China Food Safety News have jointly built the China Food Education Research Institute, compiled teaching materials for food

education, incorporated food education into talent training programs for normal students, and included it in the curriculum plan of the training class for primary and secondary school principals as well as kindergarten principals in the province <sup>[11]</sup>. We will spare no effort to promote the work of food education in large, medium, and small schools. Some primary and secondary schools and even kindergartens are now actively exploring food education by using the existing resources on their campus. Therefore, it can be said that the practice of food education in China is relatively abundant, reflecting the strong demand and vision of all sectors of society for the development of food education. This provides a solid practical foundation for the development of food education in China.

## **4. Problems of food education in China**

### **4.1. Lack of policy guarantee**

In food education work, the cross management of education administration, health management, market supervision, and other departments exists. Although a series of laws, regulations, and policy documents on food safety has been issued, the specific problems of food education, such as “Who is responsible?”, “How to implement?”, and “What to achieve?”, have not been clearly addressed. As a result, school food education, family food education, and social food education are all faced with the embarrassing situation of being at a loss <sup>[12]</sup>. On the other hand, Japan has promulgated its Basic Law on Food Education in July 2005, while the United States has been issuing the Dietary Guidelines for Americans on a yearly basis since 1980. However, the effectiveness of China’s food education work is not guaranteed due to the lack of food education laws and guidance from relevant policy documents in China <sup>[13]</sup>.

### **4.2. Poor understanding of the concept**

With the improvement of people’s economic conditions, people are increasingly concerned about their physical and mental well-being. However, in terms of awareness and comprehension, comprehension is relatively fixed and mature, but awareness is merely superficial understanding. Therefore, being aware of one’s own health is not equivalent to understanding the concept of food education; in the same way, understanding the concept of food education is not equivalent to the practicability of food education. What is food education in real life? What is the relationship between food education and human health? How should food education be applied? People are perplexed by these pragmatic issues <sup>[14]</sup>. People’s understanding of the concept of food education is superficial, and its practicability is limited. Cyclically, this affects people’s understanding and recognition of food education and eventually restricts the development of food education in China.

### **4.3. Lack of support conditions**

Food education is one of the important contents of educational activities. The smooth development of educational activities requires the joint support of the main content, subjects, and conditions of education. At present, the food education work in China lacks strong support from governmental departments. The practical difficulties in the development of food education, such as the teachers, textbooks, courses, research, and home-school cooperation, need to be addressed urgently. It is well-recognized that there is a shortage of food education teachers in China; an integrated food education teaching system from kindergartens to universities has yet to be established; the quality of food education research needs to be improved; and a home-school cooperation mechanism needs to be established.

## **5. Strategies for developing food education in China**

### **5.1. Clarify the subject of responsibility and strengthen policy guarantee**

First, we should establish and issue laws and regulations on food education. Through the legislation of food

education, the basic concept of food education can be stipulated, its contents can be improved, and its promotion and operation mechanisms can be established, thus providing a strong policy guarantee for the development of food education. In this way, there will be a set of rules and regulations that the food education work in China must follow. Second, we should attach great importance to food education by strengthening government supervision and guidance on the food education work, clarifying the subject of responsibility, condensing the responsibility of work, encouraging the participation of people, integrating food education into relevant work plans of governmental departments, and taking into consideration of the effectiveness of the work when evaluating the year-end work of relevant departments, so as to truly implement food education<sup>[15]</sup>. Third, we should actively promote school food education by giving full play to the role of school education, strengthening the construction of a team of teachers for food education, creating excellent courses pertaining to food education, and compiling school-based food education textbooks. We should also strive to build a school food education system with different learning stages.

### **5.2. Change the concept of food education and promote the concept of “big food education”**

First, we must understand the connotation of “big” in food education. We should break the narrow concept that food education is food safety education or nutritional health education; establish the modern concept that food education is a “fusion education,” integrating knowledge and skills about food, cultural inheritance, interpersonal relationships, and ideological and political education; and promote the concept of “big food education.” Second, we need to fully understand the link between food education and the five-dimension education. Food education is the basis of the five-dimension education and an important carrier to realize the integration of the five dimensions. By fully understanding the relationship between food education and the five-dimension education (physical, intellectual, moral, artistic, and labor), we can then strive to build a “5+1” quality education system. Third, we should scientifically understand the wide connection between food education and other disciplines. Food education is related to various fields, such as pedagogy, nutrition, zoology, and botany. It is an interdisciplinary combination and plays an irreplaceable role in improving students’ comprehensive quality. Hence, it is necessary to strengthen the integration of food education with other disciplines, courses, and activities, so that students majoring in different disciplines can understand, accept, and help to publicize food education. Through this, the concept of food education will be grounded globally and firmly ingrained in people’s minds.

### **5.3. Strengthen multi-party coordination and establish a food education system**

First, we should make full use of school classrooms and teaching resources, give full play to the advantages of school education and teaching activities, which are all well-organized, as well as carry out planned, organized, and strategic food education and training for students. Second, we should give full play to the role of think tanks, including scientific research institutions, by strengthening the integration of science into education, relying on academic institutions to expand food education research, and encouraging the application of scientific research results in classroom teaching and to the research and development of food education products. Third, we should pay attention to family food education and promote home-school collaborative education. In adolescents, the influence from family lasts the longest, and parents have the most far-reaching impact on their children, especially for primary and secondary school students. Therefore, strengthening family food education and promoting home-school cooperation will effectively promote the smooth development of food education. Fourth, we should carry out community food education and build a grid food education platform. Carrying out food education activities in the community has certain inherent advantages as it may result in unexpected educational effects. Fifth, we should make good use of enterprises’ food-related resources, turn these resources into valuable educational resources, and actively provide resource guarantee as well as financial support for the development of social food education. Sixth, we

should give full play to the role of news media in guiding public opinion and creating a climate where everyone understands, cares about, and participates in food education.

#### **5.4. Strengthen food education in primary and secondary schools**

First of all, we should pay attention to the top-level design and planning of food education in primary and secondary schools, formulate certain food education guidance guidelines for primary and secondary students, and clarify the education and training objectives and programs of food education in primary and secondary schools at the institutional level. Secondly, food education should be incorporated into the basic education curriculum system. There should also be some arrangements among relevant personnel to compile food education textbooks and extracurricular readings that are suitable for students of all grades. Moreover, schools should introduce core courses that are related to food education and design a food education model that combines classroom teaching with extracurricular activities, food education courses with other subject courses, and theme education with daily publicity. Third, we should establish and improve the supervision and evaluation system of food education in primary and secondary schools, include food education in their evaluation system, study and formulate the evaluation standards of food education in primary and secondary schools, and strengthen the monitoring and evaluation of the food education process and effect, respectively, in primary and secondary schools. Last but not least, we should carry out nationwide activities to establish high-quality food education schools and food education innovation pilot areas. The society should be encouraged to supervise these schools and pilot areas. Through the establishment and selection of national or provincial food education practice bases, advanced food education schools, as well as other activities to strive for excellence, the society, especially large primary and secondary schools and kindergartens, should be encouraged to pay attention to food education and carry out this education. In that way, food education can become a compulsory and standard course in the school curriculum system.

#### **Disclosure statement**

The author declares no conflict of interest.

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