

Impacts of Campus Foodservice on Students' Life: An Anthropological Case Study of Shantou University

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College food service, an indispensable part of college structure, has been the focus of all aspects for higher education research. College students are the largest consumer group. The quality of foodservice will not only directly influence students' health, it also affects students' mental attitude, happiness and learning effectiveness, furthermore it influences students' overall satisfaction of school life. In this paper, we will take Shantou University as an example and use the method of Business Anthropology, such as participatory observation, questionnaire survey, and in-depth interview to conduct an investigation of its food service, in an attempt to find the current problems and put forward some feasible suggestions.

INTRODUCTION

Constructing a harmonious dining environment is an important part of constructing a harmonious campus, the satisfaction of teachers and students partially depends on the quality of universities foodservices. As a significant part of college logistics, University dining hall, in terms of providing healthy, tasty, valuable and high quality food and service, is the important guarantees of teaching and learning, scientific research and the happy lives of teachers and students (Xiao, 2008). In recent years, with the expansion of university enrollment, college students, as a special group, have been receiving more and more attentions from all related

parties. Being the largest consumption group, they not only consume tangible goods but also intangible service in the process of consumption. The quality of food service and its administration not only directly relate to students' health, but also have an impact on students' mental attitude, happiness and learning effectiveness, and furthermore influences students' overall satisfaction of schools, consequently, creating a cafeteria satisfying the students is one of the priorities of school management. Good services and management will not only solve the problem of feeding students, but also provide safe, health and rich variety of dishes, good and comfortable environment as well as satisfactory of the campus life. In this paper, we will use the method of Business Anthropology such as participatory observation, questionnaire survey, and in-depth interview to conduct an investigation of its food service, which will make an important practical significance to improve the quality of Shantou university dining hall service, the students' diets, and create a harmonious campus life learning environment.

Many scholars have conducted related researches about college catering service and college students' consumption behavior. Li Guowu argues that, with the improvement of living standard and the change of consumption concept, people's consumption demand has experienced upgraded level changes. Many diners no longer satisfy to eat; they also demand to eat comfortably, which put forward higher requirement of the quality of food and dining environment. The demand of diners exceeds prior welfare service level; some demands even are beyond the scope of the original free services. The target subject of universities catering service are students, but due to their limited financial situation and afford ability, this kind of students' ambivalence increases the difficulty of college food service work (Li, 2008). Ma Linpu conducted a study among students at a university in form of questionnaire survey. He looked at some aspects related with student dining activities, such as dining environment, meal price, service attitude, food taste, the angle of nutrient hygiene and cultural atmosphere. The result turns out to be that students not only require high quality of food, but also require that college dining hall should be coordinated with university culture, permeating with college culture breath as far as possible and having elegant food culture harmonious with timing (Ma, 2009). Pan Zirui and Huang Wanqi conducted a research on Wuhan industry college students in forms of body mass index to evaluate students' nutritional status. In the form of questionnaire survey, they investigated the nutritional status and eating habits of the students at Wuhan University, Hubei. They analyzed the main reasons of malnutrition, in accordance with this measure; they made suggestions to improve college students' nutrition and health level. Ye Weiyun and others' research indicated that students' nutrition level affects their physical and mental health and learning ability. Only by taking in various nutrition reasonably can they guarantee that their body maintains proper nutrition level (Ye, Gao, Yin, and Lin, 2006).

From the current literature body on this topic, we conclude that the existing researches about the quality of food service mainly adopt the questionnaire form, part of them combining data, cases, macroscopic and microscopic analysis method together; however, they rarely involve the participation observation and informal interviews methods of anthropology. Moreover, they are short and mainly focus on students' eating behavior. In recent years, the method of anthropology is widely used in the field of consumer behavior research. Tian and Tian regards participatory observation and informal interviews as the important research method of anthropology, describing and explaining the consumer behavior through participatory observation (Tian and Tian, 2011). With the marketization reform of campus dining service, the contradictions between students and dining hall service staff became clear. While students have big objection to dining hall the dining hall staff troubled with no recognition of their hard work. Through our study, we

find that participatory observation is the best research method to investigate how the quality of food service affect teachers, students and dining hall staff, and to resolve the contradiction among them and make teachers and students satisfied with foodservice and operators obtain benefits,. Meanwhile, we will also use interviews to obtain more information to analyze and solve the current issues concerned (Zeng, 2011).

In this paper, based on numerous previous scholastic studies, we combine participatory observation, questionnaire survey, and in depth interview together to study behavior students in different times of food consumption on the campus. Through the observation of interaction between diners and foodservice staff, and the eating habit of diners, as well as interviews, we attempt to find out the degrees of diners' satisfaction and dissatisfaction, the most and the least favorite aspects in their view on dining service, and their recommendation to improve the foodservice quality. Accordingly, we will recommend suggestions to improve the quality of foodservice.

RESEARCH DESIGN AND METHODS

Research Objects and Subjects

Our research is a case study about campus foodservice and students' campus life, our objects are the completely foodservice system of Shantou University including the second, third and fourth dining halls. Shantou University enrolled 9398 full-time students, 75% of them are from Guangdong province and the remainders are from the rest of the coastal and central provinces, not facing the western region and the Northeast recruited students, is located in south coastal of Shantou City, in the east of Guangdong province. It gets full donations of Li Ka-shing, a famous international entrepreneur. The second and third dining halls, which are much bigger than the fourth dining hall with much more foodservice facilities close to students' dormitories concentration area, as such most of undergraduate and graduate students repast in these two dining halls. The fourth dining hall closes to classroom building and library, therefore, fewer students eating there.

Our main subject of this research is whether campus foodservice is closely related to students' life and study, as well as the degree of connection between the two. Our main purpose is to use anthropological methods to study the influence of campus food service on students' health, learning effectiveness, mental attitude and happiness and the overall satisfaction of campus life. Also, we want to obtain students' evaluation of all aspects of campus dining hall and some valuable advices to improve the quality of campus life.

Research Framework

The main body of our research paper contains five parts. Section1 mainly discusses the background and meanings as well as the theory basis of the research, the main content contains related theory about the relationship of campus food service and students' campus life, drawing ideas from literature material about this kind of research method, which will provide theory basis for our paper's theory and method. After reading, we find that the existing literatures rarely involve anthropology survey, especially participatory observation, so we will use it as the main method of our research.

Section 2 is about research design and method. Research design is the framework content and thinking style of our research. Research method includes documentation, questionnaire survey, interview and participatory observation, results of the synthesis this four methods can grasp the

impact of campus food service on students' campus life more comprehensively.

Section 3 is about research findings and discussions. Firstly, we will list various impacts of food service on students' life on campus, such as health, learning effectiveness, mental attitude and happiness. Secondly, demonstrate campus food service's impact on students' overall satisfaction and reputation of campus; thirdly, probe the importance of campus food service and whether or not it should be included in the evaluation package of school performance. Fourthly, discuss the current situation of campus food service of Shantou University.

Finally, we will make a clear statement about how students consider the impact of campus food service on their life. Summarize the relationship of the two, and generalize the areas that current campus food service needed to be improved, and will provide some suggestions as how to establish the long-term development mechanism of college canteen and improve the quality of students' campus life.

Research Method

Participant Observations

Observation is an important research measure, the location of our research is canteen during breakfast, lunch, supper and midnight snack, including the rush hour and non rush hour. The team members observed the behavior of student who had been having meal and employees who had been servicing food. Then we explain the relationship between their behaviors and the quality of food service, give our feasible suggestions on how to improve the quality of food service in school. The observations contain several aspects such as the preference of students to style of dash, the interactions between students and canteen staff. The records of observations were made up of four parts, including time and location, observed contents, academic interpretation, managerial suggestion. In the mean time, we could do some interviews, learn something about the opinion students hold to food service.

Documentation

Documentation is to collect domestic and overseas related material and literature, read related works, make classified contrast of food service's impact on students in those literature and works and generalize the opinions. Grasp the research development of anthropology method, the theoretical basis of this study, in the research of food service. The comprehensive knowledge and understanding of quality of campus food service and the relationship to students' campus life will provide beneficial information for our study.

Questionnaire

Our group also conducted research in form of randomized sampling questionnaire in the second, third and fourth dining halls in the meal time and will be taken back immediately, which will increase the possibility of recovery of questionnaire. The questionnaire will include three parts, the first part is the basic information of the informant, the second part is the influence of campus food service on students' health, learning outcome, mental attitude and happiness and students' satisfaction and the importance of campus food service. The third part is open question, making an understanding of students' opinion about the good and bad aspects of campus food service, which can be some reference to improve canteen food service.

After recycling the questionnaire and confirming the data is qualified, we will do statistical analysis. In the first place, we will draw our conclusion in descriptive qualitative analysis and then combine quantitative analysis as well as the statistical analysis of Likert scale to get the

total score of all survey contents and the correlation between campus food service and students' campus life and their overall satisfaction of campus food service. Finally, we analyzed the answers to opening questions to improve campus food service.

Interviews

Interviewing students from different districts, grades, genders, the content refers to how food service in school affect students' health, study outcome, spirit, happiness and the degree of satisfaction to school. Another important aspect is to find out whether food service in school should be considered as an index to measure results of schools. What can be done to improve food service in schools? The interviews can be very effective and last for a long time, we can understand the thoughts of students and encourage them speak out their opinions about food service in college.

FINDINGS AND DISCUSSION

The Results and Analysis of Observations

The dishes serviced in the dining hall have close connection with students' health, good ones can improve the appetite, and reasonable combination of dishes can satisfy the need of bodies. By looking into the table 1, we can say there are several places the dining hall was not doing good at. And they are as follows: (1) the variety of dishes needed to be enrich, especially the set meal section. Because usually there are more students in front of that section. They seem not that happy when making their choice to pick up the dishes. The set meals are cheap but the quality should also be guaranteed. (2) the nutrition of the dishes is important to the students' spirit and further influence the study outcome. The duty of school is to educate students, this aim cannot be achieved if the students are malnourished. The observations also found that lots of students had the habit of drink soup, so it would be better for dining hall to supply simple free soup. The soybean provided during breakfast are lack of nutrition if it is watered by powder. In the mean time, there could be some more kinds of vegetables, less oil and salt. (3) health: there were no professional train and rules about the staffs' health. Observations showed that the employees hadn't wear their mouth mask correctly, they talked when they were not busy, cleaning while others eating, wearing adornments and had their nails dyed. In addition, there were flies around the dining hall. All the above aspects will affect the health of students directly or indirectly.

TABLE 1
THE INFLUENCE OF FOOD SERVICE ON HEALTH

Date/time/place	Observed contents	Academic interpretation	Managerial suggestion
2011.10.26/17:00 /the third dining hal	Most of the dining hall employees were not wearing Mouth Mask in the right way. And at around 18 o'clock there were cleaner cleaning the table while someone was eating, that was disturbing.	The employees weren't obey the service rule which include wear mouth mask in the right position and the cleaning would affect the mood of student who was enjoying the meal.	The rules should be obeyed, this is for the health of all people. The cleaner should avoid disturbing others.
2011.10.29/12:40 / the third dining hall	There were two flies sat on a student's clothe, and they flew away to other table when the student stood up.	The flies show that the dining hall need to be cleaned up carefully.	The dining hall should be cleaned and disinfected after every meal.

2011.11.7 /17:30/ the forth dining hall	A boy ordered rice, green vegetables and soup for supper.	He might think the soup was delicious and sufficient, so it was enough to combine it with rice and green vegetables.	It will be better if the forth dining hall could increase the types of soup and green vegetables to satisfy students' need.
2011.11.11/18:00 / the second dining hall	In front of the stir-fry window, a student told the employee to put less oil in the dish.	It is not healthy for students to eat dish with too much oil in long term, and the dish teasted greasy doesn't agree with students.	The chef should have a better control of the suitable amount of oil.
2011.11.12/12:30 / the third dining hall	It took a student a long time to choose two dish in front of the set lunch window and he picked pumpkin as if he was out of choice.	The dishes in the set meal section were not various and seldom renewed, this give students little choices and there are not many vegetable dish especially the green ones.	We suggest the set meal section enrich it's style of dishes, add some green vegetable dishes.
2011.11.15/12:15 /the second dining hall	There were lots of young employees wearing adornment including several men with long eardrops.	The health of dining hall include not only the food, but also the environment, so the employees should keep themselves free with adornment.	The administrator should set rules about the uniform 、 hat, and personal health of the employees.
2011.11.15/8:10/ the third dining hall	A girl threw away half glass of soybean milk saying it was too watery and tasted bad.	The watery soybean will influence the appetite of student and couldn't give nutrition to the body.	Maybe it is better to add less water into soybean.

The variety and combination of dishes will affect the health of students and further influence their spirit and study outcomes. Reasonable food will provide students energy, which can give them happy spirit and keep high efficiency in study. Through the observations in table 2, we conclude three aspects to improve the service of dining hall. Firstly, we understand that there is no standard amount for every dish, and some students may have malnutrition problem coursed by bad taste of the dishes; Secondly, the food service in the morning should speeded up and the dining hall can add more food which are popular among students; Thirdly, the opening time of dining hall should be prolonged. All these three aspects influence students' spirit and results of study. Without energy, nobody can study. The breakfast is very import, but students do not have time to stand in a queue, so the effective service should be guaranteed. If the dining hall opens too early it cannot make sure the dishes are still hot when students taking them; and if it closes too early, some students can only have something in the convenient store.

TABLE 2
FOOD SERVICE INFLUENCE ON STUDENTS' SPIRIT AND STUDY

Date/time/place	Observed contents	Academic interpretation	Managerial suggestion
2011.10.17/7:45 / the third dining hall	There were only three windows open in the rush hour, and 6-8 students stood in a line waiting to be serviced, it was in a disorder.	Through communicate with lots of students and personal experience, most students plan to have breakfast within 15-20 minutes, so there would be a mass in the rush hour.	It would be better to add several people and windows to serve in the rush hour.

2011.10.26/12:15/ the third dining hall	A boy took some vegetables from a friend sat against him and finished his rice	The set meal has less amount of dishes and some students could not get enough.	The amount of one set should be standardized.
2011.11.06/11:45 / the forth dining hall	A girl ate her green vegetables and rice, threw away the other two dishes	She might think the dishes tasted bad or there were not so much choices in the set meal section	Enrich the variety of the set meal in forth dining hall to enlarge the choices.
2011.11.16/14:00/ the second dining hall	A girl came to the dining hall at 2pm after doing homework in the library, but there were no food and she had to buy some snack from the convenient store. After talking to classmate, she found almost everyone had the similar experience.	The fixed meal time will course inconvenient to students who missed the time because of doing homework.	We suggest the dining hall open two windows during the non-meal time to serve student who missed the formal meal, this can make sure they have something to eat.

The appetite of the students is affected by the pleasure when they are eating. It is one of the most important things that cannot be ignored. The level of the students' happiness is affected by these aspects from the participant observation in the table 3.(1) Food taste: The students came from everywhere, they have their own eating habits. So the dining hall should be aware of this, they can take into account the tastes of students from different places, in order to improve the level of the students' eating pleasure. (2)The attitude of the workers: they have no patience when providing services for students. They provide services with a straight face and heavy tone. It can affect the student's eating pleasure seriously. (3)The eating environment: Bright, comfortable, quiet, healthy, clean dining environment can ensure students have a pleasant dining mood. The dining hall has not done enough in this respect. The tables are messy sometimes, and some students have chosen dining in the dormitory.

TABLE 3
THE INFLUENCE OF FOOD SERVICE ON HAPPINESS

Date/Time/Place	Observation content	Academic explain	Management advice
2011.10.29/12:40/ the third dining hall	A dining hall staff was cleaning up leftovers to recycling bins, he was putting the disposable lunch box, plastic bags, paper towels and other debris into another bucket, which bursts of odor, and nobody would like to sit nearby.	The leftovers which were classified by the staff might be used to feed the livestock, however, the staff chose the dinner time when some students had not finished their food.	Firstly, there should be two categories of recycling bins to collect the leftovers and other debris. Secondly, the staff should clean all the things after all students have ran out of their food.
2011.11.13/22:10/ the second dining hall	At ten o'clock in the night, there were many students eating supper in the second dining hall. And then, we saw that it was a mess on the table, such as plastic bowls, chopsticks, plastic bags, All of them messy mixed together on the table,	After ten o'clock at night, there are few staffs clean the dining hall. The students' supper leftovers, plastic bowls, chopsticks and plastic bags piled on the table, which do not receive timely clean-up, and destroy the comfortable dining environment.	The management should increase the control of quantity of cleaning staff after ten o'clock at night. So the rubbish and the dishes can be cleaned in time, to keep the dining hall clean and tidy.

2011.11.14/11:35/ the third dining hall	The students who were looking for a table try to avoid these dirty chaos on the table.	The Service personnel may have a bad mood that day, or they do not like the job, or their own sense of service is not strong, which lead to the impatient showing. The students encounter this attitude, their mood will becomes very poor.	The dining hall should strengthen the management of the service personnel, and improve the service attitude of the staff. For example, regular service personnel training, setting the monitoring staff positions, holding the selection of the best waiters activities, etc
2011.11.14/11:45/ the second dining hall	A girl holding an empty plate, lingered for a moment in front of the window of the second dining hall, then she went to the third dining hall, and later, she came back to the second dining hall with an empty plate in her hand. and she looked very distressed.	May be due to dining hall cuisine is basically unchanged, or the taste of the food may not meet the girl's needs, resulting in distress when choosing what to eat.	Managers should hire a nutritionist to develop more specialized kind of dishes and update the dishes regularly, and should take into account the balance of a variety of tastes. Not all dishes are made of Guangdong taste.
2011.11.8 /12:10/ the third dining hall	Standing on the floor of the postgraduate's dormitory, make a summary about how many students go out from the dining hall with umbrella or lunch box in their hands in a minute. Finding that there were sixteen students, and some of them even take some books.	On rainy days, it is very inconvenient to bring food back to the dormitory. but many students choose to dine in the quarters, At this point, the students just after class, seats usually depleted and dining hall full of quarrel. the environment is not as good as dormitory .So many students do not want to eat in the dining hall.	Improve the second and third dining hall dining environment, clean the table in time, increase the utilization of the dinner table, play lively music to improve the noisy, while the dining hall should be kept clean and disposable lunch should be charged.

Campus dining services affect the health mental outlook, learning outcome and pleasure of students. These aspects either will directly or indirectly affect the students' overall satisfaction to the school. Apparently, the school food service is an important concern for the school service department.

The Result of In-Depth Interviews and Analysis

The participant observation data indicate that food service is closely related with students' campus life. Catering services affect the health, learning effects, mental outlooks, and students' satisfaction of school. What are the students' views of the impact of campus food service on their lives? What is the evaluation of the students on the campus food service of Shantou University? We have obtained the results of these problems by the in-depth interviews with 114 students.

TABLE 4
IN-DEPTH INTERVIEWS SAMPLE (ON PHYSICAL HEALTH)

Questions	Answers in first three places	Frequency	Rate (%)
Do you think what kind of influences the school food service can make on the students health?	1.Influencing on health	57	50.00
	2. Nutritional balance	22	29.30
	3.Causing diseases	21	18.42
Why dose these affects exist?	1. Without substandard healthy condition	59	51.75
	2. Without reasonable nutrition collocation	39	34.21
	3. Food quality(stale and nutrition loss)	15	13.16
Do you think how the Shantou University food service do on these aspects?	1.Neutral	54	47.37
	1.Negative answer	36	31.58
	2.Positive answer	32	28.07
Which aspects can be improved?	1.Sanitary conditions	57	50.00
	2.Types of dishes	56	49.12
	3. Service staff attitude	25	21.93
How to improve?	1. Change types of dishes and tastes	55	48.25
	2. Employees training to improve service attitude	29	25.44
	3. Enhancing sanitary conditions	17	14.91

In the interviews, more than thirteen percent of the students mentioned the campus food service was not satisfying, which affected the students' nutritional intake. Fifty-seven percent of the students thought it influenced students' health. Twenty-one percent of the students thought it caused diseases. Some students thought it affected the intellectual and led to obesity and other health problems. Fifty-nine percent of the students thought that food was not clean, food safety regulation was not in place, there was no health standard, which would affect the health of students. Thirty-nine of the students thought that there was no reasonable nutrition leading to the lack of variety of substances which the healthy body needed to grow; 15% of the students held the opinion that half done or cold food was harmful to stomach. About thirty-two percent of the students held a negative attitude on evaluation of the performance of Shantou University in this area, but 28% of the students held a positive attitude, which shows that the school in this area has done something but does not achieve a satisfactory level. Students proposed improvements include: (1) change types of dishes and tastes, employ a dedicated nutritionist to make richer dishes, meat and vegetables collocation, such as add some green leafy vegetables to improve food nutrition; (2) training employees to improve service attitude; (3) enhance sanitary conditions, pay attention to the food health, tableware cleaning and disinfection, strictly control the procurement process of food ingredients, in order to maintain the freshness of ingredients.

TABLE 5
IN-DEPTH INTERVIEW: FOODSERVICE ON STUDENT LEARNING

Questions	Answers in first three places	Frequency	Rate(%)
Do you think what kind of influences the school food service can make on the students learning?	1. Learning mood	53	46.49
	2. Learning energy	38	33.33
	3. Learning efficiency	12	10.53
Why dose these affects exist?	1. Students mood affects leaning status	24	21.05
	2. Good health contributes to efficient learning	24	21.05
	3. Good service attitude leads to students' good mood	22	19.30
Do you think how the Shantou University food service does on these aspects?	1. Neutral	42	36.84
	2. Negative answer	43	37.72
	3. Positive answer	19	16.67
Which aspects can be improved?	1. Hygiene of food and tableware	46	40.35
	2. Types of dishes	40	35.09
	3. Tastes of food	35	30.70
How to improve?	1. Developing more various kinds of dishes	50	43.86
	2. Training staffs	29	25.44
	3. Standardizing the food processing and hygiene of the staff	27	23.68

In the interviews, 55% of the students thought that the campus food service affected the mood of student learning, thirty-eight of the students thought it affected learning energy. For reasons, twenty-four students said that having a good diet could make a strong effort to learn; also twenty-two students believed that good food service could give pleasure to the students so that they could learn in a good mood. Some student mentioned that as the result of food service food, sickness disrupted the learning program, which really affected learning. Thirty-seven students made a negative evaluation on Shantou University's performance in this area, but forty-two students made a neutral evaluation, which also shows that the school has done something in this area but does not achieve a satisfactory level. Students made the following suggestions for improvement: (1) developing more various kinds of dishes, about fifty students advice to develop some new dishes to promote their appetite; (2) training staffs, improve service and working efficiency; (3) standardizing the food processing and hygiene of the staff, such as leftovers should be promptly disposed of and not be sold to students; (4) keeping one or two windows open all day.

TABLE 6
IN-DEPTH INTERVIEWS SAMPLE (IN SPIRIT)

Question	Answer	Frequency	Rate(%)
Do you think what kind of influences the school food service can make on the student mental outlook?	1. Good service give students energy and have positive influence	54	47.37
	2. Make students confident and open	19	16.67
	3. Have a little influence	10	8.77
	4. Affect the mood of students	9	7.89
	5. Huge influence on students' mental outlook	9	7.89
Why dose these affects exist?	1. The quality of service can affect students' appetite and satisfaction.	41	35.96
	2. Delicious food make students happy	16	14.04
	3. Sufficient amount of food give students energy	13	11.40
	4. The service affect students' learning outcome and the level of confidence	10	8.77
Do you think how the Shantou University food service does on these aspects?	1. Neutral	58	50.88
	2. Negative answer	26	22.81
	3. Positive answer	11	9.65
Which aspects can be improved?	1. The attitude and quality of service	47	41.23
	2. Update the style of food	36	31.58
	3. Beautify the environment	27	23.68
How to improve?	1. Periodically introduce new dishes with reasonable nutrition	35	30.7
	2. Improve the quality of service by training	21	18.42
	3. Increase the personal health and responsibility of the staff	20	17.54

In the interviews, forty-seven percent of students think that good service give students energy and have positive influence. While 17% of the students think that good diet Make students confident and open. Some students mentioned that poor diet can cause students' physical lack of vitality. It shows 36% of the students believe that the quality of service can affect students' appetite and satisfaction, besides, Fourteen percent of the students think that Delicious food make students happy. Over 50% of the students made neutral evaluation on Shantou University's performance in this area, while 23% made negative evaluation on it. When being asked what aspects can be improved, 41% thought that would be the attitude and quality of service, with 32% advised the dining hall to update the style of food. And 31% suggested periodically introduce new dishes with reasonable nutrition.

TABLE 7
IN-DEPTH INTERVIEWS SAMPLE (HAPPY DEGREE)

Questions	Answer Content	Frequency	Rate (%)
Do you think what kind of influences the school food service can make on the students' happy degree?	1. Overall mood	38	33.33
	2. Learning mood	31	27.19
Why do these affects exist?	1. Good food service can make people happy	49	42.98
	2. Eating environment impact eating mood	35	30.70
	3. Satisfaction degree of the price and quality of food	31	27.19
Do you think how does Shantou University food service do in this respect?	1. Neutral	48	42.11
	2. Negative answer	44	38.60
	3. Positive answer	9	7.89
Which aspects can be improved?	1. The staffs' service attitude	68	59.65
	2. The variety and taste of food	63	55.26
	3. The health of food and tableware	45	39.47
	4. Eating environment	22	19.30
How to improve?	1. Training and supervise the staff's attitude	46	40.35
	2. Improving the quality of food, increase variety of food	36	31.58
	3. Keeping floor and table neat, tableware clean, improving health	24	21.05
	4. Playing music adjust the atmosphere of dining hall, improving eating environment	24	21.05

In the interviews, 27% of students think that campus food service can affect students' overall mood, twenty-seven percent think that it can impact students' learning mood, some students also argued that it had an effect on students' physical and mental health, eating mood, happy degree of life. Forty-three percent interpreted that good food service make people happy, while the staffs' cold and impatient make students unhappy. Thirty-one percent argued that eating environment can impact students' eating mood. Eighty-one percent had negative comment on the performance of Shantou University in this respect. Six percent argued that dining hall should improve staffs' service attitude. Some students also argued that dining hall should improve food quality, increase food variety, set up a feedback point and so on.

TABLE 8
IN-DEPTH INTERVIEWS SAMPLE (SATISFACTION DEGREE)

Questions	Answer Content	Frequency	Rate (%)
Do you think what dose campus food service impacts students satisfy with school?	1.The overall evaluation of the satisfaction degree of school	51	44.74
	2. The feel of identity to one’s school	21	18.42
	3.Affect School reputation	17	14.91
Why dose these affects exist?	1.Diet is an important part of school life, it can directly affect the satisfaction of school	49	42.98
	2. The quality of food service influence the study outcome which is students’ duty.	12	10.53
	3.Food service is a key index to evaluate a school	9	7.89
Do you think how does Shantou University food service do in this respect?	1. Neutral	51	44.74
	2. Negative answer	33	28.95
	3.Positive answer	15	13.16
Which aspects can be improved?	1.The attitude of staff	55	48.25
	2. Diversity of food	47	41.23
How to improve?	1. Introducing new types of food	40	35.09
	2.Train the staff to act professional	37	32.46

In the interviews, forty-five percent of students think that campus food service can affect the overall evaluation of the satisfaction degree of school; with 18% agree the campus food service will affect the feel of identity to one’s school. Their reasons are as follows: Diet is an important part of school life, it can directly affect the satisfaction of school; The quality of food service influence the study outcome which is students’ duty; Food service is a key index to evaluate a school. Twenty-nine percent students indicate that Shantou University did not do well in this respect. They also emphasized that that dining hall should make some improvement in the attitude of staff and diversity of food. They also said that dining hall should understand and meet students’ need. In addition, school should put food service in the management agenda.

TABLE 9
IN-DEPTH INTERVIEW SAMPLE (ASSESSMENT AND EVALUATION)

Questions	Answer Content	Frequency	Rate (%)
Do you think we should make food service as the content of evaluating the school performance?	1.Yes	93	81.5
	2.Not necessary	3	2.63
Why?	1. The food service in school affect students’ health and mood	45	39.47
	2.It is an important part of school life	35	30.70
	3.Food is part of school culture	24	21.05
How to evaluate this content?	1. Evaluate and score the food service through interview and questionnaire	35	30.70
	2. Investigate the staff unexpectedly	16	14.04
	3. Examine the environment and the quality of food	10	8.77

In the interviews, eight-two percent of students think education department should make food service as the content of evaluating the school performance. Their reasons are as follows: (1) the food service in school affect students' health and mood. Students' health is very important; (2) food service and students' life are closely related. It is one of the most important parts in campus life; (3) food is part of school culture. (4) Food service is also the most important part of logistics service; (5) Campus food service reflects school management level. Only three percent oppose to this opinion. Because they argued that school responsibility is education rather than food service. One student mentioned a specific assessment plan which is the assessment team inspects the dining hall, evaluate and score the food service and put questionnaires on school website to statistic the scores of food service which are scored by our students, then combining with the above two scores, give them weight and make final scores

TABLE 10
IN-DEPTH INTERVIEW SAMPLE (IMPROVEMENT)

Questions	Answer Content	Frequency	Rate (%)
If you are the President of Shantou University, in order to improve campus food service, which measures will you make?	1.Enhancing management and supervision	42	36.84
	2.Field investigate and improve the dining hall	32	28.07
	3. Use public bidding system to employ contractor of dining hall periodically	27	23.68
Why?	1. Competitive bidding system can inspire contractor do better	20	17.54
	2.Satisfaction investigation is an important index to weight food service	16	14.04
Do you think the current leadership of Shantou University concern about campus food service?	1.Neutral	37	32.46
	2. Negative answer	52	45.61
	3. Positive answer	11	9.65
Why?	1.The way of students feedback are not concern	36	31.58
	2.The variety and taste of food has almost never been changed	19	16.67

If you are the President of Shantou University, in order to improve campus food service, which measures would you follow? For this question, thirty-seven percent of interviewees think they will enhance management and supervision, putting the dining hall under the administrative management agenda, publishing management project for supervise. Twenty-eight percent of interviewees said they will conduct field investigation, and solve the problems which reflect in the investigation. Twenty-four percent mentioned that they will use public bidding system to employ contractor of dining hall periodically. Some students said that they will hold selection activity about the best dining hall, improve hard facility and so on. Eighty percent interpreted that Competitive bidding system can inspire contractor do better. Some students said that students are the service object, so dining hall should try their best to offer the best food service and satisfaction investigation is an important index to weight food service. Forty-six percent think that the current leadership of Shantou University pays little attention to campus food service. Thirty-two percent think it is neutral. Most students' comment is not high, because most students said that way of students' feedback about dining hall, such as the website BBS, letters, which is not concerned and the variety and taste of food has almost never been changed.

Beside improvement suggestions of the above several respects, students also mention other improvement suggestions in the interview. Firstly, don't let the packet and non packet distinguish too obvious. Secondly, dining hall should introduce competitive mechanism, because the reasons for campus food service doesn't do well is that there is no competition. Thirdly, second, third, fourth dining hall have their own advantages and disadvantages, they can learn each other and enhances strong points and avoid weakness. Fourthly, dining hall should specialize in food service. Fifthly, dining hall should investigate the students' satisfaction degree, listen students' opinions. Last but not least, service time should be longer.

Through in-depth interviews, further reflect that campus food service relate with students' health, learning effects, mental outlooks, happy degree, satisfaction of school and other aspects of the campus life closely. In addition, we also know that students real comment on Shantou University food service, and obtain some important improvement suggestions.

Analysis of Questionnaire Outcome

In this research project, we conducted a questionnaire survey to assure the quality of our observational data and analysis. The sample is consisted of 341 STU students, among them 184 are females, make up 54%, 156 are males, make up 46%. Among the sample 138 students were from business school, 39 students were from engineering school, 43 students were from science school, 20 students were from literature school, 22 students were from medical school, 28 students were from law school, 31 students were from art school, 17 students were from journalism school, 3 students were from other schools. According to grade statistics, among the sample 49 were freshmen, 61 were sophomores, 157 were juniors, 24 were seniors, the number of grade one, two, three postgraduate students was 34,12,3 respectively. One grade form was filled falsely. We demonstrate other features in table 11.

TABLE 11
THE SAMPLE FEATURES OF QUESTIONNAIRE (N=341)

Dining hall number	The second 154	The third 91	The forth 87	Starch area 2	Invalid data 7	—	—
Hometown	Guangdong 210	Middle south 50	East China 56	North China 3	Northeast 1	Southwest 18	North west 1
Family economic condition	Very rich 0	More rich 14	Middle 242	Lower middle 62	Difficult 20	Invalid data 3	—
Living city	Mega city 8	Big city 32	Middle city 83	Small city 56	Town 73	Country-side 88	Invalid data 1
Whether willing to recommend	Very willing to 31	Willing to 183	Confuse 85	Not willing to 34	Very reluctant to 5	Invalid data 3	—
Go to east gate for dinning	Very often 39	Sometimes 102	Occasionally 193	Never 6	Invalid data 1	—	—

Note: near the east gate of school has many little restaurants, family economic condition is the subjective judgment.

From the table 11, we know that sixty-two percent of students came from Guangdong province, seventy-one percent of students' family economic condition was in middle level, sixty-

three percent of students were willing and very willing to recommend our school to those students who were preparing to register for college entrance examination. Ninety-eight percent of students had consumed in restaurants near east gate of school. In comparison with eating in school dining hall, these students preferred to eat in restaurants near east gate of school. Therefore, school dining hall did not satisfy students' need.

TABLE 12
EVALUATION OF THE SATISFACTION DEGREE OF FOOD SERVICE

Codes and questions concerned	Average degree of agreement	Strongly agree	agree	uncertain	disagree	Strongly disagree
Q.1physical health	1.463	60%	36%	3%	1%	0
Q.2learning effects	2.235	20%	46%	25%	8%	1%
Q.3Metal outlooks	2.067	26%	49%	18%	7%	0
Q.4Happy degree	1.768	41%	47%	7%	5%	0
Q.5Satisfaction of school	1.777	36%	54%	6%	4%	0

Note: strongly agree 1 point, agree 2 points, uncertain 3 points, disagree 4 points, strongly disagree 5 points and the lower scores, the lower satisfaction.

Table 12 showed food service impacted students in many aspects. From average degree of agreement we know that food service directly impacted students' health, learning effects, mental outlooks, happy degree and the satisfaction of school. As education institute is servicing students, school should improve service quality and increase the students' satisfaction degree towards school according to the situation of itself and students' opinions.

TABLE 13
EVALUATION OF THE AGREEMENT OF STUDENTS SATISFY

Codes and questions concerned	Average degree of agreement	Strongly agree	agree	uncertain	disagree	Strongly disagree
Q.11price satisfaction	2.836	6%	39%	24%	27%	4%
Q.12Weight satisfaction	3.349	3%	25%	20%	39%	13%
Q.13environment/order satisfaction	3.109	2%	35%	23%	31%	9%
Q.14health satisfaction	3.446	1%	18%	29%	38%	14%
Q.15food diversity satisfaction	4.326	1%	3%	6%	42%	48%
Q.16service attitude satisfaction	3.692	0	14%	24%	40%	22%

Note: strongly agree 1 point, agree 2 points, uncertain 3 points, disagree 4 points, strongly disagree 5 points and the lower scores, the lower satisfaction. (15 reverse scoring, the sort of dish has not changed)

Table 13 is the evaluation of satisfaction degree of students with food service of our school dining hall so far. This table applied Likert quantity method too. From this table we know that more than 50% of students were not satisfied with food weight, health, types and service attitude. Therefore, our school dining hall has large room to improve.

TABLE 14
EFFECTS OF CAMPUS FOOD SERVICE ON REPUTATION OF SCHOOL

Codes and questions concerned	Average degree of agreement	Str. Agr.	Agr.	Neut.	Disa.	Str.Disa.
Q.6 campus food service affects the school reputation directly	2.079	26%	49%	16%	8%	1%
Q.7 the important content of school management	1.595	48%	46%	4%	2%	0
Q.17 food service should be included into the evaluation and rating index	1.716	42%	47%	8%	2%	1%
Q.18 the school leaders pay attention to the food service	3.487	3%	9%	38%	35%	15%
Q.19 food service quality is as important as teaching quality	2.164	23%	50%	16%	9%	2%

Notes: strongly agree 1 point, agree 2 points, uncertain 3 points, disagree 4 points, strongly disagree 5 points and the lower scores, the lower satisfaction.

Table 14 evaluated the effects of campus food service on the school from all aspects. More than 73% of students agreed that campus food service had direct effects on the school reputation and composed of the important content of school management. It should be included in the important indicators to assess and evaluate the school. Besides, the students thought that food service quality was as important as teaching quality. More than half of students disagreed that school leaders had paid enough attention to food service. As the operation right of dining hall was contracted, school could communicate with the operators to discuss how to enhance food service level, which had a tremendous influence on school.

TABLE 15
OTHER QUESTIONS CONCERNED IN QUESTIONNAIRE

Codes and Questions concerned	Mean score	Str. Agr.	Agr.	Neut.	Disa.	Str.Disa.
Q.8parents attention	1.918	34%	49%	10%	6%	1%
Q.9 often to be discussed by students	1.982	35%	42%	12%	10%	1%
Q.10 eating habits in hometown	3.082	4%	32%	24%	31%	9%
Q.20 overall satisfactory degree	3.258	2%	26%	27%	35%	10%

Notes: strongly agree 1 point, agree 2 points, uncertain 3 points, disagree 4 points, strongly disagree 5 points and the lower scores, the lower satisfaction.

Table 15 showed that parents were quite concerned about diet of students in school and students also often discussed campus food service. Thirty-six percent of students thought that dining hall had taken their eating habits in their hometowns into account. The overall satisfaction degree was 3.258, which indicated there was much room for dining hall to improve campus food service.

TABLE 16
OPEN ENDED QUESTION 1: GOOD POINTS OF DINING HALL

Contents listed	Aspects listed as first three places (%)
1 reasonable price	11%
2 long service period	3%
3 various dishes	4%
4 fried rice and fried noodles	1%
5 set meal	2%
6 good service attitudes	1%
7 others	12%
8 blank space	66%

Notes: rate above is based on 1023(341*3) pieces of answers, so the highest rate reaches 33 % (341/1023).

Table 16 showed that each of 341 respondents was required to list three aspects which were done well by dining hall. Sixty-six percent blank space demonstrated that many students have not listed three aspects. And except the six aspects listed in the table, others were in 12%. Reasonable price was the most positive aspect as 33% of students thought price in dining hall was reasonable. Students had different opinions on this open question, but they mainly agreed that the types of dishes were not various combined with Q. 5 in table 5.

TABLE 17
OPEN ENDED QUESTION 2: DISAPPOINTMENTS OF DINING HALL

Contents listed	Percentage of aspects listed in first three places
1 poor service attitude	17%
2 single type	12%
3 Unhygienic conditions	13%
4 small portion of food	5%
5 crowdedness	2%
6 negative flavor	3%
7 others	8%
8 blank place	40%

Notes: rate above is based on 1023(341*3) pieces of answers, so the highest rate reaches 33 % (341/1023).

Table 17 indicated that each of 341 respondents was supposed to list three aspects which were done poorly by dining hall. Many students have not listed three aspects so that there was 40% blank place. Poor service attitude required immediate attention and 51% of students thought there was still room for improvement of the service attitude of service staff. Besides, unhygienic conditions and constant types were the poor aspects.

The question in table 10 was three sentences you most wanted to tell the school leaders. The answers were varied. Answers belong to others were 18% and six items listed in the table had not good description of what students wanted to express. The main suggestions covered that the dining hall should improve hygiene, increase dishes, ask students for advises and enhance supervision.

TABLE 18
OPENED QUESTION 3: THREE SENTENCES WANT TO TELL

Contents listed	Percentage of aspects listed in first three places
1 hygiene improvement	9%
2 taste improvement	7%
3 supervision enhancement/advises collected	7%
4 the improvement of the hardware facilities	2%
5 have meals in dining hall	5%
6 staff training	6%
7 others	18%
8 blank place	46%

Notes: rate above is based on 1023(341*3) pieces of answers, so the highest rate reaches 33 % (341/1023).

CONCLUSIONS AND SUGGESTIONS

Campus food service is an important part of school service system, the quality of this could affect the satisfaction appraisal of students on the entire school. The research team studied on the relationship between the campus food service and student life by the methods of participant observation, questionnaire survey and depth interview. We have found that catering was to satisfy a biological need of students but it not only influenced student health directly and also affected spiritual outlook, pleasure degree and learning outcomes, which influenced the overall satisfaction towards the school.

We consider that there are various reasons why students were unsatisfied with campus food service, in which the most important reason was that college food service has not become the part of evaluation indicators by the education department. Without enough attention paid by the education department, the school leaders put less emphasis on the campus food service. In the investigation of our team, more than 73% of the students considered it were necessary to include the campus food service into the evaluation indicators system, as they thought food service quality was as important as teaching quality. However, more than half of students thought the school leaders did not pay enough attention to the campus food service and take effective measures to improve the campus food service. Campus food service had close relationship with the student life. After the campus food service included into evaluation indicators system, the school leaders would put more attention to the food service and improve the service level. Students have put forwards some suggestions on evaluation project which included that assessment group graded the level of food service according to their field survey. Moreover, questionnaires were given out to the students on the Shantou University campus website in order to collect the assessments on campus food services and scores are drawn from the statistics analysis on the valid return questionnaires. Finally, with the grade of assessment group combining with that of students, experts gave a certain weight on both aspects to obtain total assessment results.

The students were satisfied with the food service level in Shantou University on the whole, however, there are still some aspects required to improve. In view of the students, we make suggestions for school leaders, operators and service staff in order that all parties work together to enhance campus food service. Some main suggestions are as follows:

Meal types and nutrition. The variety of dishes is so limited and the dishes are slow to be updated, so students cannot select whatever they like. Besides, the nutrition of food is not reasonable. Dish types should be well-designed by chefs and renewed regularly, especially the dishes of package window, the character of which is economical. But the quality should also be guaranteed. Nutrition should be balanced and scientific, such as modest oil and salt, vegetable category, fresh soy-bean milk and so on.

Sanitary condition. Service staff does not wear masks properly and does some cleaning work during mealtime. Besides, service staff does not pay attention to the personal hygiene, such as nail polishing and earrings wearing. What's more, fliers are seen in the dining hall. Operators should held professional trainings on hygiene for service staff and set relevant disciplines to restrain them. And the cleaning time should be reasonably arranged to clean tables timely, which makes students take meals in clean neat environment.

Service staff. Part of service staff in dining hall is indifferent and impatient to students, which could affect the mood of students and is also the most dissatisfied aspect of campus food service. Dining hall administrative staff should held trainings for the work staff including service attitude and dressing. And supervisors should be appointed to oversee the work process. Besides, some activities can be held to enhance the overall quality of the service staff, such as selecting the best service staff.

Dining hall opening time. The opening time of dining hall is unreasonable. Dining hall is open at quite early time and closed at early hours. Early open hour cannot make sure food heat preserve and early closed time results in that some students can but eat other foods instead, which could affect the students health. Several fixed windows should be set to service students, such as stir fry and fried noodles, which are to make sure students can handle meals healthfully at anytime.

The data of our research teams was mainly collected by participation observation, investigation questionnaire and depth interview. We wanted to find the relationship between the campus food service and all aspects in student campus life, satisfaction to campus food service and relevant suggestions to improve service level. Although we have obtained rich research findings, there are still drawbacks in our research. Firstly, we have put forward some helpful suggestions for school leaders, operators and service staff, but due to the limited time, the observation content was not comprehensive and interview was not specific. So more observations and more specific interviews are required to be enhanced in late research. Secondly, our research team has not interviewed the administrative staff and service staff. However, their opinions are essential for us to understand the dining hall service. Since full catering service is the benefit game equilibrium of all sides, management should collect suggestions from all sides.

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