UNIVERSITY OF TAMPERE

School of management

INVESTIGATING STUDENT SATISFACTION IN PUBLIC EDUCATION

THE CASE OF HO CHI MINH CITY

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ABSTRACT

Vietnam's education is still facing challenges in spite of constant innovation and increased investment in recent years. Thus, this research investigated student satisfaction perception with educational aspects of public education as a mean to monitor service quality and redirect resources to student priorities.

As education is a service, student satisfaction is considered a form of customer satisfaction. The research model of the study was adapted from the student satisfaction framework by Marzo Navarro et al. (2005). The data were collected via a survey instrument from a sample of 150 higher secondary students attending public schools in Ho Chi Minh City and statically analyzed using SPSS software. The result indicated below average student satisfaction with public institutions. 48.7% of participants were dissatisfied with their institutions and 52.7% of students felt the education quality was underwhelming. Students with different demographic background as region and grade had substantial different level of satisfaction. Urban students and freshmen are commonly more satisfied with the service quality. Regression analysis found that course administration, learning environment and academic staff are factors that had significantly influence student satisfaction.

In order to maintain public education quality, it is necessary that the school board and the department of education must monitor important institutional aspects closely in order to implement appropriate policies.

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CHAPTER 1: INTRODUCTION

1.1 Research Background

The Public education system is necessary for the development of future generations as well as improving the society. As the government administrators are responsible for making policies relating to public school operation and educating, it is necessary that they understand what changes are needed to ensure proper service is provided to the community. Evaluation of student satisfaction is an effective method to identify competitive advantages and critical weaknesses of education institutions that are less satisfying or requiring further improvements to meet student demands. While studies on public quality assurance and satisfaction are quite common in the world, most authorities in developing countries still have not paid enough attention to these concepts applied to the public schools setting.

In the last 10 years, Vietnam has acquired significant achievements in expanding their public education system as education is widely recognized as the vital solution to eradicate economic development obstacles as illiteracy and poverty. The state budget for education has been increased from 15.5% of total government spending in 2001 to 20% in 2007 and maintained a consistent rate for the following years (ADB, 2012) which consequently resulted in total enrollment rate of 92% for lower secondary as well as 56.7% for upper secondary (ADB, 2009). According to World Bank (2011), between 1992 and 2008, the percentage of the population aged 25–55 without any education has decreased from 23% to less than 1%. Education quality also has been increased over the past years as a comparison of two large-scale standardized tests of grade 5 students indicates significant improvement is student achievements over the 2001 to 2007 period (World Bank, 2011). The statistics suggested that, with the constant funding and positive policies from the government, the education system in Vietnam has made substantial improvements both in quality and in quantity.

1.2 Education System in Vietnam

Education in Vietnam could be classified by the form of ownership and operation into public schools and private schools. Public schools, which are funded by the government, are irreplaceable since they provide the access to schooling at a minimum fee for a great portion of the population, especially in the remote areas. Public schools play a pivotal role in the national education system. Therefore, their management policies are constantly adjusted to fit the plan of the State for long-

term and short-term education development. On the other hand, private schools operated by private organizations or individuals have been considerably necessary to solve customer's demand and have expanded in great number since 1994 due to encouraging national education policies (Nguyen & Nguyen, 2008). Depending only on state funds for the education expansion create a heavy burden on the public sector. Consequently, developing a mixed system consists of both public and private institutions would improve efficiency and fairness of education.

The Vietnamese national education and training system consist of four basic levels. First level includes preschool and kindergarten. Second level is general education with elementary, junior high, and high school. After completed general education, students might attend vocational education with professional secondary and vocational training institutions. Students wish to take part in higher education could apply for college, university, master or doctoral programs.

The department of education and training is the common name for the in charge of local education Vietnam, which is led by ministry of education and training. Departments of education and training are specialized organizations of the people's committee, which has the function of advising and assisting the people's committees, executing functions of management in the field of education and training as well as performing public services under the jurisdiction of the department of education and training in the region. The local people committees are responsible for the teaching staff, finance, facilities and equipment of public schools in the regions (Nguyen & Nguyen, 2008).

Ho Chi Minh City department of education and training is under the direction and management of the City People's Committees and the Ministry of Education and Training. Under the city department of education, each of the 24 districts in Ho Chi Minh City has its independent district department of education and training.

Educational quality management system in Vietnam had been developed in the 1990s, associated with the programs of World Bank and ADB. In 2003, the General Department of Education Testing and Accreditation (GDETA) was formed with the mission of quality assurance and accreditation of all high schools, universities, colleges and the training programs at these institutions.

After joining WTO, Vietnam has deliberately made serious commitments to implement the General Agreement on Trade in Services (GATS), which aim to connect all service sectors, including education to boost the development in these segments further. Most of the education fields, which consist of natural sciences and engineering, business management, economics,

accounting, international law and language, were opened to investment from domestic and overseas private organizations thus creating a fierce competitive environment between existing and emerging educational institutions.

1.3 Research Problem and its Context

Vietnamese public education system is absolutely under the regulation of public administrators. The Ministry of Education and Training (MOET) and local educational departments is responsible for management, planning and making policies relating to education and training. The local people committees are responsible for the teaching staff, finance, facilities and equipment of public schools in the regions (Nguyen & Nguyen, 2008). In pursuance of this mission, they must clearly understand their strengths and identify areas that needed improvements.

In spite of persistent reform efforts and increased budget spending on the sector in recent years, the overall quality of education in Vietnam remains inadequate, ranking 72 out of 144 countries (World Economic Forum, 2012). Vietnam's education is still facing challenges of impractical programs, ineffective training, outdated teaching methods and limited resources utilization (Nguyen & Nguyen, 2008). Vietnamese students are insufficiently prepared in both practical professional knowledge and foreign language proficiency (Vallely & Wilkinson, 2008). Comparable to other developing countries in Asia, Vietnam is encountering poor recognition of the intricate nature of education and missing a system of standards for directing practices and monitoring performance (Cheng & Tam, 1997).

According to the Prime Minister (2006), in Document No.33/2006/CT-TTG, the public education sector in Vietnam is facing severe managerial dilemmas as coherent assessment framework lacking, achievement obsession and inefficient use of state budget. For the most part, these issues originated from economic constraints of the governments, particularly in developing countries and their educational policies. By 2007, only 30 percent of schools met national standards (World Bank, 2011). Many schools in urban areas tended to be short of the minimum space requirements while schools in rural areas, on the other hand are lacking the teaching staff quality, management processes and output indicators. A national report in 2009 displayed that the increase in number of students had pushed the ratio of students to teachers to 28:1, which is commonly regarded too high to maintain the quality of education.

In addition, the recent participation of private institutions gives students more option but, they also put pressure on the public schools as direct competitors. In spite of its benefits, public

provision has been proven to be surpassed by the private provision across time, countries and outcome measures (Coulson, 2009). The state had set the objective for private students to be accounted for 40% of gross student enrolments by 2020. In reality, private education costs for students in Vietnam has not been significantly more expensive than public education costs yet provide decent satisfactory in quality to students and parents (Glewwe & Patrinos, 1999). Consequently, to attract and retain students, public schools are required to improve their service quality, at least to the degree of matching their counterparts, to satisfy student requirements.

1.4 Research Question

Based on the facts mentioned above, this study will be conducted in order to explore the influence of different elements of public education quality including academic staff, course administration, learning environment and teaching method on the satisfaction of students. The research questions, which direct this research, would be categorized into two sets:

Central question:

To what extent students perceive satisfaction with the service quality of public education?

Sub questions:

How do different aspects of the academic staff, course administration, teaching methods and learning environment influence the satisfaction of students?

How could the perceived service quality be improved?

1.5 Purposes of the Study

Though many successful studies have been conducted in the past to investigate the correlation between student satisfaction and its influential determinants, student satisfaction varies across countries and student groups. Therefore, it is critical for the public sector in Vietnam to adopt satisfaction studies to the education department.

This study is significant as it is going to measure the level of service quality and the degree of satisfaction among students. Studying student perception on satisfaction not only enables reorganizations to adjust to student needs, but also supports the development of a framework for continuous service assessment (Elliott & Shin, 2002). Many institutions make important decisions based on these data yet student satisfaction has not been well comprehended, as it is a complex

issue, which is heavily influenced by multiple variables. To better comprehend the relationship between these elements and resolutions to improve student satisfaction in the public sector, researches must aim to analyze different characteristics of public schools that influence student satisfaction.

Hence, the main purpose of this study is identifying the strengths and weaknesses of public education in Vietnam to assist future policies and reform decisions. To achieve the final goal, the research objectives consist of determining factors affect the student satisfaction, measuring the degree of impact each variable has among students attending public school in Vietnam and examining the differences in the satisfaction perception between students with diverse demographic backgrounds.

1.6 Scope of the Research

This research focuses on investigating the impact of academic staff, course administration, teaching methods and learning environment on the satisfaction of students attending public schools in Vietnam.

This research was conducted in Ho Chi Minh City. Subjects of research are students from 16 to 18 years old living in Ho Chi Minh City and studying in higher secondary public schools in the city.

1.7 Significance of the Research

Since there has been intense competition globally in education among the public and private sector, investigating service dimensions and student satisfaction have become a significant part, which proved to be beneficial for learning institution managers and students.

The discoveries of this research are closely associated with student satisfaction towards the public schools, which could consequently be used as a reference to improve the public service quality including academic staff, course administration, teaching methods and learning environment. The data therefore would assist the public sector in evaluating the degree of student fulfillment and determining which elements are the most critical when the agency is going through decisions concerning innovations. These findings might also be valuable to the students who are interested in applying for public schools in Vietnam.

1.8 Structure of Research

This thesis content was categorized into 6 chapters: Introduction, Theoretical Framework, Literature Review, Research Methodology, Data Analysis and Finding, Conclusion, Implementation and Suggestion as well as bibliography and appendixes at the end.

CHAPTER 2: THEORETICAL FRAMEWORK

This chapter discusses the means and method to approach research problems beginning with the theoretical framework.

2.1 Education as a Service

There are numerous suggested concepts describing services under different points of views. According to the definition of Philip Kotler (1997), service is an action or activity, which is fundamentally intangible and cannot affect any possession, proposed by a party to another party. Steinhoff (1979) stated that people are in fact the main material of service and the tools, physical environment, as well as technology are the supporting factors. In general, service is intended to address certain demands of human kind, of which features are non-existent in particular tangible products yet it directly aids certain necessities of society. The customer satisfaction index - CSI was applied in measuring the satisfaction of customers for many organizations in different fields all over the world. Satisfying customer has become a critical competitive edge for businesses and organizations if they strive to improve service quality and maintaining customer loyalty. The customer satisfaction index, defined as a comprehensive review of the service experience, usually includes several variables; each that composed of several indicators or items depends on the characteristics of the service.

The concept of quality has rapidly expanded to most service sector including the education sector. Education is the activities, which related to the procedure of facilitating learning or the obtaining of knowledge, skills, values, beliefs, and habits (Dewey, 2009). Almost every developed country in the world has long considered education as a form of service and a beneficial future investment. However, in the earlier years and especially before the reform in mid 1980s, domestic experts in education usually define the education system in Vietnam as a type of non-commercial public good. Since then, education is being widely recognized as a part of the service industry, which highlights the significance of pleasing the expectations and needs of customers, who in this case are the learners.

2.2 Quality Management in Education

The reason why service quality is problematic to define, describe, and measure is due to the particular subjective nature of services (Brown, 1991). According to Geotsch and Davis (2003), quality could be defined as a dynamic state related to products, services, people, processes, and

environments that equals or surpasses customer expectancy. Sallis (2002) defined quality as service or product that fulfills and surpasses customer's requests.

In the field of education, to comprehend the intricate nature of education quality and come up with appropriate management strategies to accomplish the objectives, it is necessary to review the different concepts and models of education quality. Certain people might accentuate the quality of inputs while others could emphasize the quality of processes and outcomes of the system. Cheng and Tam (1997) defined educational quality as the character of elements in the input, process, and output of the education system that fully satisfies both internal and external strategic constituencies by meeting their explicit and implicit anticipations.

Gronroos (1984) stated that there are two separate elements of service quality, which are known as technical quality and functional quality. Technical quality is an unbiased evaluation of exactly what customers receive from the service provider, which concerns the outcome or content delivered. In contrast, functional quality is an individual assessment of how customers perceive the service delivered including the process of service delivery. Customer might consider functional service quality the most important factor in a service operation, as they are usually unable to judge technical qualifications of service (Asubonteng, McCleary & Swan, 1996). In education, it is only possible to determine the quality through the mean of comparing outcomes with specified objectives, or by relating to conventional criteria (Vlasic et al., 2009).

Educational quality requires consciously management to satisfy student quality demands by implementing different systems. In 1950s, Professor W. Edwards Deming introduced the idea of total quality management (TQM), which is the procedure of shifting the focus of the organization towards a higher quality of products and services. TQM involves not only accomplishing higher quality but also influencing every part of the service process. Organizations that committed to TQM approach regard quality as being decided by their customers (Sallis, 2002). In the case of education, students are the central figure that directly decides the service quality of their schools or university.

An appropriate collection of quality indicators and associated criteria in education could seriously aid institutions in distinguishing key advantages and disadvantages as well as developing their potentials. According to Qi Huang (2010), there is a highly positive correlation between the overall service quality of education and learner satisfaction. In education, similar to other service industries, the perception of student on various aspects of the service qualities is usually collected

via some form of feedback questionnaire or interview. Most institutions implemented student satisfaction surveys concerning the services they offer which could be categorized into teaching and learning, learning supports facilities, support facilities, external aspects of being a student and the learning environment (Harvey, 2003).

2.3 Concept of Satisfaction in Education

According to the definition by Elliott and Healy (2001), student satisfaction is a temporary attitude arising from an evaluation of a student with their educational experience. Bigne, Moliner and Sanchez (2003) discovered a significant relationship between the overall service quality and student satisfaction at R= 0.66. Therefore, it is clear that by improving service quality, educational institution could potentially improve student satisfaction.

As educational institutions have recently come to the realization that higher education is a type of service industry, satisfying the expectations and demands of their students must be improved over time. Stoltenberg (2011) assumed that students are clients and schools are service providers according to the fact that education is becoming more businesslike. Despite the similarities between business and education, there are fundamental differences in their goals and policies, which require appropriate adjustments to satisfaction study approach in education. Petruzzellis et al. (2006) stated in his paper that education is a service which quality and price are both difficult to evaluate in advance, however, its efficiency could be determined by estimating the influence on students.

The constant increase in the number of arising schools, changes in demographic and students' needs are promoting innovations in public institutions to survive in the market as well as maintaining a consistent number of enrolments every year. Since the demands of students as well as the definition of standards are ever changing, every school that aims to improve themselves must constantly innovate to keep up with the environment. As the education sector is a considerable competitive environment, an institution's objective is to pinpoint the determinants that have great influence on students, notify students that they aim to provide them with what they need then deliver what they declared (Nadiri, 2006).

CHAPTER 3: LITERATURE REVIEW

The focus of this chapter is about the concepts, past researches and literatures on student's satisfaction and various characteristics of education, which would help to measure the degree of student contentment.

3.2 Perspectives on Student Satisfaction

Numerous extensive studies have been conducted in the past to analyze the features, which influence students' satisfaction. As the perspective of student satisfaction is a complex and controversial concept, views of different authors on the topic are quite diverse or even contradictory. Despite the fundamental differences in administration and operation, Das and Haque (2013) stated that, for both public and private sector, academic faculty disciplines are the most important qualities towards student satisfaction, followed by faculty attitude, teaching method and teaching quality.

The idea of investigating student satisfaction has been spreading among universities in Vietnam, especially in foreign invested university. However, secondary public schools still focus exclusively on the output of education and achievements rather than actual experience of learners. A visible evident of this issue is that exam results and graduation rate are usually considered the most important standard s to assess quality. Therefore, this thesis aims to address the actual factors contributing to quality of education, which had been neglected, under the perspective of students-the center of education.

Determining which aspects of service needed to be immediately improved is one of the strategic procedures in satisfying students. To measure the global or net satisfaction of student, university assessment offices typically utilized a satisfaction rating scale of four to seven points between the extremes of 'very dissatisfied' and 'very satisfied' regardless of the complexity of student satisfaction (Elliott & Shin, 2002). The surveys are composed by the experts in the field and often carried out annually to reflect the constantly changing in the feedbacks of participants. The increase in student satisfaction greatly assists the university in gaining various competitive edges, which contribute to the attraction and retention of students in the future (Negricea et al. 2013).

Due to the complexity of this concept, there were many different theories of how it was determined. In his work, Harvey (1995) founded evidence to support his hypothesis that factors which could affect the satisfaction of student could be classified into several different categories

include library services, computing services, refectories, accommodation, course administration and assessment, teaching staff and teaching style, teaching methods, student workload and assessment, social life, self-development, financial circumstances and university environment. Elliott and Shin (2002) pointed out that relevant course content, registration process, brilliance of instruction in major, opportunity to take preferred classes, and placement rate of major may be five of the most important and significant variables while registration process and placement rate of major do not seem to be statistically significant elements that might alter students' Student Satisfaction.

Both academic and non-academic factors were demonstrated to have different levels of effect on different groups of students. Academic experiences most differentiate students who are more satisfied with college from those less satisfied while non-academic aspects of college are more important to students who are less academically engaged (Thomas & Galambos, 2004).

According to the paper by Navarro (2005), student satisfaction is positively influenced by five factors: teaching methods, course administration, teaching staff, enrolment and infrastructures. Other authors such as Wiers-Jenssen et al. (2010) argued in their paper student satisfaction could be viewed as their assessment of the educational services they received which comprise of the quality of teaching, academic staff, curriculum content, support facilities, infrastructure, extra academic activities, and social interaction. A survey on the impression of students on services should highlight educational program, teaching, tangible factors, administrative support and image of the academic department, which is considered components of students' global satisfaction (Diamantis & Benos, 2007).

As noted above, the literature on student satisfaction benchmarks is very complicated and diverse. Nonetheless, many authors agreed on a number of key factors that could affect the student expectation of their learning institution. These factors could be divided into four main areas, which consist of academic staff, course administration, teaching methods and learning environment. The factors above are arguably the basic matters of concern among public institutions in developing nations. As a result, they were chosen to access the degree of satisfaction and dissatisfaction of students in this paper.

3.3 Previous Researches

3.3.1 Academic Staff

By the definition of OECD (2012), academic staff or teaching staff refers to professional employees directly involved in teaching students inside or outside a normal classroom. Many authors in the past have claimed that the teaching personnel are the backbone of education. For instance, Rowe (2003) stated that quality of teachers, teaching and strategic teacher professional development is the most important factors in the improvement of educational efficiency.

Especially in a country that is in the progress of education reform like Vietnam, high school teacher has the central role in shaping the character and developing the potential of students. According to Ramsden (2006), a competent teacher must have professional teaching technique with clear objectives, appropriate workload, proper assessment of student ability and emphasis on their independence.

In the current learning environment, the teaching staff is no longer solely responsible for transferring knowledge to students. In addition, they are also the facilitators who guide students in the process of searching and selecting the necessary information by themselves. As a result, depending on the circumstances, teachers must be proactive and innovative in their work. In some cases, teachers should encourage learners to stretch their capabilities by making them figure out the problem independently instead of using repetitive drills or explicit memorizing methods.

As the research by Baker (1999) pointed out, student and teacher interactions could affect student satisfaction with the school that they attend thus it is necessary to investigate the quality of academic staff in pragmatic situations and find solutions to improve the situation. It is usually overlooked that students are fully aware of the lecturer's capability and competence and each has their own expectations of engaging teaching methods or helpful assistance. Most students claimed that they would learn more from experienced teachers and that testing and grading would be more objective with an experienced teacher (Clayson, 1999). This is easy to understand, as experienced teaching staff tends to have the flexibility to connect with different types of students and appropriate approaches to make them engage in the learning activities effectively.

The missions that teachers carry are vital since they are responsible for directly utilizing a wide range of techniques and methods to facilitate education. Thus, public schools managers and

the ministry of education and training should assist teachers to enhance their interaction and support for students.

H1: The quality and attitude of the academic staff will have a significant positive influence on student satisfaction.

3.3.2 Course Administration

When designing the course content, the objectives, instructional resources and evaluation approaches ought to be significantly considered to tailor the student's need. Meeting student expectation, supportive school office, logical progression of work through the course and transparent procedures for assessment is criteria, which course administrators, must pay attention to (Kane et al., 2008).

Academics and course designers must take into account students' background and their experiences (Lea, 2007). Three basic elements of designing a program are learning outcomes, learning activities and learning assessments (Whetten, 20007). Nevertheless, course content still has not gained enough attention from professionals, especially in Vietnam. The course design of most institution is often controversial and obsolete (Prideaux, 2003). The content of an effective program ought to meet the need of the student consist of both selective theory and practical experience.

It should be pointed out that the learning progression could be faster or slower compared to one another. Depending on education system standards, students might learn different concepts eventually in their program. For instance, in certain Asian nations students tend to study algebra in lower secondary school while United States students are more likely to take algebra in higher secondary school.

The existing national education program and textbooks of Vietnam had been deployed countrywide since 2002 with many improvements at the time. However, with the rapid development of science and technology, the current program and policies is struggling to meet the requirements of the country in the new period. Besides, the trend of programs and textbooks development of the world is changing so fast, there are many new achievements in science education should be incorporated in the administration process.

Student assessment and feedback are two important factors, which have been ignored in Vietnamese education programs. Most students expressed the yearning that feedback should contain a grade as a standard indicator and detailed criterion-referenced comments for learner improvement

(Beaumont et al., 2011). Feedback should be transparent and standardized to develop their student experience in the process of learning besides helping them in the future works.

H2: The design and implementation of the course will have a significant positive direct influence on student satisfaction.

3.3.3 Learning Environment

The learning environment, the context in which learning take place, usually refers to classrooms but may include any place designated for learning (UNESCO, 2012). According to Thomas & Galambos (2004), learning environment consists of classroom facilities, library services, computing services and equipment, academic advising services and non-faculty departments. School facilities and services are important in assuring the quality of education, allow teachers to diversify teaching methods as well as enable students to put theory into practice. Still, in spite of its importance, creating ideal condition for teaching and learning has often been overlooked as an aesthetic factor in education.

Students' perceptions of education quality might be influenced by academic factors yet studies have also shown that non-academic factors such as infrastructure and learning resources could also affect student's perception. Mcgowen (2007) stated that student behavior appears most directly correlated with academic learning spaces, such as classrooms, labs and libraries. There are a growing number of researches demonstrating that a comfortable, quiet and adequately illuminated classroom could significantly enhance students' comprehension. Facilities factors, where provided to a high standard, are observed to have an essential impact on students (Price et al., 2003). Elliott and Shin (2002) has also found that a high correlation between student and classroom environment should increase their satisfaction.

Though schools are applying certain essential school construction policies and have key facilities in place, possibility for improvement still exists (Jones et al., 2003). This is especially true for the facility of public education in Vietnam as the most public schools in Vietnam are currently lacking capital for investment, which unavoidably leads to the overall insufficient quality and quantity of fundamental infrastructure as well as teaching and learning equipment in public schools. An effective learning environment could enhance the student experience, involvement in class as well as their overall performance.

In addition, there is an inconsistent and inequality in the quality of infrastructure in public school across regions in Vietnam. Due to the geographical aspect of Vietnam, the poor areas usually have fewer number of education institutions as well as levels of enrollment (World Bank, 2008). Most schools in the rural area are usually obsolete and inadequately equipped while local governments could not afford an upgrade or expand the schools to meet the children's needs.

H3: The condition of learning environment will have a significant positive direct influence on student satisfaction.

3.3.4 Teaching Methods

Teaching method could be understood as the approach, which teachers used to influence learners in their process of obtaining the required qualities. Therefore, there is no best method that would be able to replace all the others (Prabhu, 1990). Every person has their own distinct effective learning style thus finding suitable approaches is an effective way to raise the interest of students and increase their general contentment with the subject. Regarding elements of teaching method, students are generally concerned about proportion between theory and practice, documentation provided, teaching approaches, level which issues were discussed and distribution of the subjects (Thomas & Galambos, 2004).

There are dissimilar presentation approaches of curriculum content in the classroom (Sharma, 2003) and each of them is suitable for a particular context. For instance, instructors who implement strong visual presentations and facilitate note taking throughout lessons is strongly preferred comparing to other more traditional methods (Murphy et al., 2004). Eom, Wen & Ashill (2006) claimed that students achieve a notably higher level of satisfaction and learning outcomes when there is a unity between learners' learning style and teacher teaching methods.

In modern education, it is often required that new methods are implemented incorporating the advantages of advances tools. Activities that include group work also needed to be encouraged as it is practical for future career and its benefits outweigh the cost of time or energy (Jones & Chen, 2008). Kitchen and McDougal (1998) reported that students who participated in collaborative tasks expressed similar or even higher levels of satisfaction in comparison to traditional learning. In general, an appropriate educational method must promote discipline, initiative and student creativity as well as fostering self-learning technique, practical knowledge and a positive learning attitude.

H4: The teaching methods will have a significant positive direct influence on student satisfaction.

CHAPTER 4: METHODOLOGY

This chapter explains the methodology used to collect required data for this study in detail. It illustrates the research procedure, population sampling and the design of the questionnaire.

4.1 Hypothesis

Based on previous literature, this study has classified key principles of education, which could affect the student satisfaction within the service offered by the public sector. The dependent variable in this study is overall satisfaction of students. The independent variables in this study include academic staff, course administration, teaching methods and learning environment.

A model to conceptualize the framework of the study was adapted from research models of Marzo Navarro et al. (2005) from their study. The following illustration indicates the factors that would influence student satisfaction in public schools in Ho Chi Minh City. The author has chosen factors, which have been most commonly mentioned in previous literature (Harvey, 1995; Navarro, 2005; Wiers-Jenssen et al., 2010). It can easily be stated that there might be several different factors that could determine the formation of quality satisfaction thus the conceptual framework presented may be criticized under some point of views.

Graph 3.4 Conceptual Model
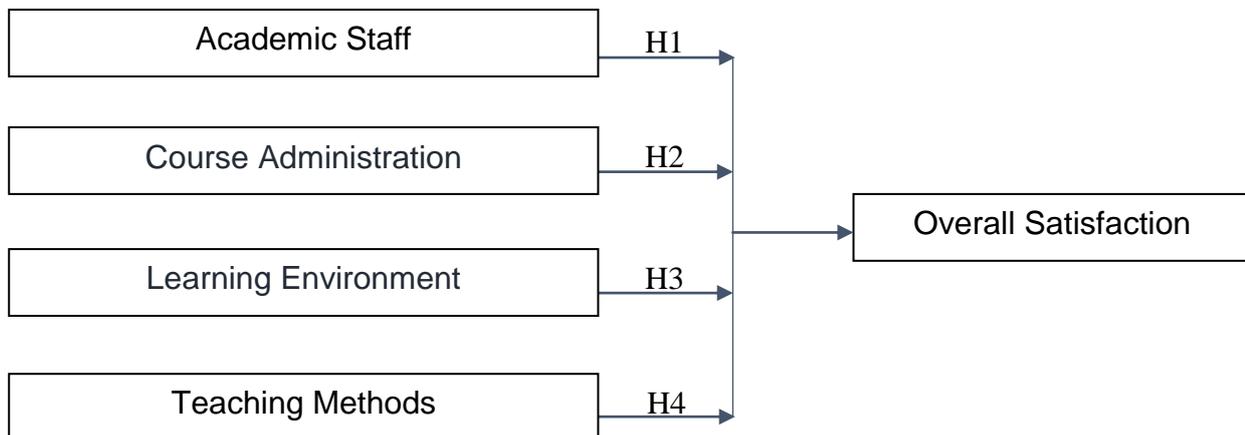
4.2 Population and Sampling

The study was conducted in Ho Chi Minh City. The purpose of sampling, according to Gorard (2003), is to use a reasonably small number of cases to investigate and form conclusions concerning a far larger number. In this study, the case selection concentrated on the Ho Chi Minh public education sector. One of the reasons for this choice is that the authors are living and studying

in Ho Chi Minh City thus it would be more convenient for the author to conduct the research process.

Table 4.1 Number of Students of General Education (2014)

	Total	Primary	Lower Secondary	Upper Secondary
Whole Country	15,082,381	7,543,632	5,098,830	2,439,919
Ho Chi Minh City	1,122,447	559,445	376,713	186,289

Note. Retrieved from General Statistics Office of Viet Nam

Due to the fact that this research was studied from customers' point of view, the population was expected to involve the people who are currently daily users of public education services in Ho Chi Minh City. According to the data by the General Statistics Office of Viet Nam (2014), in Ho Chi Minh City, there were in total 1,222,447 students attending the general education system and 186,239 upper secondary students in particular.

Upper secondary institutions, the final stage of general education system, were selected as the locations for the survey since students here are in the most important stage for comprehensive mentally, emotionally and physically individual development yet; they are mature enough to access their perception of dimensions of education quality. The schools used as the research ground in the survey are selected from both urban and outskirt areas to reflect the different background of students and study conditions in Vietnam.

Due to the constraints of time and costs, the research sample focused on the students aging 16 to 18 from the public schools in District 4, District 5 and District 7 in Ho Chi Minh City. Cluster Random Sampling was used to ensure each of the regions was included then a simple random sample of grades and students within each grade was selected for the sample. By linking different sampling methods, the sample was able to accurately represent the target population. Hair et al. (1998) recommended that the minimum sample size needed to be at least five times as many as the number of variables analyzed. There are 22 variables to be factor analyzed in this paper so a minimum of 110 valid questionnaires were required. Therefore, a population of 200 students was investigated at these locations under instruction of local teachers.

4.3 The Questionnaire Design

This study used questionnaire as a medium to acquire necessary data. According to Rowley (2003), collecting student feedback is important as students have the opportunity to comment on their courses and the information received is used to make improvements. Furthermore, it encourages student reflection on their learning and expressing their satisfaction with the academic experience. It also provides indicators that will contribute to the university reputation. In this study, a self-administered questionnaire was prepared to collect data from respondents to enable the researchers to collect the data more quickly.

The survey questionnaire was initially designed in English then translated into Vietnamese. The research included two main stages, which are pilot study and main study. A pilot study involves preliminary data collection using exact planned methods as the main study.

The pilot study was carried out one week before the main study with ten participants to evaluate the questionnaire validity and reliability. The test results give valuable information on improving the coherency of questions and time taken to complete the survey. Necessary corrections were made after the pilot survey had been completed and analyzed to eliminate remaining issues. After that, the main study was conducted in mass by actual students to collect actual data.

In order to provide additional insights into the proposed hypothesis and develop a questionnaire specifically for the case of Ho Chi Minh City, it was necessary to make changes to the available measurement scales. The questionnaire was developed using scales of student satisfaction dimensions by Ramsden (2006), Marzo-Navarro (2005), Thomas & Galambos (2004), Wiers-Jenssen et al. (2010), and Kane et al. (2008) with adjustments to suit the case of public education in Ho Chi Minh City.

The questionnaire is categorized into two sections. The first section is about the information of the respondent (grades, gender and GPA) means to collect the demographic and academic backgrounds of respondents. The main section of the research includes 22 questions dedicated to measure the satisfaction of student and factors, which affect student satisfaction according to the literature in the previous chapter. These questions are grouped into dependent variable (student satisfaction) and independent variables (academic staff, course administration, teaching method and learning environment) All indicators are measured on a 5-point Likert-scale from 1 to 5 signifies strongly disagree, disagree, neutral, agree and strongly agree.

4.4 Data Analysis Method

Statistical analysis is a common method to convert the survey results into assertion and test the author hypothesis. SPSS was selected to perform the data analytical tasks in this study as it is a powerful and accessible tool which can rapidly produce basic descriptive statistics, reliability check and regression study. In addition, the program is capable of visualizing the results into intuitive graphs and tables.

Before the analysing process, the data collected in the survey were directly entered in the SPSS data editor with the correct data structure then screened again to check for any errors or missing information. The results of the survey then analysed and displayed using descriptive statistics such as frequency, median and standard deviation.

T-tests and analysis of variance (ANOVA) are extensively used as statistical techniques to compare group means. The independent t-test was utilized to compare the means between two unrelated groups on the same dependent variable to understand whether there was a statically difference between the satisfaction perceptions of each demographic group. ANOVA was used to discover the effects of categorical independent variables on an interval dependent variable. These tests were implemented to identify any statically difference in the perception of different demographic groups on education quality.

The reliability of each variable was tested using Cronbach's alpha as a mean to remove items that do not correlate well with others. Cronbach's alpha, expressed as a number from 0 to 1, was developed to provide an evaluation of the internal consistency of a test or scale (Cronbach, 1951).

All the items then were analysed using exploratory factor analysis (EFA). This stage was implemented to assess if the item group of each variable remains as speculated and to reach the underlying factors that have the most influence on student satisfaction. EFA is used to discover the underlying factor structure of a group of observed variables without imposing a preconceived structure on the outcome (Child, 1990). Items which did not meet the standards were removed to formulate final scales. Satisfied items were extracted using Principal Component Analysis and rotated using Varimax with Kaiser Normalization.

Pearson correlation coefficient or Pearson r was used to determine the strength of the linear relationship between two variables (Taylor, 1990). It is the most common method of measuring the correlation between variables based on the method of covariance.

Regression analysis is a tool which investigates the statistical relationship between variables (Alan, 1996). Multiple regression analysis was applied after the significant correlation between variables was confirmed in order to discover the appropriate linear model to predict the dependent variable from one or more independent variables. The research model and hypotheses were then revised with the newly identified factors and scales. In this paper, Regression analysis was used to determine the nature and magnitude of the relationship between Overall Satisfaction and independent variables including Academic Staff, Course Administration, Learning Environment and Teaching Method.

CHAPTER 5: DATA ANALYSIS AND FINDING

5.1 Data Description

The study population was selected from four public high schools in different urban and outskirt districts of Ho Chi Minh City. The questionnaires were translated to Vietnamese by the author and handed directly to students by their teacher. Students were given 20 minutes to voluntarily answer 22 questions along with filling in their demographic backgrounds on the questionnaire. The questions in the survey were designed to be short, simple and easy to follow. The most difficult part of the procedure was contacting the school office, getting their approval and managing a free time between studying periods to conduct the survey.

A total of 200 copies of the questionnaires were distributed to students and 150 valid responds were received. Response rate, calculated by dividing the number of valid responses received by the total number of people in the sample, was 75%. The respondent's attitudes were cooperative during the process of the survey. Some students did choose not to participate in the survey and several invalid responds were mainly resulted from unintentional mistakes such as skipping questions or choosing multiple answers.

Table 5.1.1 Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	68	45.3	45.3	45.3
	Female	82	54.7	54.7	100.0
	Total	150	100.0	100.0	

The first section of the survey result provides basic information about the demographic background of the interviewees. Table 5.1.1 demonstrates the gender distribution of respondents. Among 150 students interviewed, 68 students were male (45.3%) and 82 were female (54.7%).

Table 5.1.2 Urban-Rural Distribution

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Urban	83	55.3	55.3	55.3
	Rural	67	44.7	44.7	100.0
	Total	150	100.0	100.0	

According to Table 5.1.2, 83 students were enrolling in an urban institution which equals 55.3% of the sample. In contrast, 67 students are enrolling in rural schools, equals to 44.7% of the total number of students surveyed.

Table 5.1.3 Grade

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	10	40	26.7	26.7	26.7
	11	43	28.7	28.7	55.3
	12	67	44.7	44.7	100.0
	Total	150	100.0	100.0	

Table 5.1.3 displays the educational level of respondents. 40 students were attending 10th grade (26.7%). 43 students were in 11th grade (28.7%) and 67 students were in 12th grade (44.7%).

Table 5.1.4 GPA

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<6.5	32	21.3	21.3	21.3
	6.5-8.0	107	71.3	71.3	92.7
	>8.0	11	7.3	7.3	100.0
	Total	150	100.0	100.0	

Table 5.1.4 illustrates the grade point average (GPA) in the previous semester of respondents. 32 students had GPA under 6.5 (21.3%), 107 had GPA between 6.5 and 8.0 (71.3%) and 11 students had GPA over 8.0 (7.3%).

5.2 Descriptive Analyses

5.2.1 Overall Satisfaction

5.2.1a Student Satisfaction

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	40	26.7	26.7	26.7
	Disagree	33	22.0	22.0	48.7
	Neutral	43	28.7	28.7	77.3
	Agree	17	11.3	11.3	88.7
	Strongly Agree	17	11.3	11.3	100.0
	Total	150	100.0	100.0	

Table 5.2.1a illustrates the frequency, percent, valid percent and cumulative percent of participant response regarding their satisfaction. As the tables pointed out, the majority of students leaned toward expressing disagreement when they were asked if they feel satisfied with the overall quality of the attending institution. 40 students strongly disagreed with the statement (26.7%), 33 disagreed (22%), 17 agreed (11.3%) and 17 (11.3%) strongly agreed with it while the remaining respondents stood on neutral ground.

The result shows that, there are more dissatisfied students than satisfied student. In general, the satisfaction level of public education service quality could be seen as below average.

5.2.1b Comparison to expectations

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	32	21.3	21.3	21.3
	Disagree	47	31.3	31.3	52.7
	Neutral	37	24.7	24.7	77.3
	Agree	27	18.0	18.0	95.3
	Strongly Agree	7	4.7	4.7	100.0
	Total	150	100.0	100.0	

Table 5.2.1b shows that 32 participants (21.3%) strongly agree the education quality they received was lesser than what they expected, 47 (52.7%) agreed with this opinion while only 7 students strongly agree (4.7%) and 27 agree (18%) that their expectation was met. 37 remaining

student answers (24.7%) are neutral. It could be concluded that the majority of students stated that their expectations were not fulfilled.

5.2.1c Recommending the institution

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	19	12.7	12.7	12.7
	Disagree	40	26.7	26.7	39.3
	Neutral	54	36.0	36.0	75.3
	Agree	27	18.0	18.0	93.3
	Strongly Agree	10	6.7	6.7	100.0
	Total	150	100.0	100.0	

Table 5.2.1c demonstrate that, despite a great portion of students felt dissatisfies with the institutions and their expectations were not fulfill, only 19 students (12.7%) strongly disagreed and 40 student (26.7%) disagreed with recommending the school to their relatives or friends. 10 respondents (6.7%) were very willing to recommend the institution and 27 participants (18%) agreed to recommend it. Remarkably, the greatest portion of students chose to give no opinion on whether they are going to give recommendations or not (36%).

5.2.2 Aspects of Satisfaction

Table 5.2.2 Descriptive Statistics

Variable	Factors	N	Mean	Std. Deviation
Academic Staff	Good teaching	150	3.25	1.111
	Clear goals	150	3.11	.977
	Appropriate workload	150	3.00	1.129
	Appropriate assessment	150	3.12	1.061
	Emphasis on independence	150	2.92	1.339
Course Administration	Knowing student expectation	150	3.19	1.079
	Helpfulness of school office	150	3.23	1.114
	Logical progression of work	150	2.63	1.126
	Procedures for assessment	150	2.72	1.171

Learning Environment	Classroom facilities	150	2.42	1.143
	Library services	150	2.89	1.162
	Computing services	150	2.92	1.349
	Academic advising services	150	2.93	1.193
	Attitude of staff	150	2.97	1.164
Teaching Method	Theory and practice	150	2.89	1.084
	Documentation provided	150	2.91	1.183
	Teaching methods	150	2.87	1.172
	Level of subjects	150	2.90	1.060
	Distribution of the subjects	150	2.81	1.273
Overall Satisfaction	Comparison to expectations	150	2.53	1.151
	Recommending the institution	150	2.79	1.089
	Student Satisfaction	150	2.59	1.301
Valid N (list wise)		**150**		

In general, the factors affecting academic staff have the highest and quite consistent mean value comparing to other independent variables with the highest factor (good teaching) of 3.25 and lowest of 2.92 (emphasis on independence) which means the majority of respondents are satisfied with these dimensions. Course administration measurement factors are quite diverse. Helpfulness of the school office has mean of 3.23 while logical progression of work is only 2.63. Factors from learning environment and teaching method are both showing nearly average results, mostly ranging between 2.8 and 3.0. Factors which student feel most satisfies are good teaching (3.25), helpfulness of school office (3.23) and knowing student expectation (3.19). Factors which students most dissatisfied with are classroom facilities (2.42), logical progression of work (2.63) and procedure for assessment (2.72).

In contrast, Student Satisfaction variable is rated quite low which clearly indicates the unsatisfactory of students with the public school quality. The lowest factor in this set is comparison to expectations (2.53) and the highest is recommending the institution (2.79). However, it should be noticed that the standard deviations in the answers for all variables are quite high (mostly >1) thus it indicate the significant differences in each student perception of the satisfaction concept.

5.3 Independent Samples t- test and One-way ANOVA

5.3.1 Gender

Table 5.3.1a Gender Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Student Satisfaction	Male	68	2.63	1.370	.166
	Female	82	2.55	1.249	.138

As demonstrated in Table 5.3.1a, the mean for male student satisfaction is 2.63. The mean for female student satisfaction is 2.55. The standard deviation for male student satisfaction is 1.370 and for female 1,249. The number of students in each group (N) is 68 and 82 respectively.

Table 5.3.1b Gender Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
						Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval		
		F	Sig.	t	df				Lower	Upper	
Student Satisfaction	Equal variances assumed	1.252	.265	.390	148	.697	.084	.214	-.339	.507	
	Equal variances not assumed			.387	137.224	.699	.084	.216	-.343	.511	

In Table 5.3.1b, the Sig. Value of the independent sample test is 0.265 (greater than .05) which means that the variability or the mean difference between two groups of student is not significantly different.

Male (M = 2.63, SD = 1.370) and female (M = 2.55, SD = 1.249) did not differ significantly on levels of overall satisfaction, t (148) = 0.390, p = ns.

5.3.2 Urban-Rural Distribution

Table 5.3.2a Urban-Rural Distribution Group Statistics

	Urban-Rural Distribution	N	Mean	Std. Deviation	Std. Error Mean
Student Satisfaction	Urban	83	2.71	1.410	.155
	Rural	67	2.43	1.144	.140

According to Table 5.3.2a, the mean for urban student satisfaction is 2.71. The mean for rural student is 2.43. The standard deviation for urban and rural is 1.410 and 1.144. The number of participants in each group (N) is 83 and 67 correspondingly.

Table 5.3.2b Urban-Rural Distribution Independent Samples Test

		Levite's Test for Equality of Variances		t-test for Equality of Means						
						Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval	
		F	Sig.	t	Due				Lower	Upper
Student Satisfaction	Equal variances assumed	4.052	.046	1.304	148	.194	.278	.213	-.143	.699
	Equal variances not assumed			1.333	147.993	.185	.278	.209	-.134	.690

The Sig. Value of the independent sample test in Table 5.3.2b is 0.046 (lesser than .05) means there is a statically significant dissimilarity between the mean numbers of these groups. The

students studying in urban areas are considerably more satisfied with public education than students in rural areas (mean difference = 0.278).

There was a significant difference in the overall satisfaction of students from urban area (M=2.71, SD=1.1410) and rural area (M=2.43, SD=1.144); t (148) =1.304, p = 0.046.

5.3.3 Grade

Table 5.3.3a Grade Descriptive

Student satisfaction

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
10	43	3.09	1.477	.225	2.64	3.55
11	67	2.43	1.144	.140	2.15	2.71
12	40	2.30	1.224	.193	1.91	2.69
Total	150	2.59	1.301	.106	2.38	2.80

As illustrated in Table 5.3.3a, mean Grade 10 satisfaction is 3.09, mean Grade 11 satisfaction is 2.43, mean Grade 12 is 2.430. The standard deviation for student satisfaction is 1.477, 1.144 and 1.224 correspondingly. The number of students in each group (N) is 43 for Grade 10, 67 for Grade 11 and 40 for Grade 12.

Table 5.3.3b ANOVA

Student satisfaction

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	15.898	2	7.949	4.941	.008
Within Groups	236.476	147	1.609		
Total	252.373	149			

In Table 5.3.3b, the significance level is 0.008 (p = .008), which is below 0.05 thus there is a statistically significant difference in the mean student satisfaction between different

grades. The analysis of variance showed that the effect of different grade group on student satisfaction was significant F (2,147) = 4.941, p =0.08

A main effect of grade in school was found for overall satisfaction, F (2, 147) = 4.941, p =0.008. Grade 10 (M = 3.09, SD = 1.1477) reported significantly more satisfaction than did grade 11(M = 2.43, SD = 1.144) and grade 12 (M = 2.30, SD = 1.224)

5.3.4 GPA

Table 5.3.4a GPA Descriptive

Student satisfaction

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
<6.5	32	2.88	1.581	.280	2.30	3.45
6.5-8.0	107	2.50	1.262	.122	2.25	2.74
>8.0	11	2.64	.505	.152	2.30	2.98
Total	150	2.59	1.301	.106	2.38	2.80

Table 5.3.4a shows that mean GPA<6.5 satisfaction is 2.88, mean GPA6.5-8.0 satisfaction is 2.50, mean GPA>8.0 is 2.64. The standard deviation is 1.581, 1262 and 0.505. The number of students in each group (N) is 32, 107 and 11 respectively.

Table 5.3.4b ANOVA

Student satisfaction

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.580	2	1.790	1.058	.350
Within Groups	248.793	147	1.692		
Total	252.373	149			

In table 5.3.4b, p value= .350, which is greater than 0.05 thus there were no statistically important differences between different GPA group. The analysis of variance shows that the effect of different GPA group on student satisfaction was insignificant.

The main effect of GPA was not significant, $F_{(2, 147)} = 1.790$, p =ns. Participants from three GPA groups did not show a substantial difference in the overall satisfaction.

5.4 Exploratory Factor Analysis (EFA)

5.4.1 Test of Cronbach's Alpha

Table 5.4.1 Item-Total Statistics

Variable	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1. Academic Staff Cronbach's Alpha .643				
Good Teaching	12.11	9.411	.384	.595
Clear Goals	12.25	9.825	.405	.588
Appropriate Workload	12.35	10.123	.260	.652
Appropriate Assessment	12.27	9.395	.401	.587
Emphasis on Independence	12.43	7.482	.545	.504
2. Course Administration Cronbach's Alpha .722				
Knowing student expectation	8.59	6.768	.545	.640
Helpfulness of school office	8.55	6.988	.469	.684
Logical progression of work	9.15	6.811	.496	.669
Procedures for assessment	9.06	6.459	.531	.647
3. Learning Environment Cronbach's Alpha .690				
Classroom facilities	11.71	10.934	.523	.608
Library services	11.24	11.781	.384	.665
Computing services	11.21	10.595	.430	.649
Academic advising services	11.20	11.007	.475	.627
Attitude of staff	11.15	11.513	.421	.650
4. Teaching Method Cronbach's Alpha .680				
Theory and practice	11.49	10.923	.358	.660
Documentation provided	11.47	9.714	.481	.607
Teaching method	11.50	9.836	.470	.612
Level of subjects	11.47	10.452	.451	.623
Distribution of the subjects	11.57	9.764	.412	.641
5. Student Satisfaction Cronbach's Alpha .714				
Compared to expectations	5.38	4.331	.495	.671
Recommend the institution	5.12	4.227	.584	.572
Overall satisfaction	5.33	3.671	.534	.633

The academic staff subscale consisted of 5 items (α=0.643), the course administration subscale consisted of 4 items (α=0.722), the learning environment subscale consisted of 5 items (α=0.690) and the teaching method subscale consist of 5 items (α=0.680). The inventory was

sufficiently reliable. None of the items here would significantly affect reliability if they were deleted.

5.4.2 Exploratory Factor Analysis

Table 5.4.2a Rotated Component Matrix[a]

	Component			
	1	2	3	4
Academic advising services	.698			
Classroom facilities	.693			
Computing services	.684			
Library services	.504			
Good Teaching		.735		
Emphasis on Independence		.705		
Appropriate Assessment		.634		
Teaching methods			.758	
Level of subjects			.678	
Documentation provided			.599	
Clear Goals			.586	
Appropriate Workload				.696
Helpfulness of school office				.607
Knowing student expectation				.605
Attitude of staff				.585

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

Table 5.4.2b KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.670
Bartlett's Test of Sphericity	Approx. Chi-Square	87.617
	df	3
	Sig.	.000

Table 5.4.2a displays the rotated component matrix which is a matrix of factor loadings for every variable for each factor. Factors which have loading value smaller than 0.5 were

suppressed and the overlapping items were removed. After conducting EFA, 4 unsatisfied variables were eliminated while 15 remaining observations met all the given criteria.

Table 5.4.2b shows KMO and Bartlett's test result. The Kaiser-Meyer Olkin (KMO) and Bartlett's test result were used to inspect the suitability of factor analysis. The approximate of Chi-square is 804.982 with 171 degrees of freedom suggest an overall correlation between variables (sig = 0.000 <0.05). The KMO value is 0.781 greater than 0.5 thus Factor analysis is considered an appropriate method for additional analysis of the data.

Table 5.4.1c Total Variance Explained

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
Learning Environment (LE)	3.768	26.912	26.912	2.267	16.195	16.195
Academic Staff (AS)	1.584	11.312	38.224	2.007	14.338	30.533
Teaching Method (TM)	1.477	10.548	48.773	1.977	14.120	44.653
Course Administration (CA)	1.182	8.445	57.218	1.759	12.564	57.218

Extraction Method: Principal Component Analysis.

Table 5.4.1c is the total variance explained. Items grouping into factors were transformed into compound variables. This process was implemented in order to reduce multicollinearityas well as diminish the sample size needed for regression. Rotation sums of squared loadings (Cumulative %) = 57.218% greater than 50% mean that 57.218% of the total variance was explained by four extracted components at eigenvalues of 1.182.

A Principal Component Analysis with a Varimax rotation of 19 items scale was conducted on data gathered from 150 participants. An examination of the Kaiser-Meyer Olkin measure of sampling suggested that the sample was factorable (KMO=.670). Four factors were identified based on eigenvalue greater than 1.

Table 5.4.2d Adjusted Independent Variables

	Component	Factor
1	Academic Staff (AS)	**AS1** Good teaching **AS2** Emphasis on independence **AS3** Appropriate Assessment
2	Course Administration (CA)	**CA1** Appropriate workload **CA2** Helpfulness of school office **CA3** Knowing student expectation **CA4** Attitude of staff
3	Learning Environment (LE)	**LE1** Academic advising services **LE2** Classroom facilities **LE3** Computing services **LE4** Library services
4	Teaching Method (TM)	**TM1** Teaching methods **TM2** Level of subjects **TM3** Documentation provided **TM4** Clear goals

Four components of the concept of customer satisfaction research in the initial theoretical model were readjusted in the final model. Good teaching, emphasis on independence and appropriate assessment were grouped into academic staff (AS). Appropriate workload, helpfulness of school office, knowing student expectation and attitude of staff were gathered into course administration (CA). Academic advising services, classroom facilities, computing services, library services were grouped under learning environment (LE). Other factors include teaching methods, level of subjects, documentation provided and clear goals were organized into teaching method (TM).

5.5 Correlation Analysis

Table 4.5.1 Correlations

		AS	CA	LA	TM	OS
Pearson Correlation		1	.565**	.307**	.371**	.534**
Sig. (2-tailed)			.000	.000	.000	.000
N		150	150	150	150	150
Pearson Correlation		.565**	1	.517**	.444**	.626**
Sig. (2-tailed)		.000		.000	.000	.000
N		150	150	150	150	150
Pearson Correlation		.307**	.517**	1	.440**	.448**
Sig. (2-tailed)		.000	.000		.000	.000
N		150	150	150	150	150
Pearson Correlation		.371**	.444**	.440**	1	.536**
Sig. (2-tailed)		.000	.000	.000		.000
N		150	150	150	150	150
Pearson Correlation		.534**	.626**	.448**	.536**	1
Sig. (2-tailed)		.000	.000	.000	.000	
N		150	150	150	150	150

**. Correlation is significant at the 0.01 level (2-tailed).

As table 4.5.1 demonstrated, every Sig. value is equal to 0.000 which means the data is statically significant (<0.05). The possible values of the correlation coefficient range from -1 to +1. All of the Correlation value between variables here are from 0.307 to 0.626; hence show the substantial positive correlation between them. It could be concluded that the independent variables are correlated with the dependent variable and they are suitable to be tested by regression analysis to explain which factors influence fluctuations in Student Satisfaction.

There were significant positive correlations between all independent variables and dependent variable, r =0.307 -0.626, p <0.05.

5.6 Regression Analysis

Table 5.5.1 Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.715[a]	.511	.497	.66958	2.167

a. Predictors: (Constant), Learning Environment, Academic Staff, Teaching
Method, Course Administration

b. Dependent Variable: Overall Satisfaction

Table 5.5.1 is the summary of the model. R value signifies the multiple correlation coefficients between the predictors and the outcome (Field, 2005). R has a value 0.715, which signifies the simple correlation between course administration, teaching method, learning environment, academic staff and overall student satisfaction. R Square measures how much of the variability in the outcome is accounted for by the predictors (Field, 2005). TR Square value of 0.511 indicates that these four variables account for 51.1% of the variation in the overall student satisfaction. Consequently, 48.9% of the variation in overall satisfaction could not be described by these factors. Thus, there ought tobe additional variables which influence the overall satisfaction of students.

Table 5.6.2 ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	67.866	4	16.967	37.844	.000[b]
	Residual	65.008	145	.448		
	Total	132.875	149			

a. Dependent Variable: Overall Satisfaction

b. Predictors: (Constant), Learning Environment, Academic Staff, Teaching Method,
Course Administration

Table 5.6.2 is the display of an analysis of variance (ANOVA). The F-ratio signifies the improvement in prediction which comes from fitting the model, regarding the imprecision occurs in the model (Field, 2005).According to the table, F equals 37.844, which is significant at p (sig.) value <0.05. Thus, the regression model considerably improved our possibility to predict the overall satisfaction

Using the enter method it was found that learning environment, academic staff, teaching method and course administration explained 51.5% of the variance in the value of overall satisfaction (F (4, 145) =37.844, p <0 .05, R2 = 0.511, R2 Adjusted =0.497).

Table 5.6.3 Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	-.608	.285		-2.133	.035		
Academic Staff	.282	.093	.216	3.030	.003	.662	1.510
Course Administration	.387	.091	.340	4.278	.000	.534	1.873
Teaching Method	.104	.083	.088	1.251	.213	.677	1.478
Learning Environment	.328	.084	.266	3.897	.000	.723	1.384

a. Dependent Variable: Overall Satisfaction

The b-values in the table 5.6.3 signify the association between overall student satisfaction and each predictor. If coefficient is positive, it could be concluded that there is a positive relationship between the predictor and the outcome while negative b denotes a negative influence. The b-value shows what degree each independent variable affects the dependent variable when the impacts of all other independent variables are unchanging (Field, 2005).

Regarding the Coefficient table above, all the factors (academic staff, course administration, teaching method, learning environment) show positive standardized beta coefficient value (b > 0) which means all of the variables positively influence the overall satisfaction of students.

The β value conveys the number of standard deviations that the outcome will differ as a consequence of one standard deviation change in the predictor (Field, 2005). Higher β value indicates greater correlation with the dependent variable.

In table 5.6.3, Course Administration has the highest beta (0.340), followed by learning environment (0.266), academic staff (0.216) and teaching method (0.088). This represents as if the quality of course administration increased by one standard deviation, overall satisfaction standard deviation increases by 0.340, if the learning environment aspects increases by one standard deviation, overall satisfaction standard deviation increases by 0.266 and so on.

These figures confirmed that the hypothesis in the research model considered earlier is suitable for the study. However, with the significant level of .213, which is greater than 0.05, it is still not possible to conclude whether teaching method had any real impact on student satisfaction.

All of the remaining independent variables are confirmed to affect the satisfaction of students. Therefore, from the results of multiple regression we can infer that course administration have the strongest influence on student satisfaction (β =.340), follow by learning environment (β =0.266) and finally academic staff (β =.216).

The analysis shows that teaching method did not significantly predict value of overall satisfaction (β =0 .088, t =1.251, p =ns). However, course administration (β =0 .340, t = 4.278, p <.05), learning environment (β =0 .266, t = 3.897, p <.05) and academic staff (β =0 .216, t = 3.030, p <.05) did significantly predict value of overall satisfaction.

Table 5.6.4 Summarized Results of Hypothesis Testing

Hypothesis	Direction Predicted	Result
H1: The quality and attitude of the academic staff will have a significant positive influence on student satisfaction.	+	Supported
H2: The design and implementation of the course will have a significant positive direct influence on student satisfaction.	+	Supported
H3: The condition of learning environment will have a significant positive direct influence on student satisfaction.	+	Supported
H4: The teaching methods will have a significant positive direct influence on student satisfaction.	+	Not Supported

CHAPTER 6: CONCLUSION

In this chapter, discussions on the results of the survey, solutions for changes or improvement and suggestions for future researches will be presented.

6.1 Findings

The purpose of this study is to answer the central question stated in the previous chapter: to what extent students perceive satisfaction with the service quality of public. In this research, the data were collected for the satisfaction of students with public education in Ho Chi Minh City through a questionnaire survey.

From the 150 valid responds in this study, 68 are male (45.3%) and 82 are females (54.7%). Most student have a GPA from 6.5 to 8.0 (71,3%), 21.3% have GPA under 6.5 and only 7.3% have GPA over 8.0. There are 83 students (55.3%) from public schools in urban areas while 67 students (44.7%) are attending rural schools. 40 (26.7%) students are in grade 10, 43 (28.7%) students in Grade 11 and 67 (44.7%) student are in Grade 12.

Regarding the satisfaction section, 26.7% were greatly dissatisfied, 22% dissatisfied, 11.3% satisfied and 11.3% greatly satisfied while 28.7% of participants have no clear opinion. For each independent variable, assurance scores the highest (4.44 on a 6-point scale), followed by responsiveness (4.09 on a 6-point scale), reliability (3.98 on a 6-point scale), tangibility and empathy (3.95 on a 6-point scale). In general, this level of satisfaction could be considered quite below average (Mean =2.59 on a 5-point scale). In addition, as much as 52.7% of respondents felt the education quality did not meet their expectation and only 24.7% are willing to recommend a public institution to their friends or relatives. The figures confirm that the service quality of public education in Ho Chi Minh City is still inadequate under the perspective of students.

As education is a form of service, student satisfaction could be considered a type of customer satisfaction. In the previous chapter, the hypothesis stated was that student satisfaction may be affected by the quality of academic staff, course administration, teaching method and learning environment. However, as the result of the regression analysis test revealed, teaching method, although indispensable, is not the most relevant measure for student learning experience. Student perception of satisfaction is only influenced by 3 groups of items in decreasing order of significance as follows: course administration (β=.340), learning environment (β=.266) and academic staff (β=.216). This research result here confirms earlier researches previously mentioned

in the literature review chapter. course administration, learning environment and academic staff are three common variables which were discovered to have significant impact on student satisfaction by many authors (Harvey, 1995; Navarro, 2005; Wiers-Jenssen et al., 2010). It is easy to understand why these factors have the greatest impression on students since they are directly exposed to these elements daily and could judge them from personal experience. However, due to the vastly differences in the characteristics of the population and partly the small sample size, less important factors might have been overlooked and their degree of importance might be dissimilar comparing to other researches.

Another key point of interest in this research was to observe whether the student background have an impact on the degree of student satisfaction. Unsurprisingly, it was show there was no significant difference in satisfaction between male and female student. Likewise, there is no substantial distinction between students with different academic ability. However, students studying in urban public school as well as younger students are generally more contented with their academic experience.

Aspects which student feel most satisfies are teacher's good teaching school office services and student expectation acknowledgement. Classroom facility is the aspect which students are most dissatisfied with by a great margin. This result comes from the facts that educational facilities are still lacking in public schools, especially in rural areas due to financial constraint and ineffective use of the annual budget. This issue has been mentioned as one of the obstacle that needs to be eliminated to successfully renovate the education system. However, it should be noted that items which have a low rating do not necessary mean that they are insufficient but probably resulted from the extraordinary high expectation from students. It was possible that students did not agree with the school perspective of quality or their anticipation was based on inaccurate information.

6.2 Implications

The public education system in Vietnam has made major contributions to education and economic development. However, the system has been facing many complex and difficult difficulties. Since the student satisfaction statistic in this paper is not only an indicator of public education quality but also the essential foundation to push learner's motivation thus increasing their performance, improving the inadequate aspects in student experience also translated into developing the education quality as a whole. Kara and De Shields (2004) proposed that the concept of student

satisfaction ought to be constructed on the basis of long term benefits of learners and society as well as institutional objectives and commitments.

This study provided findings to understand student satisfaction with Ho Chi Minh public education institutions. Perceptions of importance and satisfaction with course administration (appropriate workload, helpfulness of school office, knowing student expectation, attitude of staff), learning environment (academic advising services, classroom facilities, computing services, library services), academic staff (good teaching, emphasis on independence, appropriate assessment) and teaching method (teaching methods, level of subjects, documentation provided, clear goals) were measured. The results suggest a significant relationship between student satisfaction and three factors of service quality: course administration, learning environment and academic staff. The data from this study would be beneficial for institutions in allocating funds and resources be allocated toward particular effective practices.

Additionally, from the investigation of the survey data, it is suggested that student satisfaction with academic aspects are related to demographic background. Thus, higher public institutions that wish to improve the student degree of satisfaction must diversify their management policies in order to satisfy different student groups.

Public schools and local education department need to collect information on student perceptions and their experience in public education by making studies which would provide the institutions and local region with the information required to settle matters related to student satisfaction and student accomplishment in the long-term strategy. Moreover, essential management decisions could be made from the results of student satisfaction. Student satisfaction with different institutional aspects must be supervised closely by the local department sof education, local people comitee and school director boards for continuous quality improvement. The information received from the reseach could benefit strategy design both at government and institutional level to proactively respond to student anticipations and to the progressively challenging environment (OECD, 2002).

These findings might also be valuable to the students who are interested in applying for public schools in Vietnam since it gives insight advantages and disadvantages of public service quality under the perspective of learners attending these institutions. Most of the institutions in Vietnam has been using grade as the main measure of success. It is anticipated that every public school would use a combination of multiple variables to measure their academic level in the near

future. Based on this information, students could make decisions on whether they want to take part in public education or other alternatives. Finally, this research result also contributes to support future research in public education or student satisfaction in Ho Chi Minh City.

6.3 Recommendations

The research result pointed out that the responsible agencies, who in this case are Ho Chi Minh City department as well as district departments of education and training, should put more efforts in adapting different policies for specific student groups such as rural and urban students or freshmen and seniors. Critical improvements ought to be created based on the determinations of both the institutions and the macro policies of the city. Shifting more resources to teachers and learners in the rural area is necessary to equalize student satisfaction as well as to maintain consistent education quality.

Course administration is the element which has the most influence on the satisfaction of students according to student feedback. Therefore, as a mean to raise the positive perception of students, public education managers need to pay attention to the content and quality of the training program. Program content must be consistent with the requirements of the learners, labor market and social needs. In this section, students are generally most discontented with the learning progression. In order to enable learning effectively and reinforce valid teaching strategies, each institution must have their distinct efficient learning progression framework which incorporates student preferences.

The second area which required innovations is learning environment, especially classroom facilities. Facilities and teaching equipment is an important element in the teaching process as they create the ideal condition to cultivate modern learning methods, positive learning attitude and creativity. Despite being the area where students spend most of their time studying on at school, classroom facilities in public school still could not make students feel satisfied. Local government and schools' board of directors ought to regulate their policies to attract more investment from private organizations and reduce the burden on the city budget. Classrooms are required to be expanded and upgraded to meet the demand from a great number of students. Additionally, school library and websites must be updated to assist student search for information more conveniently.

In addition, institutions which desire to enhance their student satisfaction should not overlook the vital role of their Academic Staff. Since most students wants to have more autonomy

in learning and an appropriate amount of work, teachers should adjust their teaching to match the student ability and reference. Education managers must have a long-term plan for teacher development and staffing. An advanced annual inspection system is required to assess the professional competence and practical teaching skills of teachers. Standards and requirements for the attitude of academic and non- academic staff must be set by the school board to ensure learners have the best experience. If these elements are enhanced, the service quality of the public education system and student satisfaction will consequently be improved in the future.

6.4 Limitation

The research was conducted in Ho Chi Minh City among the students in several public schools in the city center. While this provides a variety of respondents' background, the results might not be generalized to symbolize all public schools in the region. In addition, there might be other determinants which related to student satisfaction were missed during the research procedure. Since this paper was aiming to explain a highly complicated social occurrence, several situation dependent variables might not be included in the model.

Another limitation of data collecting occurred when there was a difficulty in the data collecting process, as public high schools are not usually opened to survey from independent researchers. Thus, sample size is small and the ratio of students from different groups were relatively unbalance, which leads to uncertain representativeness of the sample.

External validity is one of the main concerns in the data collecting process. This study relies on respondents being able to precisely report their level of agreement with statements related to their attitudes, feelings and perceptions thus measurement error is unavoidable. The adequate response rate (75%) might be an indicator of voluntary response bias. However, the reliability analysis and other validity tests suggested that the measurement error was not problematic.

The research contains some limitation in scope and size since only a small sample was investigated in this case hence it does not represent the entire population of students who are participating in public institutions in Vietnam. Further researches in this direction are necessary to explore the subject thoroughly. In spite of these limitations, the study was considerably an important contribution to provoke the interest of the responsible authorities and other authors to inspect the matter.

6.5 Future Research

The collected data were also not analyzed to the fullest possibility due to the nature of the thesis and time constraint and all constructs were measured at one point in time. Future researches could focus on student expectation, impact of demographic background as well as the contrast between satisfaction and expectation over time to assist accurate management at the institutional level.

Similarly, comparative studies aiming at investigating service satisfaction between private sector and public sector could be conducted to clarify characteristics and differences of student experience between two environments.

A quantitative study conducted in a greater and more diverse scale with a population made up of students from different institutions of the city would provide a more universal view and reaffirm the conceptual model regarding students' satisfaction with the quality of public educational institutions.

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Appendix 1: Measurement Scales

Variable	Measurement	Author
Academic Staff	1. Good teaching 2. Clear goals 3. Appropriate workload 4. Appropriate assessment 5. Emphasis on independence	Ramsden (2006)
Course Administration	6. Knowing what you expect from your course 7. Helpfulness of school office 8. Logical progression of work through your course 9. Procedures for assessment	Kane et al. (2008)
Learning Environment	10. Classroom facilities 11. Library services 12. Access to computing services and facilities 13. Academic advising services 14. Attitude of staff (non-faculty) toward students	Thomas & Galambos (2004)
Teaching Methods	15. Proportion between theory and practice 16. Documentation provided 17. Teaching methods 18. Level which subjects were discussed 19. Extent and distribution of the subjects	Marzo-Navarro (2005)
Overall Satisfaction	20. Comparing to prior expectations 21. Recommendation to friends or acquaintances 22. Student Satisfaction	Wiers-Jenssen et al. (2010)

Appendix 2: Questionnaire

This survey is part of a master thesis investigating the satisfaction of student in public school, the case of Ho Chi Minh City. This survey consists of two parts, your background information and your ideas of the educational quality you are experiencing. All the information will be kept confidential and completing the questionnaire will take no longer than 15 minutes.

Thank you for participating in the survey! If you want to receive the survey result, please leave your contact here: ___

I. Background Information

Gender:	☐ Male	☐ Female	
Grade:	☐ 10	☐ 11	☐ 12
Region:	☐ District 4	☐ District 5	☐ District 7
GPA:	☐ <6.5	☐ 6.5-8.0	☐ >8.0

II. Academic experience

For each statement, tick in the box which best describe your attitude towards difference aspects of your institution, ranging from strongly disagree (1) to strongly agree (5).

	Strongly Disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly Agree 5
1. Academic Staff					
Teacher process good teaching skills					
Teacher set out clear goals for student					
Appropriate workload were given to learner					
Teacher made appropriate assessment of learner ability					
Teacher put emphasis on student independence					
2. Course Administration					
The school what student expect from the program					

School office is helpful to student.					
The course curriculum has a logical progression					
Procedures for assessment is fair and transparent					
3. Learning Environment					
Classroom facilities is adequate for studying purpose					
Library services is useful to leaner					
Students have easy access to computing services and facilities					
Academic advising services is supportive helpful					
Non-faculty staffs have friendly attitude toward students					
4. Teaching Method					
Proportion between theory and practice is well balanced					
Documentation provided is practical and sufficient					
Diverse teaching methods are applied					
Level which subjects were discussed is suitable for student level					
The extent and distribution of the subjects in the program is appropriate					
5. Overall Satisfaction					
The program fulfill all student expectations					
Student is willing to recommend the institution to other friends or acquaintances					
Student is satisfied with the overall experience					

Thank you very much for taking your time.

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