

Food Services and Student Life: A Business Anthropological Case Study

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The quality of food services is a hot topic on college campuses across the globe. It has a substantial influence on student retention. Positive campus dining experiences can enhance campus food service as an integrated part of student life and contribute to overall student retention efforts. However, up to now, there are few literatures with reference to the linkage between the quality of food service and the happiness and satisfaction of student life in China. We assume the largest reason is that the quality of food service is not the component of the annual university evaluation system. In this paper, we are employing an anthropological approach which designed to test our assumptions about the potential relationship between the quality of STU food service and the students' happiness and satisfaction.

INTRODUCTION

As we all know, food is of vital significance to the human being because it can satisfy hunger and provide daily-based nutritional supplement for us. Besides, when group members eat together, it can be used to boost unity and to denote ethnic, regional and national identity (Boyce, Henry, Shrivastava and Tian, 2002). Moreover, food can be utilized for treating friends, express hospitality, and show social status or prestige. It can even be served as a potentially powerful tool in dominating the behaviors of others (Asp, 1998; Chang, 1977). Naturally, school food service facilities, which as a highly frequent place students and faculty members used to choose when they want to take food, always play a crucial role in

the study of students' campus life.

Consumer behavior refers to consumers' responses to products and services and to how those products and services are presented (DeJesus and Tian, 2004). While the conception of the college food service industry was conceived in the nineteenth century (Schuster and Karolyn, 1997), but now it has gotten a revolutionized transformation. The option of the cafeteria style dining has emerged as it is more diversified. And students have more choices to taste a variety of food and snack offered by restaurants nearby campus, posing a challenge to the school mess hall, for which students are no longer a captive audience. Most importantly, the third-party contract management companies have replaced self-operated dining services on many campuses. As to the operation model of school dining halls, the contracting model has a more efficient advantage over self-administered operation, but it also has a greater risk (Xiang, 2009). The contracting model is the fruit of the socialization of logistic services. Nowadays, an increasingly number of higher education institutions contract with the third-party contract management companies to operate school dining halls. As we have seen, school services facilities operated by the social forces meet the requirement of the socialization of logistic services under the circumstance of socialist market economy (Zhuang, 2009). College food service today is in the business of providing tasting and economic food in a bid to appeal to students, improving their competitive edge to vie for the restaurants off-campus. In order to do that best, you'd better be an expert in the listening business. The reason is that students want to take part in the process: they want to be surveyed, they want to participate in focus groups, and they want to know that they get concerned (Lawn and Schuster, 1998).

A healthy diet is an indispensable component to good health and can help stem various adverse health conditions (Willett, 1994). However, at the very present in China, education administrators place less emphasis on the issue about healthy diet at higher education institutions. The introduction of individualized dietary feedback in the present study resulted in a reduction in the amount of calories and fat purchased by college undergraduates eating in university dining establishments (Normand and Osborne, 2010). In better improving students' food intake, we need a good understanding on what kinds of food they appreciate and what factors influence their choices. Therefore, schools are able to provide better services. For example, culture difference is a significant contributor to the diverse food options. The importance of food in understanding human culture lies precisely in its infinite variability. People having different cultures share diverse sets of food variables (Asp, 1998; Chang, 1977). Furthermore, different types of food choices imply other important meanings. Observing the types and patterns of foods people consume is the best approach to grasp the real meaning of all sorts of culture (Asp, 1999; Kittler and Sucher, 1995; Schau and Gilly, 1997). Of course, gender is characterized as one of the most influential variables to the food choices of students (Schiffman and Kanuk, 2000). A case study in the Erskine College Cafeteria demonstrates that gender difference will feature a different consumer behavior in terms of food consumption (Boyce, Henry, Shrivastava and Tian, 2002).

The quality of student services, a hot topic on college campuses across the globe, has considerable influence on student retention (Hossler and Bean, 1990). Positive campus dining experiences can cement campus food service as an integral part of student life and contribute to overall student retention efforts. However, up to now, there are few literatures with reference to the connection between the quality of food service and the happiness and satisfaction of student life in China. As to a higher education institution, the level of annual university evaluation, an index closely connected to the college's reputation and advancement in the future, plays a crucial role in determining what schools' focus of investment is. The quality of food service, however, is not the component of the annual university evaluation system, according to the announcement released by the Ministry of Education (MOE, 2004). Put in another way, the quality of food services is uncorrelated to the rating system. So the vice principal, mostly in charge of the school's daily life, will have no incentive to elevate the quality of mess hall considering currently the overwhelming majority of colleges and universities across the nation do their utmost to climb the rank and strive for the best. The best strategy for the side of campus is to make their best resources focus on raising the level of other aspects required for the assessment mechanism. Therefore, based on our literature review few scholars have a willingness to examine this issue because the society almost ignores this drawback of existing rating system.

In the following sections, we are employing an anthropological approach designed to test our assumptions about the potential relationship between the quality of STU food service and students' happiness and satisfaction. To begin with, a short introduction, followed by a discussion of the study and the methods, including a description of the STU mess hall and restaurants off-campus chosen for study and methods adopted. Then, the paper will show a presentation of the data of the main findings in terms of the impact of food service on student life. It further gives several managerial implications as well as suggestions, and ends with a summary of the findings and concluding remarks.

THE FOOD SERVICE AND THE UNIVERSITY

The location of the study is the dining halls at Shantou University, which is a comprehensive university with a history of over 30 years and a current enrollment of near 10,000 students who come from different provinces with diverse tastes of food. These essentials are concerned for the reasons that the background of various food cultures takes absolute effect on food consumption choices.

The dining hall 2 and the dining hall 3 under the investigation are located in front of the main living area of both undergraduate and graduate students' dormitories. The location is a prime area for attracting residential and commuting diners, most of the commuting diners are professors, administrative staff at Shantou University and their relatives.

Each dining hall features several windows providing meals or snacks. Food takers should swipe their smart cards as they get what they ordered. Meanwhile customers can have the option of paying by cash when eating in the dining hall. There are also two service staffs taking charge of distributing chopsticks and spoons to the dinners. Based on our observations, the number of cleaners is not accurate because all staff mentioned above would turn into cleaners after they get their own work done. Great percentages of these workers are locals with easily recognized accent.

Combo and self-selection are two major ways for diners to get their food services. Combo is priced fixedly at ¥2.5, which is more preferable to great majority of students. The price of Self-selection depends on different sorts of cooking and distinct optional dishes ordered by individuals. Take-out meals packaged in plastic snack box are also very popular among students.

METHODOLOGIES AND STUDY PROCESS

The researchers incorporated an anthropological approach in this study to explore the relations between food services and student life in STU via descriptive examinations. Most of the data collected were qualitative and analyzed around the considerable influence on student health, student satisfaction, student happiness, and so on. Several main research questions were developed: do the mess hall and restaurants' services have any effect on students' health, learning effect, mental attitude, satisfaction and happiness? What is the most important key factor for students' satisfaction? And the further research includes two problems: one is how to enhance food service of dining hall to meet the students' requirement and how to increase the halls' profits at the same time; the other is whether the quality of campus food service should be considered as an aspect of the performance evaluation to the university.

In seeking answers to these questions, the researchers have applied three traditional anthropological methods including direct systematic participant-observation, formal and informal interviews and questionnaires investigation. By direct systematic observation we can get abundant information about students' eating habits and give anthropological interpretations for their dining phenomenon, thus we can gain a general understanding of the relationship between food services and students' lives. The methodology of the intensive interview can make us get a good notion of individuals' opinions about the food service at the university and their hopes for improvement. In addition, the questionnaire investigation can afford extensive information to support our research results of the first two methods.

Direct systematic participant-observation of behavior is one of the most popular ethnographic field research methods in the ethnographic fields. By direct systematic observation, we mean those ethnographic methods that primarily rely on the researchers first hand observations and that are seriously

attentive to problems of sampling and measurement (Baksh 1989; Johnson and Sackett 1998). From early October to the end of December, we take a period of about 14 weeks to carry out participant-observation at the mess halls of No.2, No.3 and No.4 when students are having meal. During our observations, we have visited different halls in different times, such as time of lunch, dinner and night snack; the observations were taken place both on weekdays and weekends. We focused on two types of people. On the one hand, students at the dining hall were observed and their behaviors, such as to which window they chose for getting their food, with whom they sat, where and how long they stayed, their interactions with the service staff, and so on, were recorded for analysis. On the other hand, we have also paid attention to the attitudes and regular patterns of the working staff, such as the number of workers wearing a mouth mask and the opening hours of the windows. In our observation, we realized both students' eating habits and workers' working style can give important explanations to the dining phenomena of school mess hall.

We design a questionnaire survey to elicit the factors that affect students' use and their enjoyment of the dining hall, including the satisfaction and advice on the dining halls. The questionnaire containing 20 close questions as well as 3 open-ended questions is divided into three sections. The first one is to collect basic information of the students, such as gender, grade, hometown, family incomes and so on. The second section asks 20 questions on five-point Likert scales, with responses ranging from "Strongly Agree" to "Strongly Disagree". In this section, 7 questions ask about the relations between the food service and its influences on students' health, learning effectiveness, inspiration, satisfaction, happiness and school's reputation; 6 questions ask students' evaluation of the food service, and the remaining questions ask the awareness of the importance of food service. In addition, the last section consists of 3 open-ended questions. For example, what are the three things satisfying you the most about our food service and what are your advices to dinning services? All of the questions are essential for gaining deeper information of students' attitude to school food service, and they can provide concrete advices as we make some suggestions to school for improving food service.

We administrated these questionnaires in the dining hall by randomly selecting dining tables in lunch and dinnertime on weekday and weekend. We delivered 350 questionnaires to the food service users who occupy those selected tables for food consumption. Most students are very friendly to fill our questions and thus a large proportion of questionnaires we recycle were identified as valid, indicating that they are interested in our survey and hope for some changes in food service.

In addition, in order to get extensive information about the relation between food service and students' life, we interviewed 112 students chosen from who filled in our questionnaires. The interview consisted of eight questions that all related to the food service management at the university and the relation between food service and students' life. The questions are straightforward to students. Six of them contain extended questions to help us make further inquiries in improving food service. Besides, there is an extra question asking these respondents the reasons they make these answers, such as: If you are the president of Shantou university, what measures would you like to take to improve food service?

All the data collected through these three methods are the mainstream approaches of implication of business anthropology analysis. The results of researchers' findings have been illustrated in the discussion section of the article. Additionally, the findings determined from the ethnographic data were used to give suggestion that could be implied within food service management to improve its overall effectiveness and to positively affect mass campus operations. These recommendations are presented in the "Conclusion and Managerial Implementations" section.

FINDINGS AND DISCUSSION

Findings from Participant Observation

Participatory observation is one of the classical anthropology research methods. The result of this kind of qualitative analysis provides a wealth of empirical material. In the study, the authors employed the participation observation methods to research the school dining halls as long as fourteen weeks, collecting more than 225 observation records. Observation locations concentrate on the second, the third and the forth dining hall; the Observation objects include undergraduate, graduate students, teachers and service

personnel of the dining hall. To sort out the observed data, the authors divide them into three categories, and the outcome is that the campus food services mainly have three significant impacts on students' campus life: physical health, learning effect, mental attitude and satisfaction.

In the authors' observations, food quality is the issue students concern most. The students convey their requirement on the food quality through their responses to the requirements. And study finds that students have already known which dining rooms feature better quality of food via the process of trial and error or dining experience communicating with one another. For example: the forth dining hall has the most delicious meal cooking noodles; while the second dining hall offers a comparatively more sufficient quantity of food than the third dining hall, the food style is so stereotype and insufficient that students almost have no choice, etc. Students' health is closely tied to the food quality of the dining halls. So, students will opt for those foods and meals that have abundant of nutrition and reasonable collocation. Combo, a fixed combination of several sorts of dishes, is the most popular choice of students because of its reasonable price. Generally, students have free options to select three courses, two meat dishes and one vegetable. Besides, there are other windows supplying with Lucai Series, or pickled food, pasta and soup. Usually these foods are not cheap, but there always has a long queue in front of these windows, indicating that students have a strong willingness to take these foods to increase nutrition or just change tastes.

Campus food service directly affects students' physical health, and a healthy body is the precondition for students to pursue knowledge (See Table 1. for detailed information about the relation between students' physical health, learning effect and the food quality)

Food services change the living habits of student to some extent, and then have a far-reaching influence on their mental attitude. For example, most of the male students leave little leftovers in their tableware, while there are a mass of leftovers leaving in the tableware of female students. When students have no choice to choose the quantity of rice, the single outcome is to bring us inevitable waste. In the second dining hall, the phenomenon that students line up in the front of pastries and other snacks windows is far too common, make clear that students hope to satisfy their hunger or to increase nutrition and restore energy, especially for the student who just do exercise or study. When this basic requirement of students is not able to get satisfied, they will feel extremely discontent, which is detrimental to the development of mind and body.

The dining room is not merely a place supplying with food, it also plays other roles in the campus. The dining room staff's service attitude and the dining environment will have a direct impact on the mood of students; the dining rooms provide a gathering place for students. They can carry out activities or eat together in the holidays. Therefore, dining hall is a good platform for students to display themselves (See Table 2 for detailed information about the relation between the service attitude and student's spiritual outlook).

Food service must be closely related with consumers, cultural background of the diner, life habit, and dietary requirements. Guangdong has a very developed food culture. There are a variety of diet styles. For example, students coming from Guangdong are fond of making soup. Under the different diet culture background, the dining room should make a relatively appropriate business model to provide a more considerate service, such as offering more food styles according to various tastes of regions. In our observations, students are generally discontented with the food service. So the managers of the dining hall should take various demands into account.

TABLE 1
STUDENTS' PHYSICAL HEALTH, LEARNING EFFECT AND THE FOOD QUALITY

Date/time/situation	Observed contents	Academic interpret	Managerial suggestion
11/8/2011 Tuesday 18:00 the forth mess hall supper time about 90% seats were taken	The window of cooking noodles has the longest queue, followed by the steamed bread and porridge, and then the self-selected dishes, combo and Lucai (a kind of pickled food).	The cooking noodle is the most delicious food; Every time the combo windows offer a limited and almost cool food; the price of Lucai is far over the average consumption level of students.	There may add some noodle windows, and at the same time reduce porridge and steamed bread windows. Increasing food types of combo and covering a lid above the dish to prevent from becoming cold. The number of Lucai windows can be reduced.
11/15/2011 Wednesday 7:35 the third mess hall breakfast time about 70% seat were taken	Most people are in single when they have breakfast. Most choose porridge and soya-bean milk, also adding a kind of pickle in the porridge. Students who opt for soya-bean milk mostly drink it over in the dining hall.	Due to the morning class, students have no sufficient time to chat during breakfast. Plus, because the plastic cup hasn't the sealing, so students have no choice but sit down before drinking over. Porridge taste bland in taste, so a lot of people like to add some pickles.	Supply a hermetical cup which can keep warm and easy to carry. The pickle's breed and supply can be fluctuated with the demand of students.
11/20/2011 Sunday 22:10 the second mess hall snack time, dining hall were half seated	Four boys order five side dishes and five bottles of beer; a couple and three boys choose rice noodles; two boys and a girl chose side dishes and orange juice.	Students often choose side dishes plus beer or soft drinks when they dine together, and opt for rice noodles when they are stay alone.	Add some other desserts and snacks, such as peanut, barbecue and sticky tofu, because more students tend to dine together in the dining hall.
11/21/2011 Monday 12:10 Supermarket doorway behind the second mess hall Weekday lunch time dining hall were full completely	A boy is paying for a bottle of mineral water, a tin of beverage and a box of instant noodle; A girl who holds a packet of paper towel and a piece of bread waits in line; three boys stay in the area of instant noodle, and four girls linger in the area of bread.	The dining room is crowded with people, and the queue time is too long. So, some students switch to the supermarket buying instant noodles or other foods that fill their stomachs.	Add seats and food- providing windows; repair the damaged seat and implement appropriate ways to put a brake on the unfavorable phenomenon that puts a bag on the seat.

TABLE 2
SERVICE ATTITUDE AND STUDENT'S SPIRITUAL OUTLOOK

Date/time/situation	Observed contents	Academic interpret	Managerial suggestion
11/12/2011 Saturday 12:20 the second mess hall lunch time dining hall is completely full	Within 15 minutes, there are 21 students packaging their food out of the dining room.	When class is over, dining room is crowded with people and there is almost no seat, so students have to choose to package.	Add seats and food- providing windows; repair the damaged seat and implement appropriate ways to put a brake on the unfavorable phenomenon that puts a bag on the seat.
11/15/2011 Tuesday 10:10 a.m. the second mess hall and the third mess hall breakfast or lunch time dining hall is almost empty	The second mess hall has already provided lunch, some windows also offer breakfast. While the third mess hall has not yet operated.	The second mess mainly aims at undergraduate and the third mess hall for graduate. Generally speaking, the graduate students have a more regular schedule than undergraduate student.	the consumption group of the second mess hall is undergraduate, so the service time can be flexibly adjusted according to undergraduate eating habits.
11/17/2011 Thursday 22:30 the second mess hall snack time dining hall is almost empty	Groups of students, some just now do exercise and others study in the library, line up in the front of pastries and other snack windows	Students are more likely to feel hungry after exercise and learning, so they usually choose to take food at night.	Add windows providing food, porridge and snacks after ten o'clock at night.
11/28/2011 Monday 12:15 the second mess hall lunch time dining hall were full completely	The tables around the main roads are almost occupied, causing traffic inconvenience.	After class, students will generally dine together. Rectangular dining table is beneficial for students gathering together, but the passage gap between the tables is too small.	Layout the dining table again and reasonably utilize the limited space of the dining hall.

Findings from In-Depth Interview

As we can see in Table 3, overall, the “ordinary” evaluation on the food services holds the largest proportion in terms of student’s health, learning effect, mental outlook, happiness and satisfaction, the evaluation frequency basically above 42%. While getting the “good” evaluation is relatively less, commonly below 12%, implying that the school food services in these aspects need to get improvement. However, food services get a higher evaluation level in the facet of health, illustrating the school features a comparatively healthy and nutritious diet. But they obtain a lowest evaluation degree in terms of student’s satisfaction, explaining that the school food services in this aspect need to get much further improvement.

TABLE 3
THE OVERALL PERFORMANCE OF FOOD SERVICES AT SHANTOU UNIVERSITY

Impact categories	Evaluation	Frequency	Frequency rate
Health	Good	13	11.4%
	Ordinary	54	47.37%
	Bad	15	13.5%
Learning Effect	Ordinary	42	36.84%
	Bad	22	19.30%
	Extremely bad	10	8.77%
Mental Outlook	Good	8	7.02%
	Ordinary	58	50.88%
	Bad	23	20.18%
Happiness	Ordinary	48	42.11%
	Bad	33	28.95%
	Extremely bad	9	7.89%
Satisfaction	Good	10	8.77%
	Ordinary	51	44.74%
	Bad	13	11.40%

Food services have a great influence on student's health. It will affect the students' physical health, nutrition intake and may lead to disease. In addition, the food nutrition to the students' health development is also important. So school must explore a way about how to improve these bad impacts of food services. The largest problems are the sanitary condition and the variety of foods. Relevant measures must aim at these two points, and strengthening the training of staff and management is also a kind of necessary measure (see Table 4 for detailed information of food services' influences on student's health).

TABLE 4
FOOD SERVICES' INFLUENCES ON STUDENT'S HEALTH

Questions	Top explanations	Frequency	Frequency rate
What influences on student's health do food services exist?	Physical health	57	50.00%
	Nutritional intake and balance	22	19.30%
	Disease	21	18.42%
Why do these influences exist?	Unhealthy diet	77	67.54%
	Lack of nutrients in the food	44	38.60%
	Poor food quality	32	28.07%
What aspects need to be improved?	Sanitary conditions	90	78.95%
	The variety of foods and collocation	84	73.68%
	Service attitudes of staff	25	21.93%
How to improve?	Increase the dish styles and change tastes	63	55.26%
	Train employees to improve their professionalism	38	33.33%
	Improve health conditions	45	39.47%

Catering service will affect the students' learning mood, physical strength and learning efficiency, thus affect students' learning effect. This kind of influence exists mainly because the nutritional balance is

helpful to improve the learning efficiency and good service attitudes can improve learning enthusiasm. Shantou University's food services which need to get improvement mainly lies in the food styles, health conditions and service attitudes. School can make relevant improvement measures from these three aspects (see Table 5 for detailed information of food services' influences on student's learning effect).

TABLE 5
FOOD SERVICES' INFLUENCES ON STUDENT'S LEARNING EFFECT

Questions	Top explanations	frequency	Frequency rate
What influences on student's learning effect do food services exist?	learning mood	53	46.49%
	physical strength	38	33.33%
	learning efficiency	12	10.53%
Why do these influences exist?	nutritional balance is helpful to improve the learning efficiency	52	45.61%
	good service attitudes can improve learning enthusiasm	38	33.33%
	Good dining experience has a positive impact on learning mood	30	26.32%
What aspects need to be improved?	Food style and taste	76	66.67%
	Sanitary conditions of food and tableware	57	50%
	Service attitude	33	28.95%
How to improve?	Increase the food styles and pay more attention to food nutritional balance	58	50.88%
	pay more attention to sanitary conditions	58	23.68%
	Train employees to improve their professionalism	42	36.84%

In terms of service influencing students' mental outlook, 49.12% of the respondents thought catering service will affect the students' mental outlook and mentality, only 17.54% of respondents believe that the impact is not big. In the access to explore why this kind of influence exists, 70.18% of the informants hold that the quality of the service will affect appetite and the satisfaction to school, which will affect students' overall mental outlook. When asked about where the food service needs to get improved, it is generally mentioned that the styles of food, collocation, service attitude and Repast environment etc. Schools need to increase food styles, strengthening staff management and laying down relevant improvement measures (see Table 6 for detailed information of food services' influences on student's mental outlook).

From the interview about the impact of food services on students, food services have a great influence on the degree of students' happiness, and then will affect students' learning efficiency and vitality. Respondents thought service attitudes will affect the quality of the students' appetite and mood. Price and quality of food will also have an influence on students' satisfaction. School needs to make improvement in service attitudes and food styles, as well as strengthening the staff management, etc. (see Table 7. for detailed information of food services' influences on student's happiness).

TABLE 6
FOOD SERVICES' INFLUENCES ON STUDENT'S MENTAL OUTLOOK

Questions	Top explanations	frequency	Frequency rate
What influences on student's mental outlook do food services exist?	Mental outlook and mentality	56	49.12%
	Mood	32	28.07%
	Little	20	17.54%
Why do these influences exist?	The quality of the service influences appetite and satisfaction	80	70.18%
	Good service make students have a good mood and high satisfaction	35	30.70%
	Ensure student's physical strength and energy	26	22.81%
What aspects need to be improved?	Food style and taste	64	56.14%
	Service attitude	55	48.25%
	Dining Environment	27	23.68%
	Sanitary conditions of food and tableware	26	22.81%
How to improve?	Increase the food styles and change taste	49	42.98%
	Train employees and strengthen staff management	48	42.11%
	Promote sanitary conditions	18	15.79%

TABLE 7
FOOD SERVICES' INFLUENCES ON STUDENT'S HAPPINESS

Questions	Top explanations	Frequency	Frequency rate
What influences on student's happiness do food services exist?	Mood	48	42.11%
	Learning efficiency and satisfaction	33	28.94%
	Vitality	19	16.67%
Why do these influences exist?	Service attitude affects appetite and mood	68	59.64%
	Dissatisfaction on the food price and quality	64	56.14%
	The dining environmental impacts repast mood	36	31.57%
What aspects need to be improved?	service attitudes	68	59.65%
	food styles	55	48.24%
	Sanitary conditions of food and tableware	45	39.47%
How to improve?	Train employees and strengthen staff management	66	57.89%
	Promote sanitary conditions	64	56.14%
	Increase the food styles and change taste	55	48.26%

In the aspect of catering service affecting the student's satisfaction degree of school, 65.79% of the students hold that catering service has an influence to the satisfaction degree of school; 21.93% of the students deem that school service facilities will affect student's identification with school and the sense of belonging; 65.79% of the students consider that catering service has a direct impact on the satisfaction degree of school; 18.42% of the students think that food service will influence student's learning efficiency. The school needs to make improvement on the service attitude, food style and dining environment. etc. (see Table 8 for detailed information of food services' influences on student's satisfaction).

TABLE 8
FOOD SERVICES' INFLUENCES ON STUDENT'S SATISFACTION

Questions	Top explanations	Frequency	Frequency rate
What influences on student's satisfaction do food services exist?	Satisfaction of school	75	65.79%
	identification with school and the sense of belonging	25	21.93%
	The school's reputation and public praise	21	18.42%
Why do these influences exist?	catering service has a direct impact on the satisfaction degree of school	75	65.79%
	food service will influence student's learning efficiency	21	18.42%
	Food service is an index measuring of the school comprehensive strength	17	14.91%
What aspects need to be improved?	service attitudes	55	48.25%
	food styles	50	43.86%
	Sanitary conditions of food and tableware	47	41.23%
How to improve?	Promote sanitary conditions	56	49.12%
	Increase the food styles and change taste	52	45.61%
	Train employees and strengthen staff management	51	44.74%

Overall, what the school food services in all aspects need is to improve service attitude, food style, dining environment and sanitary condition. At the very beginning, they can strengthen staff management training, increase the food styles and improve dining environment in order to further improve the whole quality of school food services.

According to interviews, 81.58% of the students hold that education department should take food service as a measure gauge of school's performance evaluation; merely 4.38% of the students disagree, indicating that the overwhelming majority of students are in favor of the idea that school should place more emphasis on school service facilities. As for the reason of using this index, 51.75% of the students think catering service is an integral part of campus life; 39.47% of the students deem catering service will have an influence students' physical and mental health; 26.31% of the students consider that service level embodies the degree of attention schools pay to students.

23.68% of the students think that catering service affects study, because it reflects a material level and has an impetus to study; the number of students who hold that food service embodies the school management ability and has an impact on the reputation of school accounts for 8.77%. Therefore, the school needs to perform food services evaluation measures including questionnaires and interviews survey, in a bid to examine the students' satisfaction with dining halls' health environment, food quality, variety, nutrition, service attitude and cost performance and so on; school can also randomly do sampling survey of employees to identify whether they are qualified, and carry out rewards and punishment system;

exploiting complaints and suggestion channels, strengthening the supervision and management, etc. (see Table 9 for detailed information about whether food services should be regarded as a measure gauge of school's performance evaluation).

TABLE 9
WHETHER SHOULD FOOD SERVICES ARE REGARDED AS A MEASURE
GAUGE OF SCHOOL'S PERFORMANCE EVALUATION

Questions	Top explanations	Frequency	Frequency rate
Should education department take food service as a measure gauge of school's performance evaluation?	Should	93	81.58%
	Should not	5	4.38%
	It doesn't matter	3	2.63%
Why?	Affect students' physical and psychological health	45	39.47%
	Lack of nutrition will lead to a low learning efficiency, thus have a negative impact on studies	27	23.68%
	Part of the school life	59	51.75%
	Reflect school management ability, thereby affecting the school reputation	10	8.77%
	Reflect on the degree of attention school pays to students	30	26.31%
	Little influence	8	7.02%
What do you think how to access the school food service?	Examine the students' satisfaction with dining halls' health environment, food quality, variety, nutrition, service attitude and cost performance by the ways of questionnaires and interviews survey	77	67.53%
	Irregularly do sampling survey of employees to identify whether they are qualified, and carry out rewards and punishment system	20	17.55%
	The internal inspection of dining hall	4	3.51%
	Exploit complaints and suggestion channels, strengthen the supervision and management	12	10.52%

If students play the role of the president, they will take the following measures to improve campus food service: make a public management plan, strengthen supervision to finance, health and price and other aspects; Regularly survey students' satisfaction to dining halls and establish a problem report way and the mechanism for the dining hall; invite the school leaders to the dining hall dining with students; the contract of dining hall adopts a public competitive-bidding system: transparent price and an appropriate contract fixed number of years; raise price, enhance the hardware level and personnel training; The school service facilities take independent operations, etc.

The reasons of taking these measures are as follow: 26.31% students think public bidding system and rewards and punishment system can exert pressure to the dining hall, which can stimulate the contractor do better; 21.05% of the students think repast environment (such as air conditioning and television), food prices, variety, eating habits are the problems students are very concerned about; 19.29% of the students hold that school leaders personally experience the dining hall is a good way to measure whether school attaches importance to food services or not. Meanwhile, checking financial balance sheet of the dining hall table is a powerful means to prevent illegitimate operators getting unfair income. 9.66% of the students consider that independent operation and professional management personnel can strengthen food management efforts, make a better image of Shantou University and improve its popularity; And 9.66% of the students think that food services should put student health as the top priority, improving the food hygiene management level through the staff training and put an end to the poisoning; 7.01% of the students have a sense that the present management system is out-dated. The management of school food services should be more transparent and the operating time should be longer. In the survey question of whether the school leaders pay attention to school food services, 3.51% of the respondents think they are very concerned; 38.6% think they concern; 35.09% think school leaders do not take the food services seriously; and 10.53% consider they don't care at all. Therefore, we can draw a conclusion that students generally think the school leaders are not very concerned about school food services.

Why do students consider the school leaders think little of food services? The reasons are basically as follow: the opinions of the students (through BBS, mail, letters, etc.) can't get more attention; leaders usually do not have meals in the dining hall; There are lack of public effective performance evaluation and results; the whole level of the software and hardware in the dining hall almost has not changed; Generally, students' satisfaction with the dining hall almost always is in a low level.(See Table 10 for detailed information about what aspects school food services need to improve).

In addition to the seven aspects discussed above, there are also some other opinions or suggestions students reflect, which mainly include: 22.80% of the students harbor a hope that the survey will draw the attentions of school leaders, and then there will establish a feedback and responsibility supervision mechanism: introduce a competition system; regularly do surveys on students' satisfaction; develop channels students could supervise the managers of food service facilities. 17.54% of the students think that schools should provide more channels that students can complain. For example, the complaints of staff's attitude, hardware facilities and so on. The procurement price and source of food also need to be more transparent. 12.28% of the students suggest that school should eye the source of food (such as edible oil), the dispose of leftover dishes and the ways of distinguishing combo with the regular meal, etc.; and 8.77% of the students propose that students could set up a self-help rights protection association. School could endow certain privileges to the members of this association, such as irregularly checking the sanitary condition of dining rooms, establishing communication mechanism and so on. (See table 11 for detailed information about what aspects school food services need to improve).

TABLE 10
THE IMPROVEMENT ASPECTS OF SCHOOL FOOD SERVICES

Questions	Top Explanation	Frequency	Frequency rate
If you are the President of Shantou University, what measures will you take to improve school food services?	make a public management plan, strengthen supervision to finance, health and price and other aspects	69	60.59%
	Regularly survey students' satisfaction to dining hall	45	39.47%
	adopts a public competitive-bidding system for the contract of dining hall	27	23.68%
	Raise price, enhance the hardware level and personnel training; school service facilities take independent operations	42	36.84%
Why?	Public bidding system and rewards and punishment system can exert pressure to the dining hall	30	26.31%
	Students are very concerned about the repast environment (such as air conditioning and television), food prices, variety and eating habits	24	21.05%
	Checking financial balance sheet of the dining hall table is a powerful means to prevent illegitimate operators getting unfair income.	22	19.29%
	Independent operation and professional management personnel can strengthen food management efforts, make a better image of Shantou University and improve its popularity	11	9.66%
	Food services should put student health as the top priority, improve the food hygiene management level through the staff training and put an end to the poisoning	11	9.66%
	The present management system is out-dated. It should be more transparent and the operating time should be longer.	8	7.01%
	Extremely value	4	3.51%
Do you think the leadership of the campus attaches importance to the school food services?	value	44	38.6%
	I don't know	11	9.65%
	Indifferent	40	35.09%
	Extremely indifferent	12	10.53%
	leaders usually do not have meals in the dining hall	44	38.6%
Why?	The quality of the food services can reflect whether school leaders pay attention to the dining halls	26	22.81%
	There are lack of public effective performance evaluation and results	18	15.79%
	the whole level of the software and hardware in the dining hall almost has not changed	17	14.92%

TABLE 11
OTHER OPINIONS OR SUGGESTIONS

Question	Top Explanation	Frequency	Frequency rate
Do you have something else that you want to tell we should focus on?	Hope the school leaders could pay attention to the survey, establishing a feedback and responsibility supervision mechanism	26	22.80%
	provide more channels that students can complain	20	17.54%
	school should eye the source of food (such as edible oil), the dispose of leftover dishes	14	12.28%
	set up a self-help rights protection association	10	8.77%

Findings from Questionnaire Survey

In order to improve the validity of the questionnaire, the authors distribute weight according to the distribution of the college undergraduates. The respondents cover college of arts, law school, business school, engineering college, school of science, medical college and school of journalism. The authors extract 233 effective questionnaires in accordance with the ratio of the number of each institution (see table 12 for basic information of statistical chart).

Basic information: the proportion of the college in the sample is close to the actual distributed proportion, and sex ratio is also approximate. So the sample can truly reflect some effective information we want to get; The respondents are mainly the freshmen, Sophomores and junior students. Senior and graduate students are less contained in our survey. It's fit nicely with the fact that the number of senior and graduate students in school is small; The second dining hall has a biggest concentration degree, which means a large number of students who are in favor of this dining hall. The family condition index is 3.15, indicating that the student families mainly have a middle-income level; Hometown index is 4.04, students from Guangdong province account for nearly the half in the statistic data, and a small proportion from the southwest areas. So the average concentration degree is around 4; most of the students are very satisfied with the campus life of Shantou University, and they are willing to recommend this school to their classmates.

Evaluation scheme: there are two main issues in this part. One is whether the school catering services have a great influence on the campus life; the second is whether students are satisfied with the school food services. As to the first issue, it's generally recognized that food service has an impact on student's campus life, especially in the aspects of physical health, happiness and satisfaction. Students often talk about the catering services of the campus. To the satisfaction of catering services of Shantou University, students have a neutral attitude to the food price, sanitary condition, quantity of food and service attitude, and they strongly agree with the idea that regards food service as one of the gauges of university performance evaluation because food service is as significant as teaching.

Open-ended questions: students are very satisfied with the service time of the dining halls and food prices. But to the service attitude of staff and food styles, they express their dissatisfaction and recommend the school leaders keep a watchful eye on the management of dining halls.

It can be seen from the above that food service have a big influence on student's campus life. The overall school food services of Shantou University are recognized, to some degree, but they need to be further improved in some facets.

TABLE 12
STATISTICAL GRAPH OF QUESTIONNAIRE SURVEY

gender									
male: 106 45.50% female: 127 54.50%									
<i>Academy</i>					<i>Grade</i>				
Business 31 - 13.30%					Freshman 48 - 20.60%				
Engineering 45 - 19.30%					Sophomore 58 - 24.90%				
Science 36 - 15.50%					Junior 77 - 33%				
Literature 25 - 10.70%					Senior 17 - 7.30%				
Medicine 22 - 9.40%					Graduate (1), 22 - 9.40%				
Law 29 - 12.40%					Graduate (2), 8 - 3.40%				
Art 27 - 11.60%					Graduate (3), 3 - 1.30%				
Journalism 19 - 8.20%									
Mess hall	The second: 108 46.45%			The third: 72 30.90%			The forth: 65 27.90%		
Family background	3.15			Hometown category	4.04		Recommendation or not	2.36	
Evaluation questions									
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
1.45	2.24	2.03	1.75	1.78	2.05	1.62	1.85	1.00	2.00
Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
2.86	3.35	3.10	3.42	1.64	3.69	1.69	3.48	2.12	3.28
Open-ended questions									
Q2-1	Q2-2	Q2-3	Q2-1	Q2-2	Q2-3	Q3-1	Q3-2	Q3-3	
2.73	1.02	0.26	2.07	2.17	1.39	2.69	2.58	2.10	

CONCLUSIONS AND SUGGESTIONS

The literatures referring to food service at higher education institutions are mostly concentrated on the discussion of universities' inner food service (such as cost control and supervision mechanism, etc.). Social catering cost is combined with costs or expenses in the process of production and supply of all kinds of food products. At present, the logistics catering service entity in China's most colleges execute an entrepreneurial mode. The operating cost includes the basic elements of social catering industry cost. Due to the particularity of the catering service entity at higher education institutions, its cost structure has different aspects compared to the social catering industry.

The cost structure of the food service at higher education institutions mainly includes: direct costs, part of the indirect expenses and period costs (Gong, 2011). In order to reduce the cost of college's food and beverage management, the universities across the nation cooperate with the social enterprise in succession by introducing the third party cooperation mechanism. With the deepening of the reform of food service socialization, the compositions of the food and beverage service change strikingly, from school's authorized personnel to contracted personnel as the main body.

The status and function of contracted staff in universities' catering system are profoundly changed. They gradually become the main force of the development of the food industry at higher education

institutions. To this situation, setting up a set of new employment mechanism not only can play contracted personnel's role, but also can effectively reduce the labor employment risk. This is also an important topic of the management of contract personnel in the college food service industry (li & Yu, 2011). In addition, owing to the food safety accidents frequently happened in recent years, such as Clenbuterol, Rongalit, Sudan red, poisonous rice and oil, Melamine, etc., the food security of society and universities also draw the attention among ordinary persons. Catering service of Universities is not only related to the health and the life of college teachers and students, but also related to the campus's harmonious life, and even the stability and development of society.

As to the catering service of Universities, many scholars suggest that enhancing supervision can effectively curb universities' evil behaviors, such as providing low quality food, or even toxic food. For example, Jin (2009) proposes that it is important to establish a normative college catering market and a practical and feasible access mechanism and restriction mechanism. Strengthening the operator and the staff's social responsibility, legal consciousness, moral character and the education for basic food hygiene and safety regulations are the guarantee of a high level of food service quality and justice of supervision.

In comparison, the research of Chinese scholars about the food service's influence on student's body and spirit is rare. In this paper, we apply the methods of classical anthropology, having a qualitative analysis on the relation between the food services at Shantou University and student's physical health, learning effect, mental attitude, happiness and overall satisfaction and so on. The results show that universities' catering services have not just a highly related with student's physical health, but also with the students' individual quality development and satisfaction.

In the previous discussion, most respondents said that the campus food service have a big impact on the physical and the mental aspects of students. At the same time, they are generally not very satisfied with the campus food services. So, the school should take effective measures to strengthen the management of the dining room in meeting the needs of students. In addition, one of the main reasons causing this problem is that education department does not take college food services into annual assessment index system of university.

The current evaluation mechanism focuses on the school's hardware, software and academic research level (The Ministry of Education, 2004). The result is that high education institutions have no incentive to improve food service conditions. So, education department should take school food services into the university evaluation system. Only in this way can we fundamentally settle the present awful situation: a low level of food service at high education institutions. This is also the main purpose of the paper.

REFERENCES

Asp, E. H. (1998). Factors Affecting Food Decisions Made by Individual Consumers. *Food Policy* 24, 287-294.

Boyce, Tami, Pamela Henry, Pratik Shrivastava, Robert G. Tian (2002). The Influences of Gender and Reference on Food Consumption: A Case Study in the Erskine College Cafeteria. *High Plains Applied Anthropologist*. Vol. 22(2), pp. 163-171.

Chang, C.K. (1977). *Food in Chinese Culture: Anthropological and Historical Perspectives*. New Haven, CT: Yale University Press.

DeJesus, Jennifer and Robert G. Tian (2004). Cultural Awareness and Consumer Behavior: A Case Study of American Perception of Mexican Food. *High Plains Applied Anthropologist*. Vol. 24(1).

Doern, R. R. and Kates, S. M.(1998). The Social Meanings of Drinking: Strengthening the Social Bonds of Restaurant Employees. *Advances in Consumer Research*, Volume 25, 482-485.

- Hossler, D., & Bean, J. (1990). *The strategic management of college enrollments*. San Francisco: Jossey-Bass.
- Jin, Hongli(2010). The risk management of college food services. *University Logistics Research*. Iss: 1, pp 25-27.
- Jordan, A. (2003). *Business anthropology*. Prospect Heights, IL: Waveland Press.
- Kittler, P.G., Sucher, K.P. (1995). *Food and Culture in America*, 2nd ed. West/Wadsworth, Belmont, CA.
- Lawn, J., & Schuster, K. (1998). What business are you in? *Food Management*, 33(1), 38-39.
- Li, wei & Yu, Ruiyong (2011). The Management Controversy on the Contracted Personnel in College Food Services. *University Logistics Research*. Iss: 1, pp 54-55.
- Marinos Tzavaras, Irimi Tzimitra-Kalogianni, Michael Bourlakis (2010), Consumer behaviour in the Greek floral market: Comparative insights for the food industry, *British Food Journal*, Vol. 112 Iss: 4, pp.403 – 415.
- Ministry of Education (2004). Notification issued by the general office of the ministry of education about The undergraduate teaching assessment plan of universities and colleges with general education (trial implementation) Internal Documentations, 2004, Issue 21.
- Normand, Matthew P. and Matthew R. Osborne (2010). Promoting healthier food choices in college students using individualized dietary feedback. *Behavioral Interventions*. Vol. 25 Iss: 3, pp.183 – 190.
- Pantano, Eleonora (2011). Cultural factors affecting consumer behaviour: a new perception model, *EuroMed Journal of Business*, Vol. 6 Iss: 1, pp.117 – 136.
- Schau, H. J., Gilly, M. C. (1997). Social Conventions of a Fast Food Restaurant: An Ethnomethodological Analysis. *Advances in Consumer Research*, Volume 24, 315-321.
- Schiffman, L.G., & Kanuk, L. L., (2000). *Consumer Behavior*, Seventh Edition. Upper Saddle River, New Jersey: Prentice Hall.
- Schuster, Karolyn (1997). Colleges and universities. *Food Management*, 32(10), 32-45.
- Tian, Robert G Alf H Walle (2008). Anthropology and business education: Practitioner applications for a qualitative method. *International Journal of Management Education*. 7 (2), DOI:10.3794/ijme.72.224
- Willett, W. C. (1994). Diet and health: What should we eat? *Science*, Vol. 264 Iss: 5158, pp.532 – 537.
- Xiang, Lizhi (2009). The Right Assignment Risk Management Under the Outsourcing Model of Colleges' Dining Room. *Friends of the accounting (the late ten-year periodical)*. Iss: 1, pp.39 – 40.
- Zhuang, Shaoming (2009). Strengthen the Supervision and Regulation to Outsourcing Exploration of the Dining Room. *Economist*, Iss: 12, pp.109 – 110.