



A STUDY OF EFFECTIVENESS OF THE TUTORIAL SCHOOLS

by

Ms. Montira Chukittipong

A Final Report of the Three - Credit Course
CE 6998 Project

Submitted in Partial Fulfillment
of the Requirements for the Degree of
Master of Science
in Computer and Engineering Management
Assumption University

November, 2000

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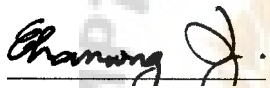
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The Graduate School of Assumption University has approved this final report of the three-credit course, CE 6998 PROJECT, submitted in partial fulfillment of the requirements for the degree of Master of Science in Computer and Engineering Management.

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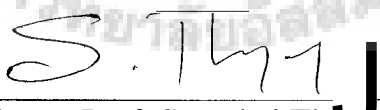


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ABSTRACT

Since the year 1999, Ministry of Education has declared a new regulation for entrance to the Public Universities; from using only entrance examination result to be together with GPA results from the classroom, in order to increase the fairness among students in the whole country. This regulation allowed the indirect benefit to the tutorial schools because some students have to take the tutorial courses only for improving their GPA. These students believed taking the tutorial courses would increase their probability for passing the entrance examination.

Therefore, this project emphasizes on studying toward the effectiveness of tutorial schools by using questionnaire as an instrument. The two target groups are selected in the research by (a) Mattayom students who are taking or used to take the tutorial courses; and (b) the undergraduate students who used to take the tutorial courses before. According to the collected data, the statistic measurement was tested for the conclusion.

The conclusion of the study told us that students appreciated tutorial courses and believed they can bring them the effectiveness in every topic, such as taking tutorial course helps students get more knowledge and better grade, reviewing their lessons and increasing more self-confidence in examination and others.

This mutual situation between students and tutorial schools seems to be very nice. However, the authorized officers have to look at this situation very closely to assure the students' effectiveness as well as give them more information for choosing the right tutorial schools that fit each student's personal objectives.

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There are several people who have made contributions to this project, so I am indebted to the following people and organization. Without them, this project would not have been possible. Therefore, I would like to acknowledge their efforts and thank them as well as express sincere gratitude to them for their contributions.

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TABLE OF CONTENTS

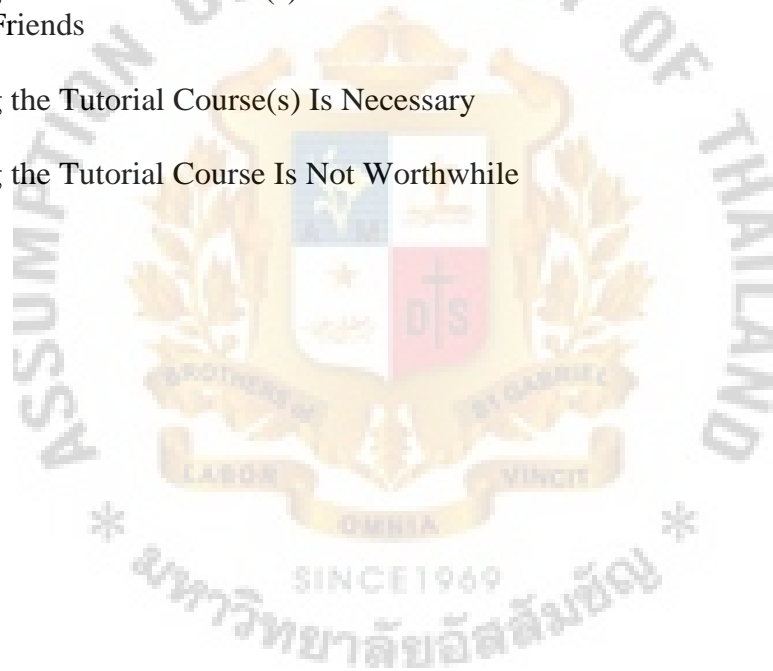
<u>Chapter</u>	<u>Page</u>
ABSTRACT	
ACKNOWLEDGEMENTS	ii
LIST OF FIGURES	
LIST OF TABLES	vii
I. INTRODUCTION	1
1.1 Background of the Project	1
1.2 Objectives of the Project	2
1.3 Scope and Limitations of the Project	2
II. LITERATURE REVIEW	4
2.1 Definitions of Tutorial	4
2.2 History of Tutorial Schools	4
2.3 Kinds of Tutorial	5
2.4 Reasons for Taking the Tutorial Course	9
2.5 Components of the Tutorial Course	13
2.6 Limitations of Tutorial Courses	15
2.7 Scope of Tutorial Schools	17
2.8 The Effectiveness of Taking Tutorial Courses	18
2.9 A Research Overview	18
2.10 Research Process	19
2.11 Types of Research	21
2.12 Hypothesis	25
2.13 Selection of a Sample	27
2.14 Measurement and Attitude Scales	30

<u>Chapter</u>	<u>Page</u>
2.15 Questionnaire	32
2.16 Data Analysis and Interpretation	36
III. RESEARCH METHODOLOGY	39
3.1 Data Collection	39
3.2 Research Instrument	39
3.3 Determining Population and Sample Group	40
3.4 Data Analysis Method	41
IV. SURVEY ANALYSES	42
4.1 Personal Data	42
4.2 Attitude and Opinion toward the Tutorial Schools	50
V. CONCLUSIONS AND RECOMMENDATIONS	74
5.1 Conclusions	74
5.2 Recommendations	77
5.3 Further Work	79
APPENDIX A THAI QUESTIONNAIRE	81
APPENDIX B ENGLISH QUESTIONNAIRE	85
BIBLIOGRAPHY	89

LIST OF FIGURES

<u>Figure</u>	<u>Page</u>
2.1 Some Sample Sets of Likert Responses	31
2.2 Some Samples of Semantic Differential	32
4.1 Personal Data Classified by Sex	42
4.2 Personal Data Classified by Age	43
4.3 Personal Data Classified by Education Level	43
4.4 Major of High School Students	44
4.5 Major of Undergraduate Students	44
4.6 The Tutorial School That Students Would Like to Take	46
4.7 The Subjects that Most of Students Would Like to Take	48
4.8 Number of School(s) That Taken by Each Student	49
4.9 Number of Course(s) That Taken by Each Student	49
4.10 The Reasons for Taking the Tutorial Courses	50
4.11 The Reasons for Choosing the Tutorial Schools	51
4.12 The Effectiveness of the Tutorial Course(s) Compare with Normal Class	52
4.13 The Tutorial Course(s) Is Worth Their Time and Money	54
4.14 Taking the Tutorial Course(s) Help Students Gets More Knowledge and Better Grades	56
4.15 Taking the Tutorial Course(s) Help Students Review Their Lessons	57
4.16 Taking the Tutorial Course(s) Helps Students Increase More Self-confidence in Their School Examination	59
4.17 Taking the Tutorial Course(s) Lets Students Know More Tricks or Lets Students Know More Than the Normal Class	60
4.18 Taking the Tutorial Course(s) Help Students to Understand More Than the Normal Class	61
4.19 Taking the Tutorial Course(s) Helps Students Manage Their Leisure Time	62

<u>Figure</u>	<u>Page</u>
4.20 Taking the Tutorial Course(s) Helps Students' Parents Decrease Worried in Their Study Field	64
4.21 Taking the Tutorial Course(s) Allows Students to Learn More in Their Favorite Subjects	65
4.22 Taking the Tutorial Course(s) Allows Students Learn with Their Favorite Teachers	66
4.23 Taking the Tutorial Course(s) Helps Students Fix Their Weakness	67
4.24 Taking the Tutorial Course(s) Helps Students Learn to Adjust Themselves for New Social Group	69
4.25 Taking the Tutorial Course(s) Lets Students Meet/Come Around with New Friends	70
4.26 Taking the Tutorial Course(s) Is Necessary	72
4.27 Taking the Tutorial Course Is Not Worthwhile	73



LIST OF TABLES

<u>Table</u>	<u>Page</u>
2.1 Differentiation of Each Tutorial Course	8
4.1 A Summarized of the Tutorial Courses That Students Take in Each Tutorial School	47
4.2 The Results of Binomial Test from the SPSS Program	53
4.3 The Tutorial Course(s) Is Worth Their Time and Money	53
4.4 The Summary of T-Test Result from SPSS Program	71
5.1 The Subjects That Most Students Would Like to Take	75
5.2 The Popular Tutorial Schools	75



I. INTRODUCTION

1.1 Background of the Project

Education is very important for Thai society. Most people still believe that the students who graduated from famous Public Universities such as Chulalongkorn University, Thammasat University would have more chances in career field, especially in famous companies. This belief not only pressures Thai students to compete with the others for entrance examination, but also create so many problems for our education institution such as unfairness for education opportunity, and the waste of time and money for entrance examination preparation. Nowadays tutorial schools seem to be the most efficient solution for many students and social trend. Most students spent more time and effort on studying in the tutorial schools, with well-known tutors, than they spent in classes and ignored some necessary moral and ethics that are important for human life.

From the above reason, many tutorial schools in Thailand seem to be extended to reach each grade of students even in the kindergarten grade. Each tutorial school is in the fierce competition stage. Even though there are numerous tutorial schools, only some of them are accepted as special subject expertise. Students want to take tutorial course with only the well-known tutor in each subject, for example A.Ooh is a famous tutor for Chemistry, A.Chuang for Physics, or A.Ping for Sociology, etc. Moreover, students are interested in only the entrance examination subjects.

According to the above fact, there are many arguments toward this social trend and tutorial schools. Many questions were asked whether these tutorial schools are the efficient solution to help students pass the examination; compare with money dump, or even do the well-known tutorial schools satisfy the students' objectives; in terms of getting the better grade or getting good preparation for the entrance examination, than

their schools. But the most important question for people is "Are the tutorial expenditure reasonable enough for the parents to dump a lot of money, just to get the guarantee for their dear children?"

Although the Ministry of Education of Thailand tries to find a new regulation to help each student have equal chance to pass the exam; by using the past performance in class room as additional reference part, the number of tutorial schools seems to be expanding day by day.

1.2 Objectives of the Project

The purpose of this project is to analyze the relationship between students and tutorial courses in the following objectives.

- (1) To study the effectiveness of the tutorial schools.
- (2) To know why the students take the tutorial courses.
- (3) To know the reasons for choosing the tutorial school(s).
- (4) To analyze whether students are satisfied during taking the tutorial courses.

1.3 Scope and Limitations of the Project

This project emphasizes on answering the arguments whether the tutorial schools are efficient for guaranteeing the success in entrance examination, in the students' opinion. So we will use 2 different sampling groups which are:

- (1) Students who are studying in Mathayom 1 to 6 in only the Bangkok area - to check whether the tutorial schools can fulfill their satisfaction or not.
- (2) Undergraduate who passed the tutorial schools before taking the entrance examination — to re-check whether the tutorial schools are the key success for their entrance examination.

The limitations of the project can be defined as:

- (1) Small sample size: when we compare our sample size with the whole students who live in both Bangkok and upcountry.
- (2) Incomplete sample size: the students who live in Bangkok can hardly be a good representative sample for upcountry students because they are different in life styles, and consumption behaviors.
- (3) Time limitation: it takes too long to follow up the examination results of the sampling group whether they can pass their entrance examination or not.
- (4) Budget limitation: it takes a lot of money if we would like to follow all of our defined sample group.



H. LITERATURE REVIEW

2.1 Definitions of Tutorial

The important word according to "tutorial" was defined in "Longman Dictionary of Contemporary English" (1980) as:

Tutorial is a period of instruction given by tutor.

Tutor is a teacher who gives private instruction to a single pupil or a very small class and who sometimes lives with the family of his/her pupil, a teacher who directs the studies of a number of students whom he/she also meets separately.

qii vonf (2530) defined that tutorial is the teaching of extra program from normal educational curriculum or program. Where as, rum (2526) stated that tutorial is the re-teaching (again) of the normal class in order to increase more understanding and recognition about the lessons. Tuition focuses on immediate efficiency or specific objective in a limited time. It is different from the normal class, which focuses only on giving the wide scope of learning toward each subject.

Carter V. Good (1959) stated that Tuition is a specific kind that the students or the learners have to pay for study fee which exclude the costs of textbook and library fee.

2.2 History of Tutorial Schools

The first record of tutorial school was recorded since the middle age of Ayuttaya. It was recorded that many Chinese millionaires always hired the Chinese teacher to teach Chinese to their children before sending them to study abroad in China. Since 1936, the Private School Act was declared, but there was not any declaration about tutorial school. However, in 1954, the first tutorial school was permitted to be

established as "the 7 kinds of the public school" which are special events schools, tutorial schools, Disability schools, School of Arts, Religion School, Adult school.

In 1969, the Ministry of Education declared the barrier of the new tutorial school from being established, because the tutorial schools were determined as waste and useless for parents. These barriers were declared as disallowing new tutorial school.

Those are disallow for:

- (1) Trade and move their school to other people except the legally heir.
- (2) Any expansion such as land expanding and increasing classes.
- (3) Land and building movement.
- (4) Continued operation when the land was recalled by the land owner.
- (5) Increasing the audiences and subjects.

These barriers were asked to re-considered 4 times, until since 1991, the Ministry of Education declared the permission for new tutorial schools to be established with some limitations. For example, the master teachers of the tutorial school have to graduate with a bachelor's degree, at least, from any educational field with at least 3 years of teaching experience. If they are graduated from other fields, they have to take at least 16 credits in educational subjects (errufhlti 2539).

2.3 Kinds of Tutorial

A tutorial course is now a familiar word to many learners; not only the students, but also the ordinary people who have their special objective about studying. There are many kinds of tutorials which should be defined for this project in order to prepare the same "frame of reference" between writer and readers (rptiara 2530).

- (1) Remedial Learning
- (2) Extra Learning

Adapted Learning

Corrective Learning

Accelerated Learning

Specified Learning

Special Learning

Tutorial Learning

Remedial Learning: When the instructors or the teachers repeat the last, same lesson in the class again to the students who are unable to follow up immediately in class which may be caused by the learners' limitation in their ability to learn or their absence from class. The main objective for remedial learning is to help the students to be able to follow the class.

Extra Learning: when the instructors instructed the higher level lessons to students who have the higher potential than the others in the class (may be because they are smarter or have spent more time in their program than others) in order to help those students to save their time such as setting an extra learning for grade 12th to the 10th grade students.

Adapted Learning: the special class is set for those students who have to adjust their physical and psychological preparation for the new environment. For example, the kindergarten children have to take an adapted learning class before going to be the 1st grade students in primary school.

Corrective Learning: the classes that focus on correcting the misunderstanding of the old knowledge more than emphasizing on learning the new program. For example, the corrective learning class for English pronunciation is set for the students who took the English class, but have some pronunciation problem.

Accelerated Learning: the shortening of the ordinary study period of graduated just to prepare the students to the next graduated degree. For example, some people spend only 6 months for grade 7th to 9th (Mathayom 1 to 3) and another 6 months for grade 10th to 12th (Mathayom 4 to 6) instead of spending 6 years for the whole range.

Specified Learning: the special class for special interest subjects of each student, such as specified learning for Thai dance, Thai music or swimming

Special Learning: emphasizes on giving the special experience which is not included in the ordinary education program, such as some students take the special learning Chinese class which is instructed by a Chinese teacher from Beijing.

Tutorial Learning: this class is set by peers or classmates or some senior students in order to repeat the important part of the program for an occasion. For example, the sophomore student who is good in English literature set a tutorial learning class to some freshmen who are weak in this subject before mid-term exam.

The differentiation of tutorial courses can be summarized as in Table 2.1.

Moreover, IttrA011 (2522) classified the tutorial courses into 3 major kinds as:

- (1) Remedial work: the remedial courses emphasize on re-teaching students who cannot follow up their class-mates to some normal, curriculum subjects, such as Sciences, Mathematics or English.
- (2) One-to-one instruction: each instructor teaches only one student directly for giving some special skill completely. These subjects are Arts, Music or singing.
- (3) Special help: the instructor will set another special class to enriched students for some special activities because of time limitation in normal class. For example, the instructor may set a special help class for the next, higher education level to his or her students as a special favor.

Table 2.1. Differentiation of Each Tutorial Course (07,3142530).

Type of learning	Detail of achievement	Main objective	Kind of students
1. Remedial learning	To be able to follow the classmates	To solve all mistakes and inabilities	Inability and absence the class
2. Extra learning	Their own knowledge ability	To increase the scope of knowledge	To be smarter than other classmates
3. Adapted learning	Adjust both physical and psychological alertness for future study	To expand the scope of knowledge	Inability, younger than other students
4. Corrective learning	Corrective knowledge	To undo the misunderstanding	Everybody who misunderstands
5. Accelerated learning	Shortened educational period	To pass on to the next study level	Delight students
6. Specified learning	Each special interest subject such as computer	To satisfy personal satisfaction	Special interest
7. Special learning	Fulfill missing knowledge	To increase learning ability	Any person
8. Tutorial learning	Focus on the present education program	To fulfill the missing knowledge	Any person
Conclusion of the tutorial classes	To get ready for exam and fulfill the	To follow or be more advanced than the other classmates	Any person
	missing knowledge		

2.4 Reasons for Taking the Tutorial Course

The main reasons that persuade people to take the tutorial course can be divided into 5 major topics as (rogioni 2530):

2.4.1 Techniques

- (a) To correct the mistake or misunderstanding as well as to fulfill the missing part of the program. By doing this, the student is able to follow and join in the class.
- (b) To expand more knowledge in order to increase the students' potential.
- (c) To expand more knowledge for shortening the graduate period, as well as to prepare the students for the higher level graduate of knowledge.
- (d) To review or recheck their present knowledge for more accurate to get ready for internal promotion exam in the work place or future study.
- (e) To prepare the basic knowledge before going to the higher level or specific program.

2.4.2 Physical and Psychological Reasons

- (a) Because of physiology limitation, each person can not learn everything equally in the same, given time.
- (b) Because of psychological behavior, each person has the different background, such as concept, intention, and learning method that create the different ability to learn in the same, given time.

2.4.3 Curriculum

- (a) The objectives of the program are set too high to achieve.
- (b) The scope of the program is too narrow to some specific group of audience.
For example, the program, which is set for only the middle experience

audiences, may create the problem to both stronger and weaker experience audience groups.

- (c) The program is not considered for the differences between economy, society and cultural of each member of the audience, which may create a gap between each audience.
- (d) There are too many details for implied behavior, so that the class cannot fulfill all of them within the limited time.
- (e) The difference between the present, realistic program and the idealistic set, for example, the detail program for English class at present, is the emphasizes on "communication approach" While the entrance exam emphasizes on "structuralism approach", so the students have to take the tutorial class to reach the "structuralism" just to pass the examination 015-15 lto 2527).
- (f) The objectives of the program are set too high to fulfill some limitations in actions. For example, the unsuccessfulness teaching of Thai language always occurs because of the lack of the communication equipment and budget, both instructors and audiences, ignorance and time limitation in the classroom.

2.4.4 Social Expectation

- (a) Social competition — Because of insufficient work place market, nowadays people have to compete with others to get more social guarantee from limited famous schools and institutes. Those aggressive competition cause people to take tutorial course in order to get the most knowledge as possible for passing the competition situation.

- (b) Social acceptance — The more diligent, the person is the more social acceptance the person gains. The honor is not only for her/him, but also for the families. Many students have to learn very hard just to pass the entrance examination of the very few famous public universities without any interest in that field. Some of them even have no idea what they will be after graduation. This social trend creates the educational opportunity cost for society.
- (c) Socially ambitious for studying abroad — Although many educational fields will improve to reach the standard abroad, many parents still have the conservative idea about social prestige for studying abroad. This idea is beneficial for English and Mathematics tutorial courses for TOEFL (Test of English as a Foreign Language) and GRE (Graduate Record Examination).
- (d) Indirect force from fashion — Some students were persuaded or threatened by their friends, instructors or even their parents to take the tutorial course unless they won't be able to compete with others.

Although we can classify the reasons that most people used for making the decision to take a tutorial course into 4 main groups. We are still not able to define which is the most efficient one because each person is different from others in terms of background, ecology, economy, society, and culture. However, the major reasons, which can be the cause of others, should be:

- (1) Unsuitable curriculums
- (2) Limitation of the higher graduate level
- (3) Occupation limitation

2.4.5 Parents of Students: Nowadays, the parents' opinion toward tutorial course is changing from the past decades. Most of the parents do not only preferred their children to take tutorial courses, but also help them screen for the most famous ones.

These parents believed if they can push their children to take a course with famous tutors; who are teaching in the famous universities, their children will get a chance in the entrance to that university.

The following conclusions are the main reasons, which most parents use for supporting their children to take the tutorial courses.

- (1) Those parents misunderstood the new educational curriculum. rpauoi (2529) found that most of Bangkok parents of the primary students could not help their children to be successful in their learning because they lack an understanding of the present curriculum's structure and detail. Similarly, (2530) also found the relationship between family background and successful in Mathematics learning in Mathayom 1 students that 81.50% of the parents claimed they have no time for teaching their children, and 43.50% claimed they have not enough knowledge to teach their children.
- (2) Lack of psychological and teaching method: most parents are not so good in being tutors for their children because of the lack of psychological and technical methods to communicate with their children about educational concept.
- (3) Lack of time: a substantial percentage of the parents about 31.50%, have not enough time to teach their children because they have to work; especially the parents who are merchants (iirviiiiti 2530), and 11% of those parents decided to support their children to take a tutorial course while studying.

Otherwise, the committee of Private Educational and other Educational associations defined more reasons as:

- (1) To get more knowledge for passing the entrance examination. Parents believed that only studying in class is not enough for passing the entrance examination so they have to support their children to take other tutorial courses in order to get more advantages in examination competitions.
- (2) To support the children to spend their leisure time usefully: during waiting for parents to pick them up after finishing the school, as well as, taking the holiday vocation, students are encouraged to spend their leisure time in studying instead of gathering as gang or doing other useless hobbies.
- (3) To ensure the children security, parents always encourage their children to take the tutorial courses, which are available in the schools they are studying in order to improve the students' knowledge as well as to guarantee children's safety.

2.5 Components of the Tutorial Course

Each audience member who decides to take each tutorial course will gain the different satisfaction levels, which depend on the following components:

2.5.1 The Audiences' Objectives

Each audience or learner should set the suitable objective for her/himself based on each personal, physical and psychological abilities. The objective, which is set too high for that person, will not be to achieved without the student keeping on trying. If a person realizes that he/she has low ability, he/she should set his/her objective step by step from the easier to the more difficult ones. He has to follow each step by keeping on trying; the heart of key to successful.

2.5.2 The Reasons for Taking the Tutorial Course

Each audience member should find out his/her own reasons for taking any tutorial course as mentioned above (at "Reasons for Taking the Tutorial course"). Taking the tutorial course without suitable or defined reasons may cause of uncertain direction, which leads to unestimated waste of money and time.

2.5.3 The Suitable Instructors

The instructor plays the most important role in the tutorial course according to the "Tyler loop concept" (Tyler 1949) (This concept indicated the relationship among instructor, audiences and curriculum in the instruction process). The instructors of the tutorial course have to be concerned about the most 2 important factors, which are:

- (a) There is more heterogeneous group (the group that composed of many different kinds of audiences) than in the normal program class.
- (b) The instructor has to check audiences' reasons for taking a tutorial course in order to help the audiences to fulfill their objectives.

2.5.4 Size of Individual Group

The bigger the size of the audiences means the more differentiated and the less efficient the teaching is. The recommended size for a normal class is 30 students per group. Although there are many kinds of learning equipment developed nowadays, such as overhead projectors, VDOS, loudspeakers or even micro-computers, the students still look for inter-personal communication from the instructor for human kindness and sympathy.

2.5.5 Text Book and Other Equipment

Another factor is specific and suitable textbook should be set for each tutorial course. For example, the easier and the more detail and the textbook is the more suitable it is for remedial tutorial course, as well as the same difficulty, but the more

day by day, in terms of new branches. The more they expand the branches, the more "benefit focus" organizations they become, as well as, the less efficiency they bring to their students by:

- (a) Overloading of the students in each class. (The suitable students are recommended at 30 persons/class.)
- (b) Using more learning equipment's such as VDOs, projectors, loudspeakers that decreases the interpersonal — communication. These equipment also makes it difficult to the instructor check the students' responses.
- (c) Deciding their own specific, narrow-perspective textbooks. The students have to attend the class to get more explanation from instructors, without that class attention, the textbooks are only the collection of the questions from the past examinations.

2.6.2 Illegal Tutorial Classes

The tutorial groups composed of lower than 7 audiences are expected to ask to be established. Most instructors are teachers or the senior students instructing the class within their own places, students' place or some rented public schools. The special characteristics of these kinds of tutorial classes are:

- (a) The limited students allowed each of them to increase their class attendance as well as more interpersonal communication with instructors. On the other hand, the class response can be easily checked by the instructors and allow them to analyze each audience's limitation.
- (b) The instructions' styles, equipment and textbooks are still the same as those of the regular classes. This way allows the students to increase their understanding of the lesson than to just emphasize on the past examination questions.

In comparison, the students of the second kind of tutorial class seem to get more advantages than those of the first one because of the smaller number of students per class.

2.7 Scope of Tutorial Schools

The scope of the tutorial school is basically defined as (a) opened for only some subjects not the overall subjects. (b) Different by operated from normal curriculum schools. For example the timetable is fixed on the special period such as every weekend, summer holidays seasons or in the evening, after the normal curriculum classes.

According to the specific timetable, the tutorial schools can be classified as:

2.7.1 Shortened Education Period Class

These students focus on both money and time shortened from the full curriculum classes. These special classes open special, frequent period such as evening programs (in the evening of Mondays-Fridays) and Sunday programs. (Every Sunday from 9.00-15.00)

2.7.2 Special Vacation

Most of these students focus on knowledge extension. Since each school has different standard, the lower standard schools (most of them are not well known schools) students have to motivate themselves to reach the standard by taking these special tutorial courses during their special vacation such as the summer vacation.

2.7.3 The Whole Year

These classes follow the Education Institute's curriculum but allow the students to take only the subjects that they are weak in.

2.8 The Effectiveness of Taking Tutorial Courses (ffluctvul 2539)411:Sn] 2538)

From the study of the effectiveness, tutorial schools can be calssified in to those that:

- (1) Persuade people to improve their learning.
- (2) Motivate and arouse the students to increase their self-confidence.
- (3) Improve the students' leisure time.
- (4) Decrease parents' nervousness about their children's education.
- (5) Deal with students who have more options to take only the special subjects of interest and instructors.
- (6) Eradicate students' weakness personally.
- (7) Allow people to advance their knowledge by taking the tutorial course.
- (8) Allow students to meet other different groups of people in order to improve their social behavior as well as prepare themselves for new social environments.
- (9) Keep the students away from useless activities such as drugs.

2.9 A Research Overview

Research is the systematic attempt to:

- (a) Collect information about an identified problem or question,
- (b) Analyze that information
- (c) Apply the evidence thus derived to confirm or refute some prior prediction or statement about that problem (Hittleman and Simon 1997).

The Encyclopedia of the Social Sciences (1934) defined research as being the: "...manipulation of things, concepts or symbols for the purpose of generalizing and to extend, correct or verify knowledge, whether that knowledge aids in the construction of

a theory or in the practice of an art. The mechanic or physician is a research worker only when he attempts to generalize about all automobiles or all patients in a given class."

A rather broader meaning of research was proposed: "... it is characteristically and inevitably a systematic inquiry for verified knowledge. In that simple description is implied the whole syntax of research" (Wise, Nordberg, and Reitz 1967)

According to the Collins Cobuild English Language Dictionary (1987), research means the "detailed study of a subject". It further suggests "when you do research you collect and analyze facts and information and try to gain new knowledge of new understanding."

Kerlinger (1983) defined research as the "systematic, controlled, empirical and critical investigation of hypothetical propositions about the presumed relations among natural phenomena".

Research is a more systematic activity directed toward discovery and the development of an organized body of knowledge (Best 1970).

Research is a way of knowing or understanding, just as insight, divine inspiration, and acceptance of authoritative declarations can be ways of knowing (Langenbach, Vaughn, and Aagaard 1994).

2.10 Research Process

McMillan and Schumacher (1997) stated that the research process involves several phases. These phases are not always sequential, nor are they an orderly step-by-step process. Research is more an interactive process between the researcher and the logic of the problem, design, and interpretations. Below is a summary of the process:

- (1) Selection of a general problem.
- (2) Review the literature on the problem.
- (3) Select the specific research problem, question, or hypothesis.

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- (4) Collect data.
- (5) Analyze and present data or provide integrative diagrams.
- (6) Interpret the finding and state conclusions or generalizations regarding the problem.

The first step of research is selection of general problem, the problem defines the area of business in which research will be conducted, such as instruction, administration, marketing, or education.

The second step, review the literature on the problem, the most important literature is prior research and theory, but other literature may be useful. In some studies, an exhaustive literature review is done before one collects data. In other studies, the literature review is tentative and preliminary before data collection and then is expanded as data are collected.

The third step is selecting the specific research problem, question, or hypothesis. This requires the investigator to decide on a design and methodology, specifically whether quantitative or qualitative methods will be used, the research problem or questions are preliminary guide and will become more specific as the research progresses.

The fourth step, collect data, ethical and legal concerns regarding data collection and analysis must also be resolved. The next step is analyze and present data or provide integrative diagrams.

Finally, interpret the finding and state conclusions or generalizations regarding the problem. Decisions about the reporting format appropriate for the purpose of the study and the intended audiences or readers are made.

The research process is essentially one of reflective inquiry. Each decision made by the researcher is reported explicitly, often with a rationale for the choice. It is an exciting intellectual process with different skills used in the various phases.

2.11 Types of Research

Gay and Diehl (1996) stated that research studies could be classified in a number of ways. Two major approaches are to classify by purpose or by method. When purpose is the classification criterion, all research studies fall into one of two categories, either basic or applied research. Further, applied research may include evaluation research, research and development (R&D), or action research. Research method refers to the overall strategy followed by collecting and analyzing data; this strategy is referred to as the research design. Even using research method as the criterion can lead to several different classification schemes. There are five distinct types, kinds, or methods of research: historical, descriptive, correlational, Ex Post Facto (causal-comparative), and experimental.

- (1) Classification of research by purpose
- (2) Classification of research by method

Classification of research by purpose is based primarily on the degree to which findings have direct application and the degree to which they are generalizable to other situations. Both of these criteria are functions of the research control exercised while the study is being conducted. In general, the following distinctions may be made: basic research involves the development of the theory. Applied research is concerned with application of theory to the solution of problems, including the following: evaluation research, research and development, and action research.

- (a) Basic versus applied research: it is difficult to discuss basic and applied research separately because they are actually on a continuum. Most

business-and management research probably would be classified as the applied end of the continuum. Applied research, as the name implies, is conducted for the purpose of applying, or testing, theory and evaluating its usefulness in solving business problems. Rightly or wrongly, the emphasis on the bottom line tends to encourage more applied research; these studies emphasize what works best more than why it works. Basic research is concerned with establishing general principles of human behavior; applied research is concerned with their utility in the work places.

- (b) Evaluation research focuses on a particular practice at a given site. The practice may be a program, a product, or a process, but the site is crucial. Evaluation research assesses the merit and worth of a particular practice in terms of the values operating at the site. Evaluation determines whether the practice works — that is, does it do what is intended at the site? Evaluation also determines whether the practice is worth the costs of development, implementation, or widespread adoption. Costs may be those of materials, time and space, staff skills and morale, and community supports (McMillan and Schumacher 1997).
- (c) Research and Development (R&D): the major purpose of R&D efforts is not to develop new products or processes. R&D efforts aimed at specific-product development are generally quite extensive in terms of objectives, personnel, and time to completion. The process involves meeting specific needs in accordance with detailed specifications. Once completed, products are field-tested and revised until a specified level of effectiveness is achieved. Although the R&D cycle is an expensive one, it results in

products designed to meet the overall business plan of the company and provides for future growth and development (Gay and Diehl 1996).

- (d) Action research: the purpose of action research is to solve business-and management problems through the application of the scientific method. It is concerned with a local problem and is conducted in a local setting. In most instances, action research is not concerned with whether the results are generalizable to any other setting and is not characterized by the same kind of control evident in other categories of research. The primary goal of action research is the solution of a given problem, not a contribution to science. The value of action research is normally confined to those conducting it, although reports of action research may be assistance to others facing similar situations. The use of case study in management education is an example of a utilization of a product that might come from action research.

Classification of research by method: most research studies represent a readily identifiable method, or strategy. All studies have certain procedures in common such as the statement of a problem, collection of data, and drawing of conclusions. Beyond these, however, specific procedures are to a high degree determined by the research method. Each of the methods is designed to answer a different type of question. Knowledge of the various methods of the procedures involved in each is important both for researchers and consumers of research. A classification scheme that appears to be the most efficient, in that it minimizes categories and maximizes differentiation, places all research studies into one of five categories: historical, descriptive, correlational, Ex Post Facto, experimental.

- (a) Historical research involves studying, understanding, and explaining past events. The purpose of historical research is to arrive at conclusions

concerning causes, effects, or trends of past occurrences that may help to explain present events and anticipate future events. While historical studies are less frequently conducted than other types, there are certain problems and issues (such as hiring policies) that can be better understood in the light of past experience.

- (b) Descriptive research involves collecting data in order to test hypotheses or answer questions concerning the current status of the subject of the study. A descriptive study determines and reports the way things are. One common type of descriptive research involves assessing attitudes or opinions toward individuals, organizations, events, or procedures; pre-election political polls and market research surveys are examples of this type of descriptive research. Descriptive data are typically collected through a questionnaire survey, interviews, or observations. Descriptive research sounds very simple; there is considerably more to it, however, than just asking questions and reporting answers. Since one is generally asking questions that have not been asked before, instruments usually have to be developed for specific studies; instrument development requires time and skill and is not a casual enterprise. A major problem further complicating descriptive research is lack of response — the failure of subjects to return questionnaires or attend scheduled interviews. If the response rate is low, valid conclusions cannot be drawn.
- (c) Correlational research attempts to determine whether, and to what degree, a relationship exists between two or more quantifiable variable. A variable is a concept that can assume any one of a range of values. Examples of variables include income, age, educational level, motivation, and success.

The purpose of a correlational study may be to establish a relationship, or the lack of it, or to use relationships in making predictions. Correlational studies typically assess a number of variables believed to be related to a major, complex variable, such as leadership.

- (d) **Ex Post Facto research:** the purpose of ex post facto research is to investigate whether one or more preexisting conditions have possibly caused subsequent differences in the groups of subjects. In other words, the researcher looks to conditions that have already occurred (ex post facto is Latin for after the fact) and then collects data to investigate the relationship of these varying conditions to subsequent behavior. In ex post facto research the investigator attempts to determine whether differences between groups (the independent variable) have resulted in and observed difference on the dependent variable (McMillan and Schumacher 1997).
- (e) **Experimental research:** the researcher manipulates what the subjects will experience. In other words, the investigator has some control over what will happen to the subjects by systematically imposing or withholding specified conditions. The researcher then makes comparisons between subjects who have had and others who have not had and others who have experienced different conditions. Experimental research also has a particular purpose in mind: to investigate cause-and-effect relationships between manipulated conditions and measured outcomes.

2.12 Hypothesis

Gay and Diehl (1996) stated that hypothesis is a tentative explanation for creating behaviors, phenomena, or events that have occurred or will occur. A hypothesis states the researcher expectations concerning the relationship between the variables in the

research problem; a hypothesis is the most specific statement of the problem. It states what the researcher thinks the outcome of the study will be. The researcher does not then set out to "prove" his or her hypothesis but rather collects data that either support the hypothesis or do not support it; research studies do not "prove" anything. Hypotheses are essential to all research studies with the possible exception of some descriptive studies whose purpose is to answer certain specific questions.

A major characteristic of a good hypothesis is that it is consistent with previous research. A good hypothesis is a tentative, reasonable explanation for the occurrence of certain behaviors, phenomena, or events.

An inductive hypothesis is a generalization based on observation. Deductive hypotheses derived from theory contributed to the science of business and management by providing evidence that supports, expands, or contradicts a given theory. Research hypotheses are stated in declarative form, and statistical hypotheses are stated in null form. A research hypothesis states the expected relationship (or difference) between two variables, in other words, what relationship the researcher expects to verify through the collection and analysis of data. A nondirectional hypothesis simply indicates that a relationship or difference exists; a directional hypothesis indicates the nature of the relationship or difference. A statistical, or null, hypothesis states that there will be no relationship (or difference) between variables and that any relationship found will be a chance relationship, not a true one.

A general paradigm or model for stating hypotheses for experimental studies are as follows: Ss who get X do better on Y than Ss who do not get X (or get some other X). In the model, Ss are the subjects, S is the treatment (or independent variable), and Y is the observed outcome (or dependent variable).

In order to test a hypothesis, the researcher determines the sample, measuring instruments, design, and procedure that will enable her or him to collect the necessary data. Collected data are then analyzed in a manner that permits the researcher to determine the validity of the hypothesis. It is just as important to know what variables are not related, as it is to know which ones are related.

2.13 Selection of a Sample

Sampling is the process of selecting a number of items or individuals for a study in such a way that the items or individuals represent the larger group which they were selected. The purpose of sampling is to use a sample to gain information about a population (Gay and Diehl 1996).

A population is the group to which a researcher would like the results of the study to be generalizable. A defined population has at least one characteristic that differentiates it from other groups. The population that the researcher would ideally like to generalize results is referred to as the target population; the population that the researcher realistically selects from is referred to as the accessible population.

Regardless of the specific technique used, the steps in sampling are to define the population, determine the required sample size, and select the sample. The degree to which the selected sample represents the population is the degree to which results are generalizable. There are four basic sampling technique or procedures:

- (a) Random sampling
- (b) Stratified random sampling
- (c) Cluster sampling
- (d) Systematic sampling

Random sampling is the process of selecting a sample in such a way that all individuals in the defined population have an equal and independent chance of being

selected for the sample. Random sampling is the best single way to obtain a representative sample. Random sampling involves defining the population, identifying each member of the population, and selecting individuals for the sample on a completely chance basis. A random sample is generally selected using a table of random numbers.

Stratified random sampling is the process of selecting a sample in such a way that identified subgroups in the population are represented in the sample in the same proportion that they exist in the population. Stratified random sampling can also be used to select equal-size samples from each of a number of subgroups if subgroup comparisons are desired. The steps in stratified random sampling are very similar to those in random sampling except that selection is from subgroups in the population rather than from the population as a whole.

Cluster sampling is sampling in which groups, not individuals, are randomly selected. Any intact group with similar characteristics is a cluster. The steps in cluster sampling are similar to those in random sampling except that random selection of groups (clusters) is involved, not individuals.

Systematic sampling is sampling in which individuals are selected from a list by taking every K^{th} name, where K equals the number of individuals on the list divided by the number of subjects desired for the sample. Although choices are not independent, a systematic sample can be considered a random sample if the list of the population is randomly ordered (a relatively infrequent event).

Determining sample size, the formula for calculating the required sample size for known population or universe (Yamane 1967).

$$n = N/(1+Ne^2)$$

where n = required sample size

N = population size or universe

e = Acceptable amount of sampling error

Sampling bias does not result from random, chance differences between samples and populations; sampling bias is systematic and is generally the fault of the researcher. A major source of bias is the use of non-probability sampling techniques. When such techniques are used, it is not possible to specify the probability, or chance, that each member of a population has of being selected for the sample. There are three techniques used mainly for reasons of cost and expediency (Gay and Diehl 1996) (Mcdaniel and Gates 1998):

- (a) Convenience sampling
- (b) Judgment sampling
- (c) Quota sampling
- (d) Snowball sampling

Convenience sampling is the most used in business research and is therefore the major source of sampling bias in business research. Convenience sampling, also referred to as accidental sampling and haphazard sampling, basically involves using as the sample that happens to be available. Two major examples of convenience sampling are the use of volunteers and the use of existing groups just because "they are there".

Judgment sampling, also referred to as purposive sampling, basically involves selecting a sample that is believed to be representative of a given population.

Quota sampling is most often used in survey research involving interviews, usually when it is not possible to list all members of the population of interest. When quota sampling is involved, interviewers are given exact numbers, or quotas, of persons of varying characteristics who are to be interviewed.

Snowball sampling use sampling procedures that select additional respondents on the basis of referrals from the initial respondents. This procedure is used to sample from low-incidence or rare populations.

Researchers should avoid being talked into using a seriously bias sample for the sake of management convenience. Any sampling bias present in a study should be fully described in the final research report.

2.14 Measurement and Attitude Scales

Mcdaniel and Gates (1998) stated that a scale is a set of symbols or numbers constructed to be assigned by a rule to the individuals (or their behaviors or attitudes)to whom the scale is applied.

The four general levels of measurement scales — nominal, ordinal, interval, and ratio. The four scales comprise a hierarchy of measurement levels based on the amount of information contained in the score or the measure generated by the scales. The scales go from nominal to ratio in order from least to the most information contained. The four scales are defined as follows (Wiersma 1995):

- (1) Nominal: this gives categorization without order; whatever is being measured is categorized into two or more classifications that indicate only differences with respect to one or more characteristics.
- (2) Ordinal: this scale also orders the scores on some basis, such as low to high or least to most.
- (3) Interval: established in the scale such that a difference of a point in one part of the scale is equivalent to a difference of one point in any other part of the scales.
- (4) Ratio: the scale contains a true zero point that indicates a total absence of whatever is being measured.

Mcdaniel and Gates (1998) stated that attitude scaling is based on various operational definitions created to measure the attitude construct. One way to measure attitude is to use attitude-rating scale, using this method is perhaps the most common practice in research. The most common attitude scales are Likert and semantic differential.

Wiersma (1995) stated that Likert scale is a scale with a number of points or spaces, usually five that represent a set of related responses, one for each point. The individual responds by checking a point or circling a letter (or number) representing a point on the scale. These points are assigned numerical values, 1 to 5 or 0 to 4, which are then totaled over the items to give the individuals an attitude score. Figure 2.1 shows some sample sets of Likert responses:

Very Satisfactory	Satisfactory	Undecided	Unsatisfactory	Very unsatisfactory
Very Support	Support	Neutral	Unsupportive	Very =supportive

Figure 2.1. Some Sample Sets of Likert Responses.

Researcher could look at a summed score and tell if a person's attitude toward a concept is positive or negative. Likert scale is very popular because it is quick and easy to construct and can be administered over the phone or a respondent can be given a "reply category" card and be asked to call out an answer.

Mcdaniel and Gates (1998) stated that semantic differential is measuring instrument that focuses on a single word or concept at a time to measure the connotative meaning of that concept. The construction of a semantic differential scale begins with the determination of a concept to be rated, such as a company, brand, or store image.

The researcher selects dichotomous (opposite) pairs of words or phrases that could be used to describe the concept. The semantic differential is a quick and efficient means of examining the strengths and weaknesses of a product or company image versus the competitor's. Figure 2.2 shows some samples of semantic differential:

Bad	_____ Good
Secure	_____ Insecure
Satisfying	_____ Unsatisfying

Figure 2.2. Some Samples of Semantic Differential.

Respondents then rate the concept on a scale, usually 1-7. The mean of these responses for each pair of adjectives is computed and plotted as a profile or image.

2.15 Questionnaire

Questionnaire is a written set of questions or statements that assesses attitudes, opinions, beliefs, and biographical information. A questionnaire is relatively economical, has the same questions for all subjects, can ensure anonymity, and contains questions written for specific purposes. Questionnaires can use statements or questions, but in all cases the subject is responding to something written. The researchers can be developing questionnaire following the sequence of steps below (McMillan and Schumacher 1997) (Mcdaniel and Gates 1998):

- (1) Justification
- (2) Defining objectives
- (3) Writing questions and statements
- (4) Review items
- (5) Construct general format
- (6) Pretest and revise

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(7) Prepare final copy

(8) Implementation

Justification: A questionnaire is one of many ways information can be obtained. The researcher who wants to use one should be sure that, given the constraints of the situation, there are no other more reliable and valid techniques that could be used. This decision is based on knowledge of the strengths and weaknesses of each technique and is addressed later in the chapter by comparing several commonly used techniques. Researchers should give much thought to justification whenever they develop new questionnaires

Defining objectives: the second step in using a questionnaire is to define and list the specific objectives that the information will achieve. The objectives are based on the research problems or questions, and they show how each piece of information will be used. They need not be strict behavioral objectives, but they must be specific enough to indicate how the responses from each item will meet the objectives. By defining objectives the researcher is specifying the information that is needed.

Writing questions and statements: the best way to write the items is to be objective and to be aware of the way the results will be analyzed once the data are collected. There are two general considerations in writing the items: complying with rules for writing most types of items, and deciding which item format is best. Babbie (1995) suggested the following guidelines for writing effective questions or statements:

- (a) Make items clear: an item achieves clarity when all respondents interpret it in the same way.
- (b) Avoid double-barrelled questions: a question should be limited to a single idea or concept.

- (c) Respondents must be competent to answer: it is important that the respondents are able to provide reliable information.
- (d) Questions should be relevant: if subjects are asked to respond to questions that are unimportant to them or are about things they have not thought about or care nothing about, it is likely that the subjects will respond carelessly, and the results will be misleading.
- (e) Simple items are best: long and complicated items should be avoided because they are more difficult to understand, and respondents may be unwilling to try to understand them.
- (f) Avoid negative items: negatively stated items should be avoided because they are easy to misinterpret.
- (g) Avoid biased items or terms: the way in which items are worded, or the inclusion of certain terms, may encourage particular responses more than others.

Types of items: there are many ways in which a question or statement can be worded and several ways in which the response can be made. The type of items should be based on the advantages, uses and limitations of these options. Below is a summary of the more common approaches to the way questions and statements may be asked and answered.

- (a) Open and closed form: the first consideration is to decide whether the item will have a closed form, in which the subject chooses between predetermined response, or an open form, in which the subjects write in any response they want. The choice of form to use depends on the objective of the item and the advantages of each type. Closed form items are best for obtaining demographic information and data that can be categorized easily.

Open-ended items exert the least amount of control over the respondent and can capture idiosyncratic differences. If the purpose of the research is to generate specific individual responses, the open-ended format is best; if the purpose is to provide more general group responses, the closed form is best.

(b) Scaled items: a scale is a series of gradations, levels or values that describes various degrees of something. Scales are used extensively in questionnaires because they allow fairly accurate assessments of beliefs or opinions. The usual format of scales items is a question or statement followed by a scale of potential responses. There are many scales for measuring attitudes such as Likert scale, Scmantie Differential, etc. explained above.

General format: the general layout and organization of the questionnaire is very important. If it appears to be carelessly done or confusing, respondents are likely to set it aside and never respond. A well-done format and appearance provides a favorable first impression and will result in cooperation and serious, conscientious responses.

Pretest and revise: the questionnaire must be pretested —put through a trial run. No survey should be taken without a pretest. Researchers should consider coding and tabulating the pretest data. The data should be put into tubular form and simple cross-tabulations and other statistical routines carried out where possible. After completion of the pretest, any necessary changes should be made. Approval should then be reobtained before going into the field. If the pretest resulted in extensive design and question alternations, a second pretest would be in order.

Prepare fmal copy: the fmal copy phase does not allow the researcher to relax. Precise typing instructions, spacing, numbering, and precoding must be set up, monitored, and proofread.

Implementation: the completed questionnaire is the basis for obtaining the desired decision-making information from the marketplace. A series of forms and procedures must also be issued with the questionnaire to make certain that the data are gathered correctly, efficiently and at a reasonable cost.

2.16 Data Analysis and Interpretation

Gay and Diehl (1996) defined that after instruments have been scored, the results are transferred to summary data sheets and/or data cards when a number of different kinds of data are collected. The better strategy is to use a computerized data-base management program, SPSS (Statistical Package for the Social Sciences).

The first step in data analysis is to describe, or summarize, the data using descriptive statistics. Graphing data permits the researcher to see what the distribution of "scores" looks like. The most commonly used methods of graphing data in business research are line charts, bar graphs, and pie charts. In presenting graphed data, it is wise to remember that the purpose of his method of presentation is to clarify and present information in an attractive, east-to-grasp way.

Measures of central tendency give the researcher a convenient way of describing a set of data with a single number. The three most frequently encountered indices of central tendency are the mode, the median, and the mean.

- (1) The mode, which is appropriate for nominal data, is the score that is attained by more subjects than any other score.
- (2) The medium, which is appropriate with ordinal data, is the point in a distribution above and below, the medium is the midpoint.
- (3) The mean, which is appropriate with interval or ratio data, is the arithmetic average of the scores or figures; it is the most frequently used measure of central tendency.

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Inferential statistics deal with inferences about population based on the behavior of samples. Inferential statistics are concerned with determining how likely it is that results based on a sample or samples are the same results that would have been obtained for the entire population.

Sample values, such as mean, are referred to as statistics; the corresponding values in the population are referred to as parameters. Inferential statistics are used to make inferences concerning parameters, based on sample statistics. If a difference between means is found for two groups at the end of a study, the question of interest is whether a similar difference exists in the population from which the samples were selected.

Different tests of significance are appropriate for different sets of data. It is important that the researcher select an appropriate test; an incorrect test can lead to incorrect conclusions.

Chi-square, symbolized as χ^2 , is a nonparametric test of significance appropriate when the data are in the form of frequency counts occurring in two or more mutually exclusive categories. Chi-square compares proportions actually observed in a study with the proportions expected to be seen if they are significantly different. Expected proportions are usually the frequencies that would be expected if the groups were equal; however, they may be based on past data. The chi-square can be used to compare frequencies occurring among the different categories or the categories may be groups, so that the chi-square is comparing groups with respect to the frequency of occurrence of different events.

T-test is used to determine whether two means are significantly different at a selected probability level. For a given sample size, the t indicates how often a difference as large or larger would be found when there is no true population difference. The

strategy of the t test is to compare the actual mean difference observed with the difference expected by chance. The t test involves forming the ratio of these two values. In other words, the numerator for a t test is the difference between the sample means, and the denominator is the chance difference that would be expected if the null hypothesis were true, in other words, the standard error of the difference between the means.

The above-theories should directly relate to and relevant to this research topic.



III. RESEARCH METHODOLOGY

3.1 Data Collection

The data collection in this research were come from 2 main sources as:

(1) Primary data: the data was collected directly from the sources by asking the questionnaire to the sample group of:

- (a) Students who are living in Bangkok and studying in Mattayoms 1-6 (grades 7-12) and taking or used to take the tutorial course(s).
- (b) Undergraduate students who used to take the tutorial course(s) before taking the entrance examination.

(2) Secondary data: the data was collected from other reference sources such as National educational journal, Public educational journal, related thesis and web sites, and etc.

3.2 Research Instrument

In order to conduct this survey research, the researcher decided to use "the Questionnaire" as the research instrument. The whole questionnaire contains 2 main parts.

The first part of the questionnaire focuses on the measurement of the opinions of the target sample group (Bangkokian students studying in Mattayoms 1-6) toward the tutorial courses. This part contained "check list", "multiple choice", and "scale of questionnaire" styles.

- (1) The check list style: allows the respondents to choose more than 1 choice in each question.
- (2) Multiple choice style: allows the respondents to choose only one choice in each question".

(³) The scale of the questionnaire• the answer was already set in each question, the respondents just only choose the answer that was the closest to their mind. In order to measure the respondents' Likert, the researcher assigned the numerical values 1 to 5 as follows:

Strongly Disagree	=	1
Disagree	=	2
Undecided	=	3
Agree	=	4
Strongly Agree	=	5

The second part of the questionnaire contains the "multiple choice" style, which allows the respondents to answer in both closed and opened style.

3.3 Determining Population and Sample Group

The target population of the research can be divided into:

- (1) Students who are studying in Mattayoms 1-6.
- (2) Undergraduate students who took the tutorial course before taking the entrance examination.

The research is conducted on 21 September to 2 October 2000 at Siam square center and along the Rajdamnern Rd. in order to get a representative sample of the first target population (students who are studying in Mattayoms 1-6) because these 2 areas are the most popular and well known tutorial areas.

For the second target population group, the research is conducted at Chulalongkorn University, Assumption University, and Siam University.

From the Ministry of Education declared in 1999, there are 88,963 students in Bangkok taking the tutorial courses.

The formula for calculating the sample size is as follows:

$$N/(1+Ne^2)$$

Where n = required sample size

Population size or universe (88,963)

Acceptable Amount of sample error (10%)

$$88,963/(1+(88,963 * 10^2))$$

99.89

100

The minimum of sample size in this project is 100 with 90% confidence level.

However, the total questionnaires, which will be conducted are 200 copies.

3.4 Data Analysis Method

The completed questionnaires are analyzed by using SPSS (Statistical Package for the Social Sciences) program. After that, the analyzed data will be transferred in to the forms of:

- (1) Percentages and Means: to study the characteristic of the sample population in the research.
- (2) Binomial test is used to test for the ratio whether the sample size is the same as expected or not in question number 4.
- (3) Chi-square (χ^2) test is used to test the relationship between dependent variable and independent variable in question number 5.
- (4) T-test is to test the effectiveness of study in tutorial schools in questions number 6 to 17.

IV. SURVEY ANALYSES

The project is "A Study of the Effectiveness of the Tutorial Schools"; therefore the 200 questionnaires were issued to 2 target groups of students who are both studying at the Mattayom and the undergraduate levels. After distributing all 200 questionnaires to the sample groups, the researcher received 182 questionnaires or 91% as the responses.

4.1 Personal Data

From the total 182 responses to the questionnaires, the data will be analyzed by:

Sex - 103 respondents or 57% are male and the 79 respondents or 43% are female.



Figure 4.1. Personal Data Classified by Sex.

Age — 60% or 110 respondents are at the ages between 15-20 years old, 30% or 54 respondents are at the ages between 11-15 years old, and 10% or 18 respondents are at age between 21-25 years old.

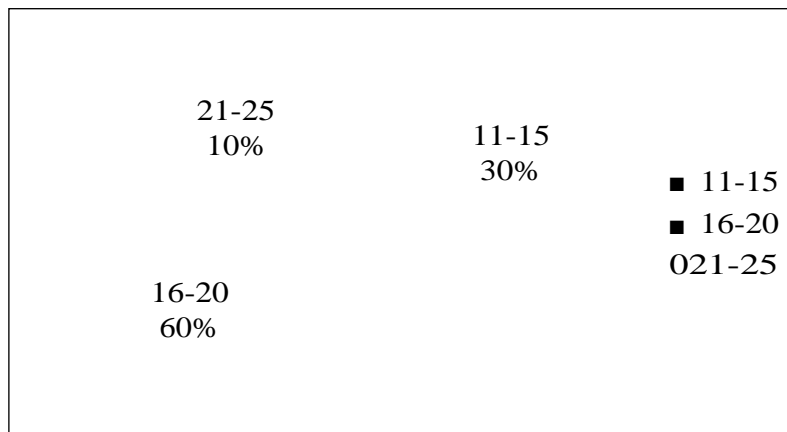


Figure 4.2. Personal Data Classified by Age.

Education level — 19% or 34 respondents are studying between grades 7-9 (Mattayom 1-3), 33% or 62 respondents are studying between grades 10-12 (Mattayom 4-6), the 48% or 86 respondents are undergraduate students.

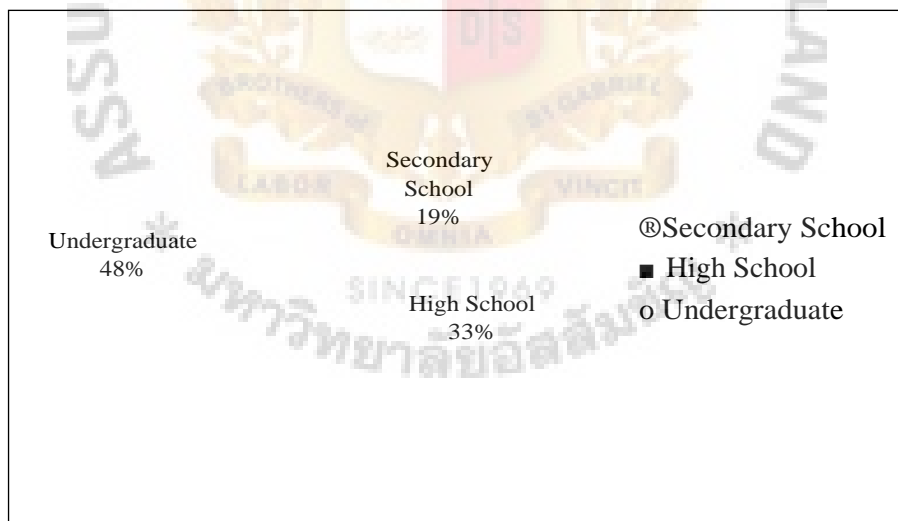


Figure 4.3. Personal Data Classified by Education Level.

In terms of the major program classification, 62 respondents who are studying at between grades 10-12 (Mattayom 4-9) mentioned their major program as:

(1) 56% or 35 respondents are majoring in Sciences.

(2) 44% or 27 respondents are majoring in Arts.

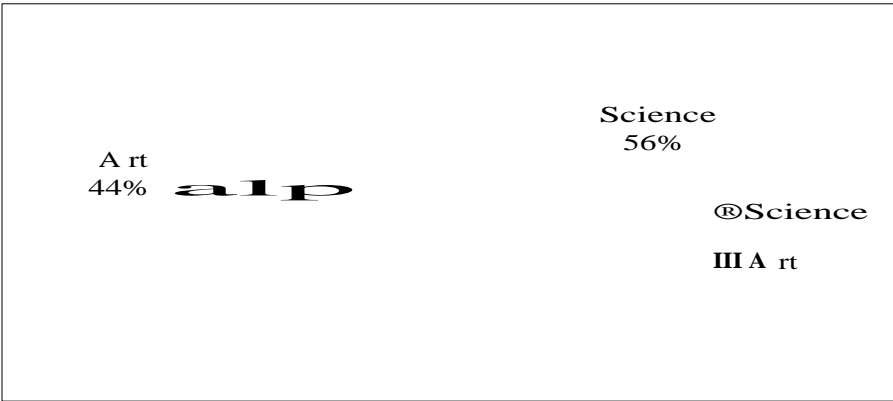


Figure 4.4. Major of High School Students.

Eighty-six of the undergraduate students mentioned their major that they used to take as follows:

- (1) 66% or 57 respondents used to study in Sciences major.
- (2) 33% or 28 respondents used to study in Arts major.
- (3) 1% or 1 respondent did not mention the major.

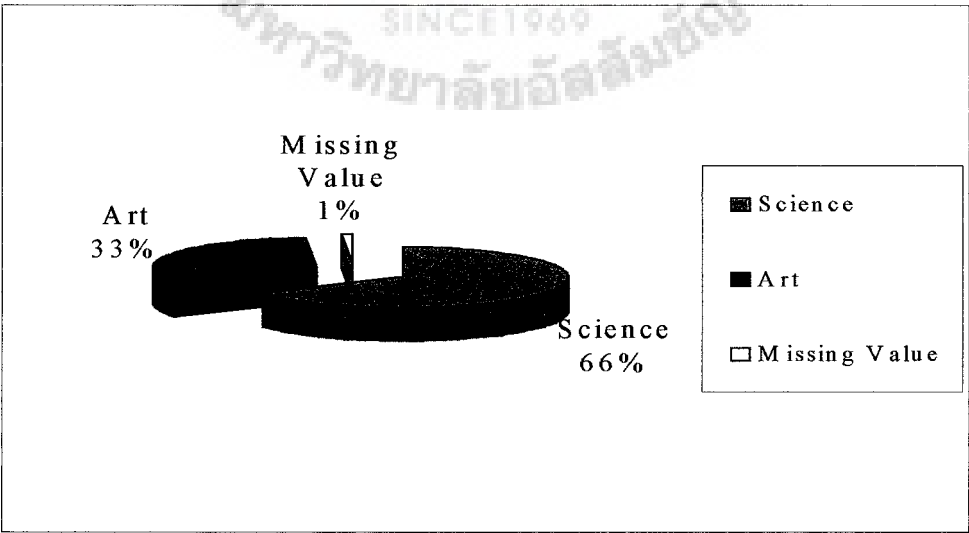


Figure 4.5. Major of Undergraduate Students.

The tutorial schools — the following table shows the name of tutorial schools that the respondents used to study or are studying in. According to the total 246 schools, declared by the Office of Private Education Commission, Ministry of Education in 1999, 101 schools or 41.1% were once mentioned by the respondents. Any tutorial schools, which were mentioned by less than 5 students, will be grouped as "others". The tutorial schools can be summarized as follows:

- (1) The Brain, there are 63 students or 13% in this school.
- (2) Applied Physics, there are 50 students or 10% in this school.
- (3) A.Ooh, there are 44 students or 9% in this school.
- (4) Access, there are 25 students or 5% in this school.
- (5) Pep, there are 23 students or 5% in this school.
- (6) The Tutor, there are 21 students or 4% in this school.
- (7) A.Jia, there are 19 students or 4% in this school.
- (8) GSC, there are 16 students or 3% in this school.
- (9) Math Center, there are 14 students or 3% in this school.
- (10) Neo Physics, there are 13 students or 3% in this school.
- (11) A.Somsri, there are 11 students or 2% in this school.
- (12) Anopco, there are 10 students or 2% in this school.
- (13) AMP 7200, there are 10 students or 2% in this school.
- (14) A.Duangjai, there are 8 students or 2% in this school.
- (15) CAS, there are 8 students or 1% in this school.
- (16) A.Ping, there are 7 students or 1% in this school.
- (17) IDEAL Physics, there are 7 students or 1% in this school.
- (18) SMC, there are 6 students or 1% in this school.
- (19) Others, there are 132 students or 27% in this school.

The tutorial schools can be summarized as shown in Figure 4.6.

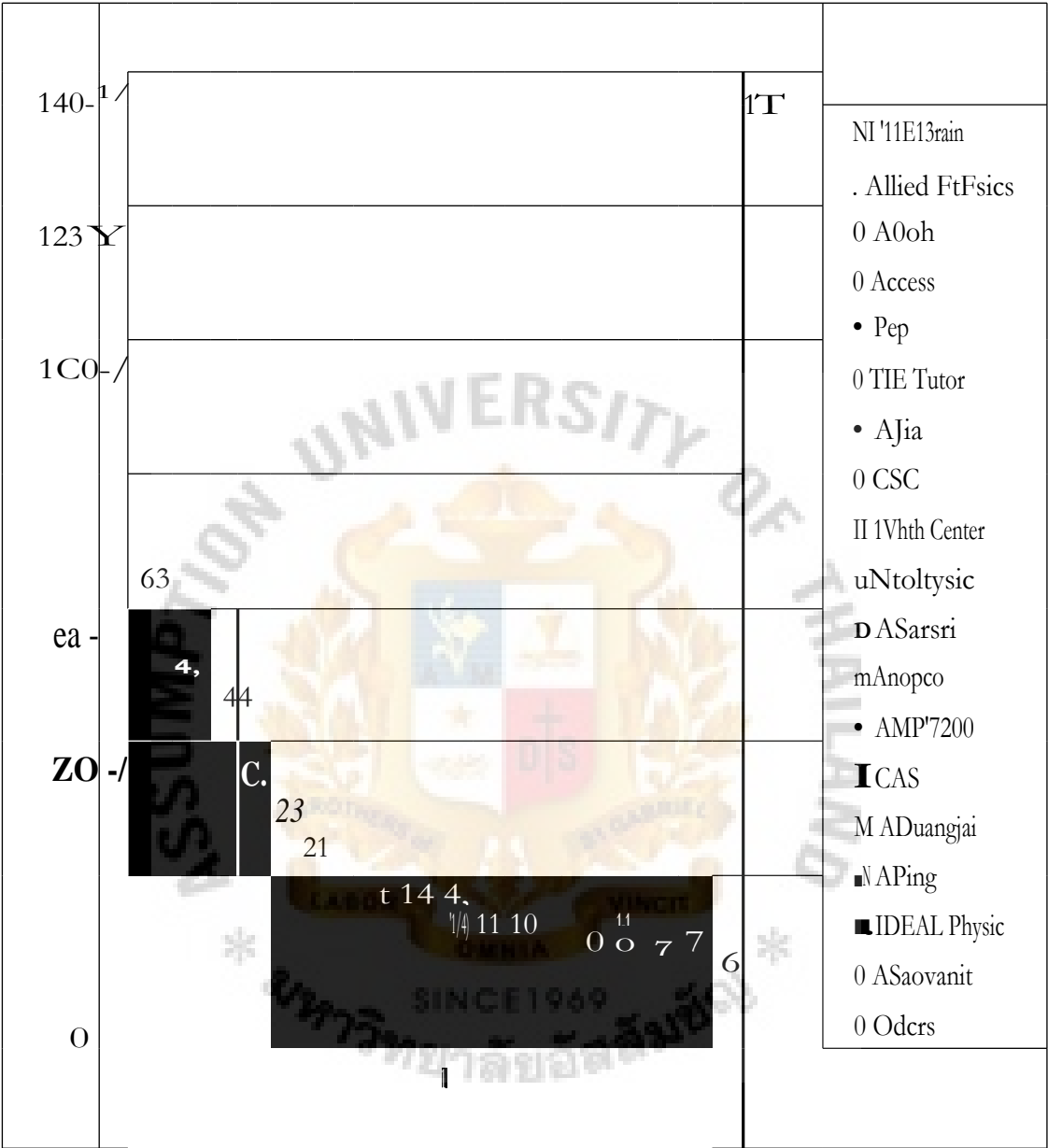


Figure 4.6. The Tutorial Schools That Students Would Like to Take.

The subjects that most students would like to take are the subjects necessary for entrance examination, to enter in to the secondary schools, high schools, and universities, which are shown in Table 4.1 and Figure 4.7.

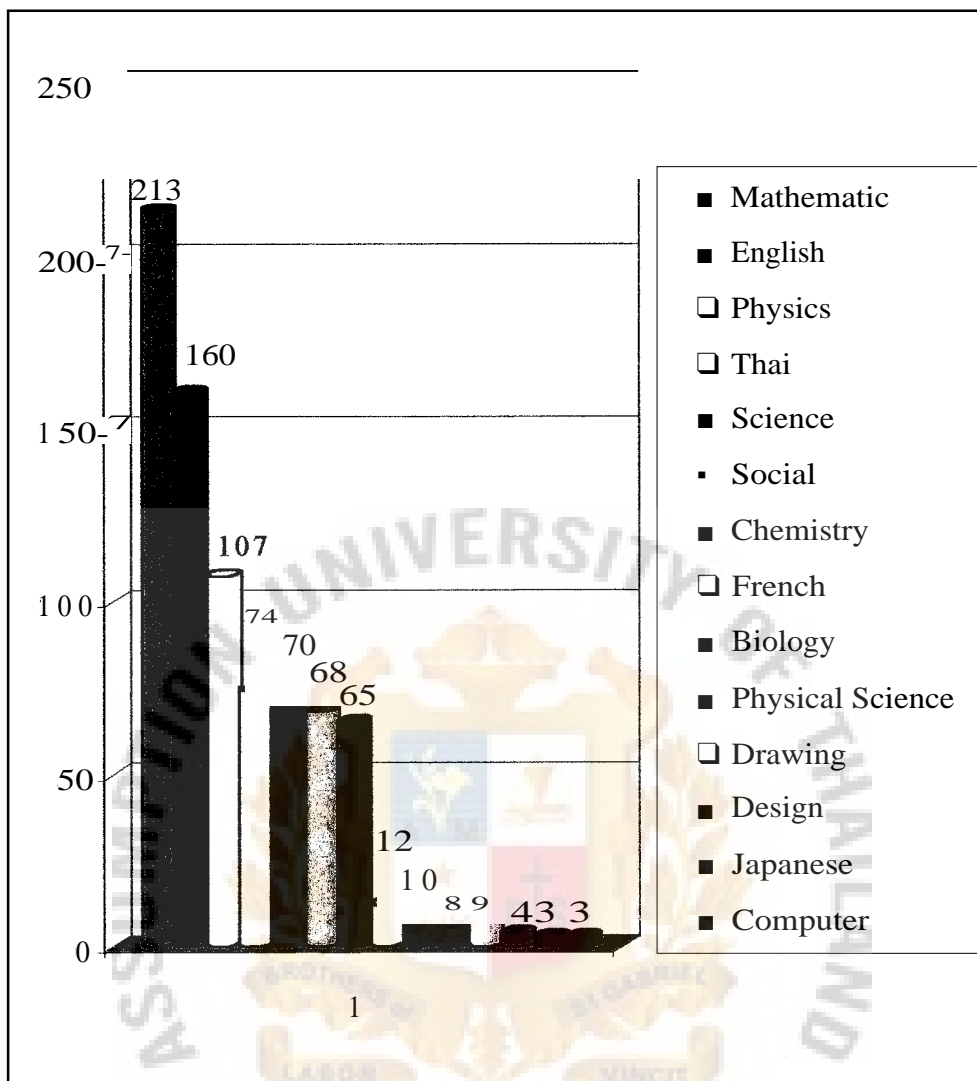


Figure 4.7. The Subjects That Most Students Would Like to Take.

The number of schools studied in by each student is different from 1-12. The mean of those number of schools is at 2.91 while the standard deviation is 1.98 with 10 missing value (10 respondents did not give the answer to this question). The number of schools studied in by each student is shown in Figure 4.8.

On the other hand, the number of courses by each student is from 1 to 24. The mean of those numbers of courses is 4.79 while the standard deviation is 3.65 with 11 missing value. The number of courses taken by each student is shown in Figure 4.9.

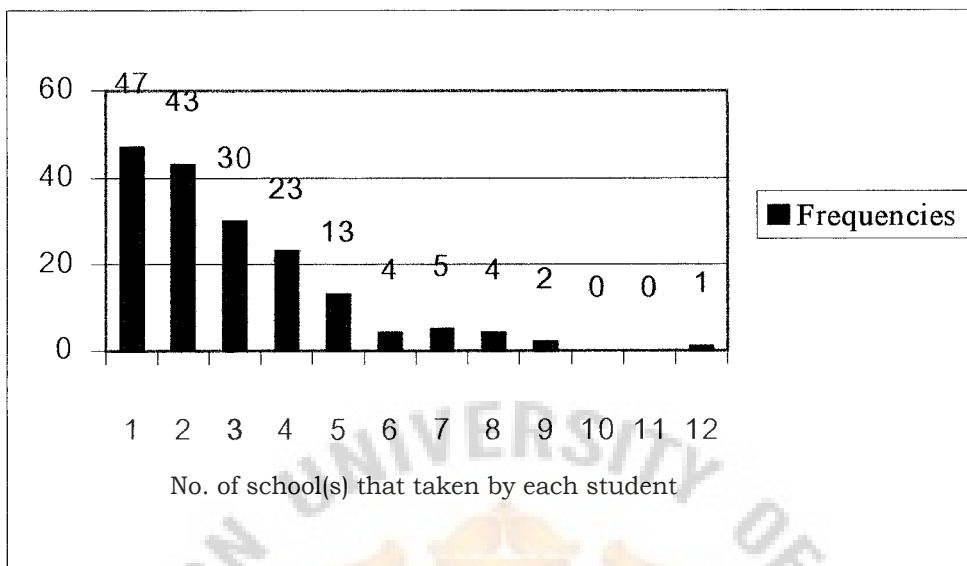


Figure 4.8. Number of School(s) Taken by Each Student.

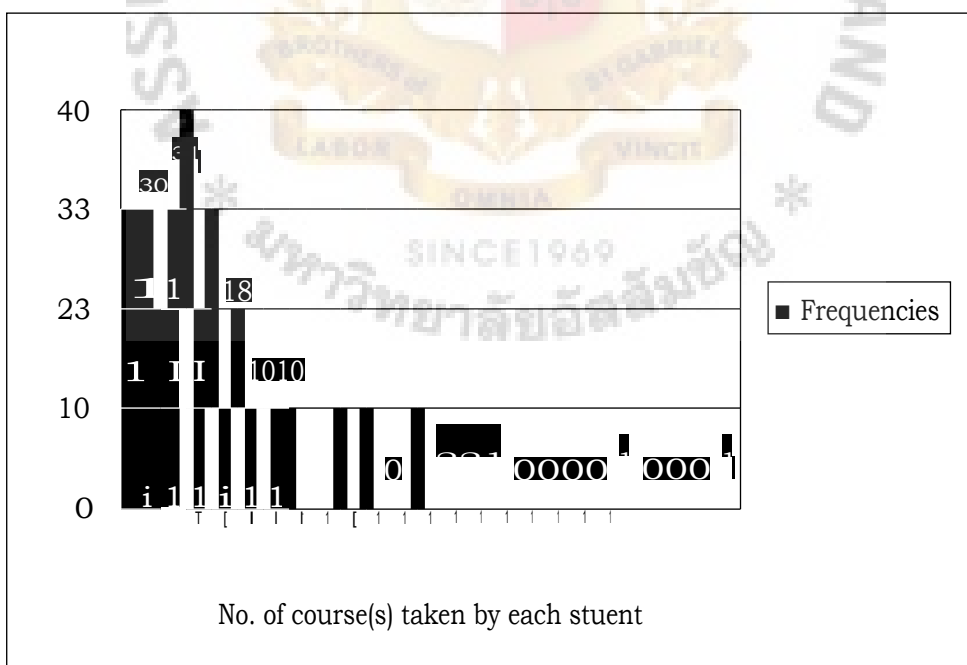


Figure 4.9. Number of Course(s) Taken by Each Student.

4.2 Attitudes and Opinions toward the Tutorial Schools

From the questionnaires, the respondents mentioned their attitudes and opinions as follows:

The reasons for taking the tutorial courses were ranked as:

Increase more self-confidence, answered by 127 respondents or 37%.

Cannot follow-up the classroom, answered by 77 respondents or 23%.

Persuaded by friends, answered by 46 respondents or 14%.

Other reasons, answered by 36 respondents or 11%.

To go outside from homes, answered by 28 respondents or 8%.

Persuaded by parents, answered by 25 respondents or 7%.

The reasons for taking the tutorial courses can be summarize as shown in Figure

4.10.

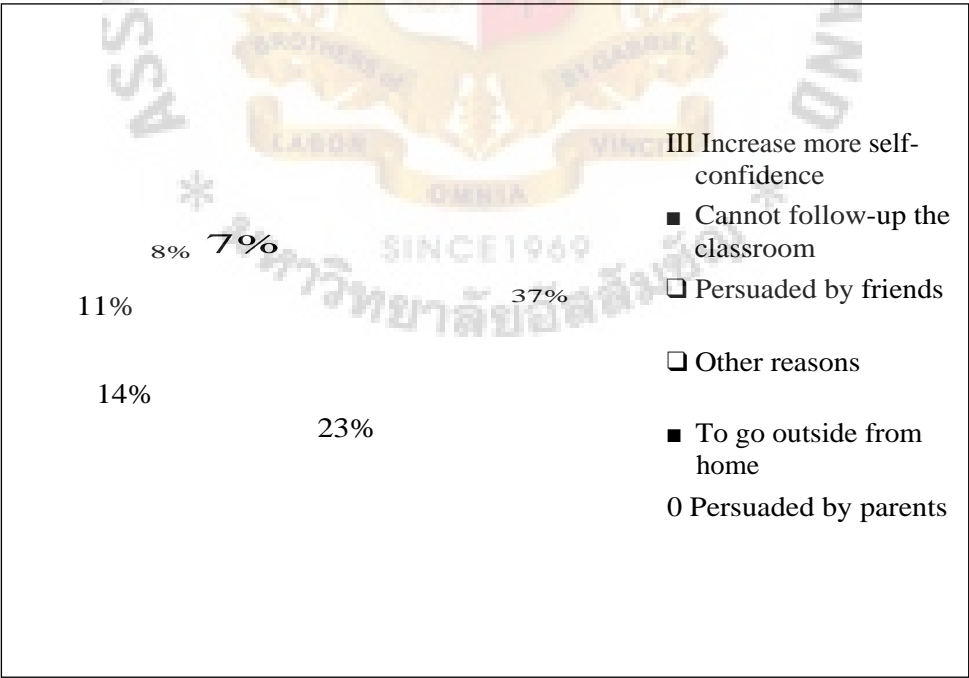


Figure 4.10. The Reasons for Taking the Tutorial Courses.

According to the 4th choice, "other reasons", which is answered by 36 respondents, can be split into increase more understanding toward the lesson, learn more tricks, to avoid reading the text alone, and others.

The reasons for choosing the tutorial schools were ranked as:

- (1) Reputation of the institute, answered by 109 respondents or 34%.
- (2) Reputation of the tutor, answered by 79 respondents or 24%.
- (3) Persuade by friends, answered by 62 respondents or 19%.
- (4) Other reasons, answered by 46 respondents or 14%.
- (5) Agree with the advisement, answered by 30 respondents or 9%.

The reasons for choosing the tutorial schools can be summarized as shown in Figure 4.11.

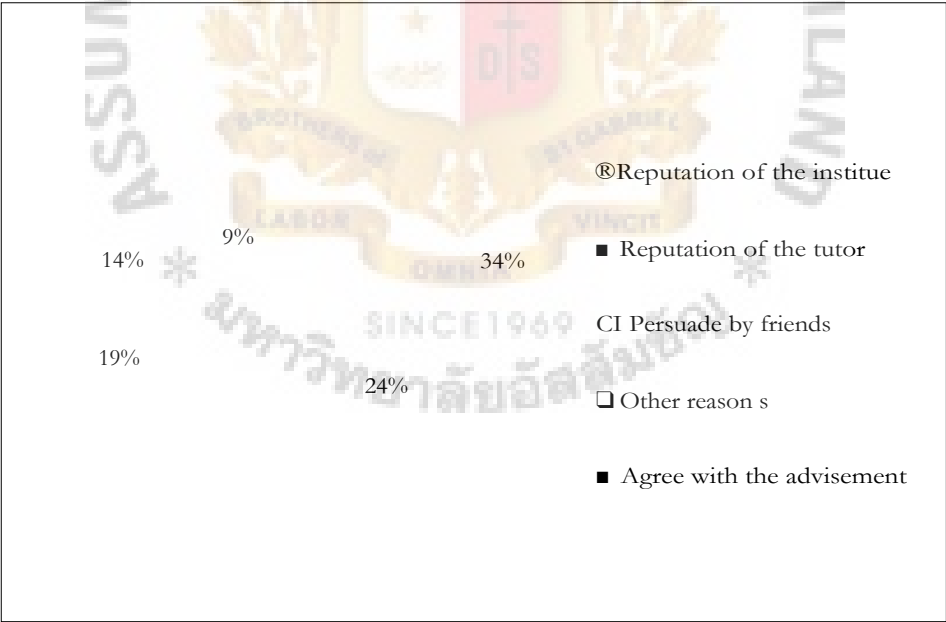


Figure 4.11. The Reasons for Choosing the Tutorial Schools.

According to the 4th choice, "other reasons", answered by 46 respondents, can be split into nearby the home, advised by other people and others.

The effectiveness of the tutorial course compared with the normal classes were ranked as:

Better than normal classes, answered by 118 respondents or 64.8%.

The same as normal classes, answered by 56 respondents or 30.8%.

Worse than normal classes, answered by 8 respondents or 4.4%.

The effectiveness of the tutorial course compared with the normal class can be summarized as shown in Figure 4.12.

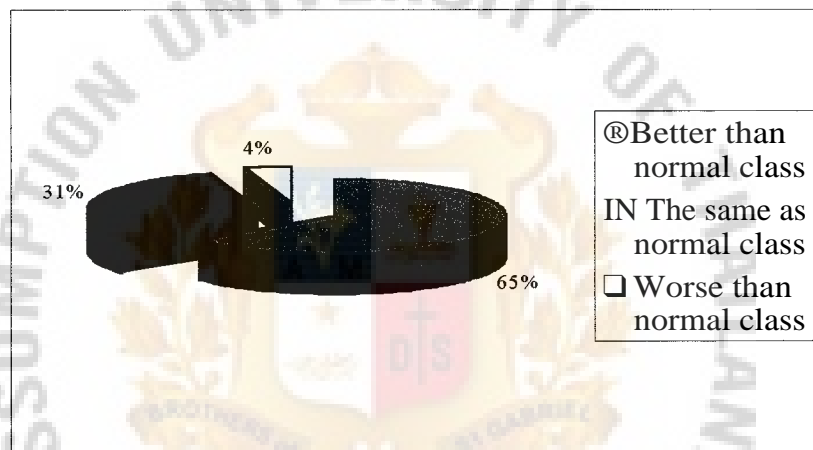


Figure 4.12. The Effectiveness of the Tutorial Course(s) Compared with the Normal Class.

In order to test the hypothesis, we will use "Binomial test" to recheck that most of the tutorial schools give more effectiveness than their normal classes.

H_0 : 70% of the students think that the effectiveness of the tutorial course(s) is better than or equal that of the normal class.

H_1 : 70% of the students think that the effectiveness of the tutorial course(s) is worse than the normal class.

Alpha level (α) is the criterion value for the rejecting the hypothesis; the probability of rejecting the null hypothesis when it is true (Harris 1998).

Set $\alpha = .05$

The result from the SPSS program is shown in Table 4.2.

Table 4.2. The Results of Binomial Test from the SPSS Program.

The effectiveness of the tutorial course	N	Observed Prop.	Test Prop.	Asymp.Sig (1-tailed)
Better than normal class	118	.648352	.7	.075
The same as and worse than normal class	64	.4		
Total	182	1.0		

From Table 4.2: the effectiveness of tutorial schools is better than that of the answered by 118 respondents which is 64.8% from the observed proportion and 70% from the proportion test. The effectiveness of tutorial school is the same as and worse than that of the normal class is answered by 64 respondents or 35.2%. Asymp. Sig (Asymptotic Significance) is .075 that is more than .05 (a level), so we can accept H_0 , and reject H_1 . The effectiveness of the tutorial schools is better than or equal to that of the normal class 70%.

For the question "The tutorial course(s) is worth the time and money", there are 180 students who answered this question. It will be shown in Table 4.3.

Table 4.3. The Tutorial Course(s) Is Worth Their Time and Money.

Tutorial course is worth enough for time and money	You are studying in			Total
	Secondary School	High School	Undergraduate	
Yes	32	49	65	146
No	2	13	19	34
Total	34	62	84	180

The majority of the respondents 80% or 142 respondents agreed with this questionnaire in that taking the tutorial course(s) is worth their time and money, while

only 19% or 34 respondents did not agree with the questionnaire, and 1% or 2 respondents refused to answer this question. The tutorial course(s) is worth enough for their time and money can be summarized as shown in Figure 4.13.

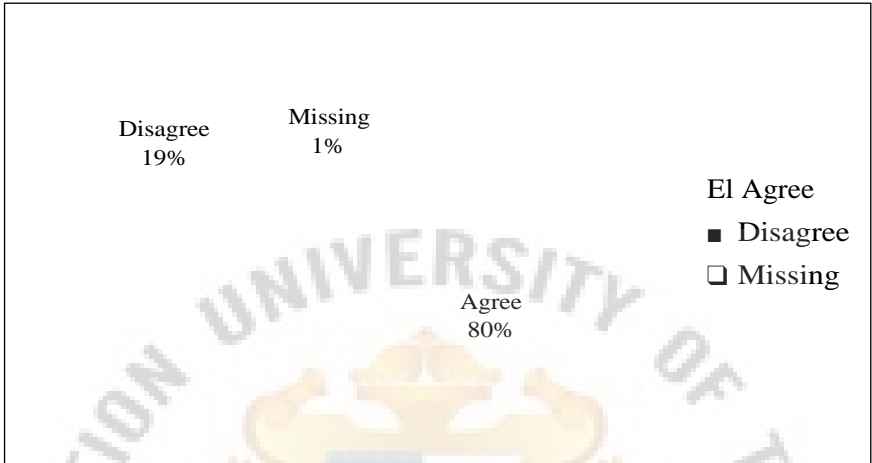


Figure 4.13. The Tutorial Course(s) Is Worth Their Time and Money.

For this question, Chi-square will be used to re-check the independence relationship between the worth of the tutorial course in terms of time and money spent and each respondent's educational level.

H_0 = The tutorial course(s) is worth the time and money and the education level is independent.

H_1 = The tutorial course(s) is worth the time and money and education level is dependent.

Set $\alpha = 0.05$

According to Table 4.3: Degree of freedom (df) $= (Row-1)*(Column-1)$
 $= (2-1)*(3-1)$
 $= 2$

According to Chi square formula: $\chi^2 = E(O-E)^2/E$

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Where O = Observed frequency

E = Expected frequency

From the statistic test, we get the following:

(1) Pearson Chi-square = 4.692 at degree of freedom = 2

(2) Significance of test = 0.096 which is higher than alpha level, so we can accept H_0 which means the tutorial course is worth it and the education level of students is independent.

For a study of effectiveness of the tutorial schools, t-test is used to test the effectiveness of the tutorial schools from questions number 6-17 in this questionnaire. These questions are presented in the form of Likert scale to test the idea of students from strongly agree to strongly disagree and we assign the numerical value from 5 to 1 respectively.

Because 3 is the middle value of a total of 5 numerical value, the t-test will be set at $p = \text{constant} = 3$

Confidence interval is an interval or range of scores within which there is a certain confidence that the population parameter will lie (Harris 1998).

Set confidence interval = 95%

From the Table 4.4:

(a) t-test formula $t = (R - \mu) / S$,

where μ = mean

$$t = \frac{R - \mu}{S}$$

$$S_x = s / \sqrt{N}$$

(b) Degree of freedom (df) = $N - 1$

Where N = population

(c) Significance value for one tail = Significance of 2 tailed / 2

If Sig. value < α , t-value will be positive, so H_0 will be rejected.

(d) Mean difference = Each mean - μ .

From the questions, taking the tutorial course(s) helps students to get more knowledge and better grades, were ranked as:

- (1) Disagree, answered by 5 respondents or 3%.
- (2) Undecided, answered by 44 respondents or 24%.
- (3) Agree, answered by 94 respondents or 52%.
- (4) Strongly Agree, answered by 39 respondents or 21%.

We get a mean of 3.92 and a standard deviation of 0.75.

Taking the tutorial course(s) helps students get more knowledge and better grade can be summarized as shown in Figure 4.14.

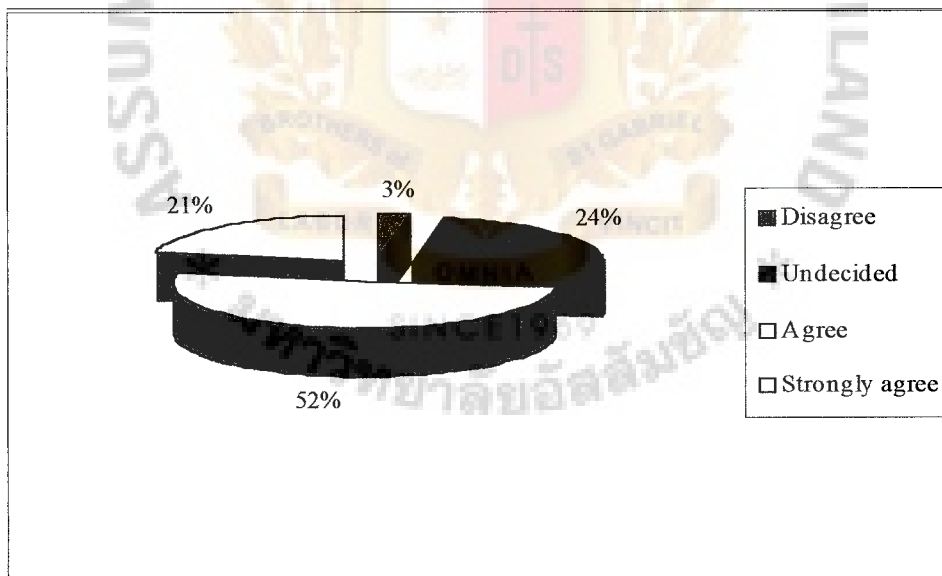


Figure 4.14. Taking the Tutorial Course(s) Helps Students Get More Knowledge and Better Grades.

H_0 = The average score of taking the tutorial course is helping students to get more knowledge and better grades is equal to 3.

H_1 = The average score of taking the tutorial course is helping students to get more knowledge and better grades is more than 3.

From the SPSS program, Table 4.4 shows that the significance is .000 which is less than 0.05. Therefore, it means reject H_0 , and accept H_1 .

Therefore, the effectiveness of taking tutorial schools helps students get more knowledge and a better grade than 3 (Agree to Strong Agree).

From the questions, taking the tutorial course helps students review their lessons, were ranked as:

- (1) Disagree, answered by 7 respondents or 4%.
- (2) Undecided, answered by 27 respondents or 15%.
- (3) Agree, answered by 109 respondents or 60%.
- (4) Strongly Agree, answered by 39 respondents or 21%.

We get a mean of 3.99 and a standard deviation of 0.72.

Taking the tutorial course(s) help students' review their lessons can be summarized as shown in Figure 4.15.

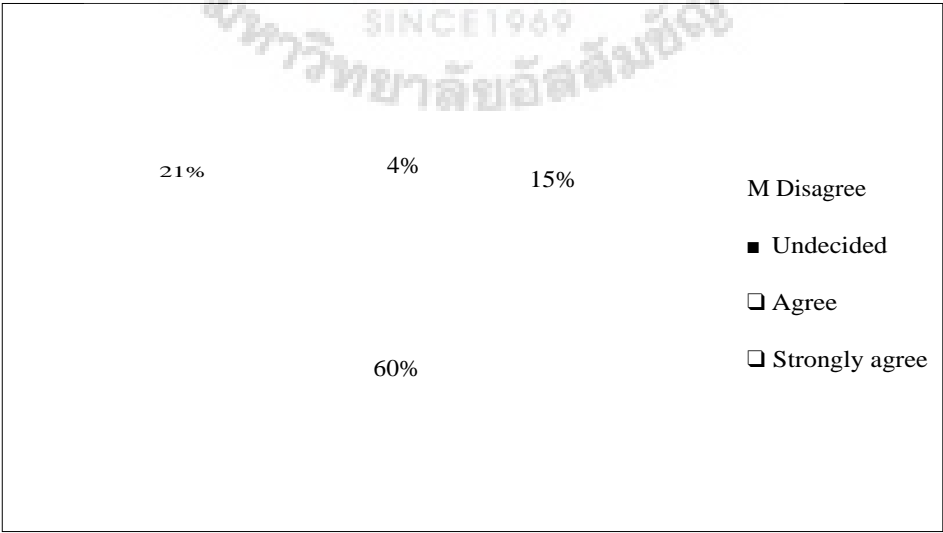


Figure 4.15. Taking the Tutorial Course(s) Helps Students Review Their Lessons.

H_0 = The average score of taking the tutorial course(s) helping students review their lessons is equal to 3.

H_1 = The average score of taking the tutorial course help students review their lessons is more than 3.

From SPSS program, Table 4.4 shows that the significance is .000 which is less than 0.05. Therefore, it means reject H_0 , and accept H_1 .

Therefore, the effectiveness of tutorial schools is in that it helps students' reviews their lessons more than 3 (Agree to Strongly Agree).

From the questions, taking the tutorial course(s) helps students increase more self-confidence in their school examination. This is ranked as:

- (1) Strongly Disagree, answered by 1 respondents or 1%
- (2) Disagree, answered by 4 respondents or 2%.
- (3) Undecided, answered by 37 respondents or 20%.
- (4) Agree, answered by 104 respondents or 57%.
- (5) Strongly Agree, answered by 36 respondents or 20%.

We get a mean of 3.93 and a standard deviation of 0.73.

Taking the tutorial course(s) helping students increase more self-confidence in their school examination can be summarized as shown in Figure 4.16.

H_0 = The average score of taking the tutorial course(s) helping students increase more self-confidence in their school examination is equal to 3.

H_1 = The average score of taking the tutorial course(s) helping students increase more self-confidence in their school examination is more than 3.

From the SPSS program, Table 4.4 shows that the significance is .000 which is less than 0.05. Therefore, it means reject H_0 , and reject H_1 .

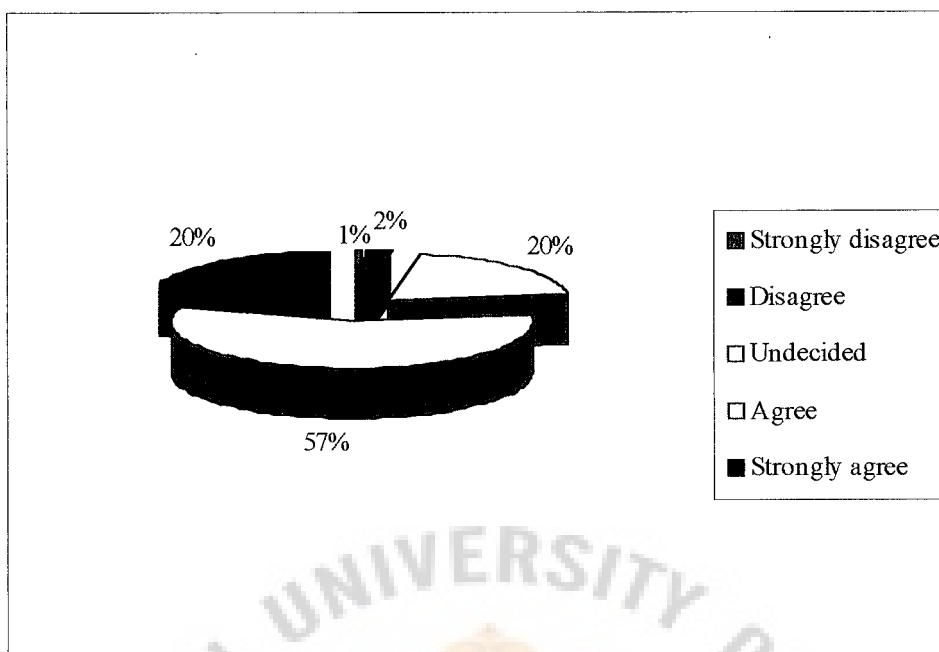


Figure 4.16. Taking the Tutorial Course(s) Helps Students Increase More Self-confidence in Their School Examination.

Therefore, the effectiveness of taking tutorial schools is helping students' increase more self-confidence in their school examination is more than 3 (Agree to Strongly Agree).

From the questions, taking the tutorial course(s) lets students know more tricks or lets students know more than the normal class does. This is ranked as:

- (1) Disagree, answered by 3 respondents or 2%.
- (2) Undecided, answered by 20 respondents or 11%.
- (3) Agree, answered by 85 respondents or 46%.
- (4) Strongly Agree, answered by 74 respondents or 41%.

We get a mean of 4.26 and a standard deviation of 0.72.

Taking the tutorial course(s) lets students know more tricks or lets students know more than from the normal class can be summarized as shown in Figure 4.17.

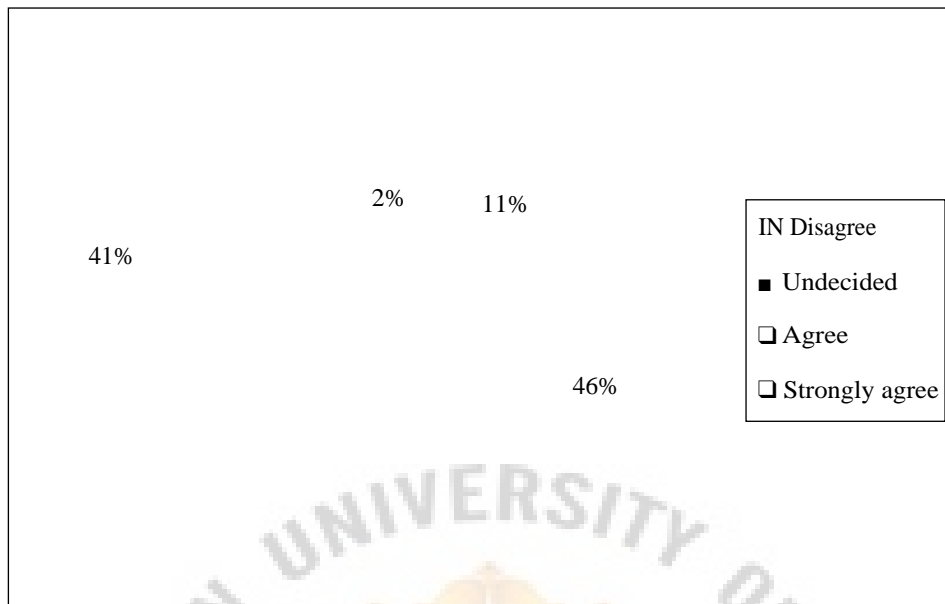


Figure 4.17. Taking the Tutorial Course(s) Lets Students Know More Tricks or Lets Students Know More Than the Normal Class.

H_0 = The average score of taking the tutorial course(s) lets students know more tricks or lets students know more than from the normal class is equal to 3.

H_i = The average score of taking the tutorial course(s) lets students know more tricks or lets students know more than from the normal class is more than 3.

From SPSS program, Table 4.4 shows that the significance is .000 which is less than 0.05. Therefore, it means reject H_0 , and accept H_i .

Therefore, the effectiveness of tutorial course(s) lets students know more tricks or lets students know more than from the normal class are more than 3 (Agree to Strongly Agree).

From the questions, taking the tutorial course(s) helps students more understand than the normal class does. This is ranked as:

- (1) Strongly, Disagree answered by 1 respondents or 1%.
- (2) Disagree, answered by 3 respondents or 2%.

- (3) Undecided, answered by 45 respondents or 25%.
- (4) Agree, answered by 97 respondents or 52%.
- (5) Strongly Agree, answered by 36 respondents or 20%.

We get mean = 3.90 and standard deviation 0.74.

Taking the tutorial course(s) helps students to understand more than does the normal class can be summarized as shown in Figure 4.18.

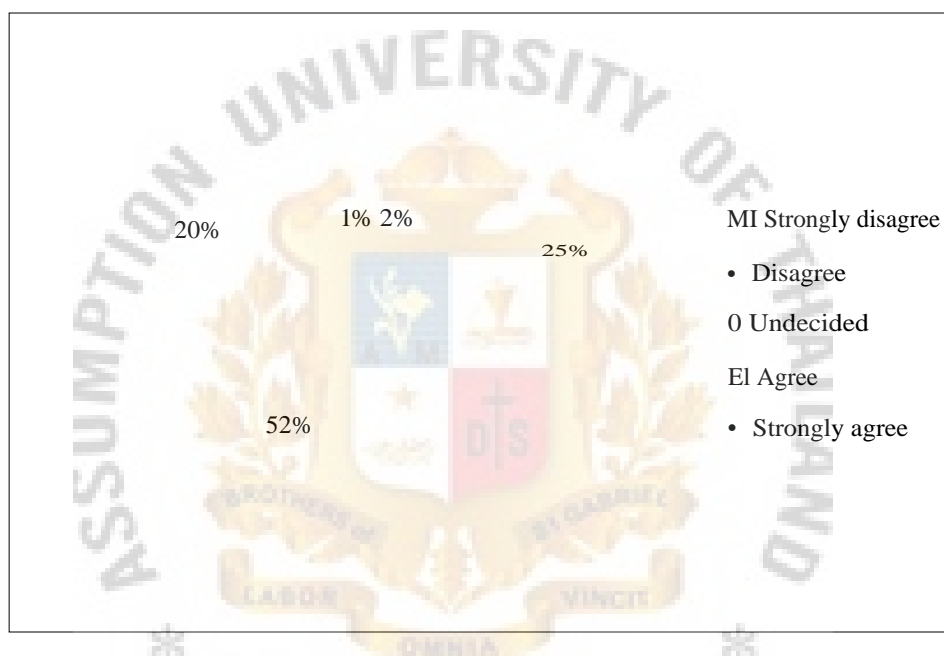


Figure 4.18. Taking the Tutorial Course(s) Helps Students to Understand More Than the Normal Class.

H_0 = The average score of taking the tutorial course(s) helps students to understand more than from the normal class is equal to 3.

H_1 = The average score of taking the tutorial course(s) helps students to understand more than from the normal class is more than 3.

From SPSS program, Table 4.4 shows that the significance is .000 which is less than 0.05. Therefore, it means reject H_0 , and accept H_1 .

Therefore, the effectiveness of tutorial course(s) helps students to understand more than from the normal class is more than 3 (Agree to Strongly Agree).

Result from the question, taking the tutorial course(s) helps students manage their leisure time. This is ranked as:

- (1) Strongly Disagree, answered by respondents or 4%.
- (2) Disagree, answered by 10 respondents or 5%.
- (3) Undecided, answered by 70 respondents or 39%.
- (4) Agree, answered by 62 respondents or 34%.
- (5) Strongly Agree, answered by 33 respondents or 18%.

We get a mean of 3.57 and a standard deviation of 0.98.

Taking the tutorial course(s) helps students manage their leisure time can be summarized as shown in Figure 4.19.

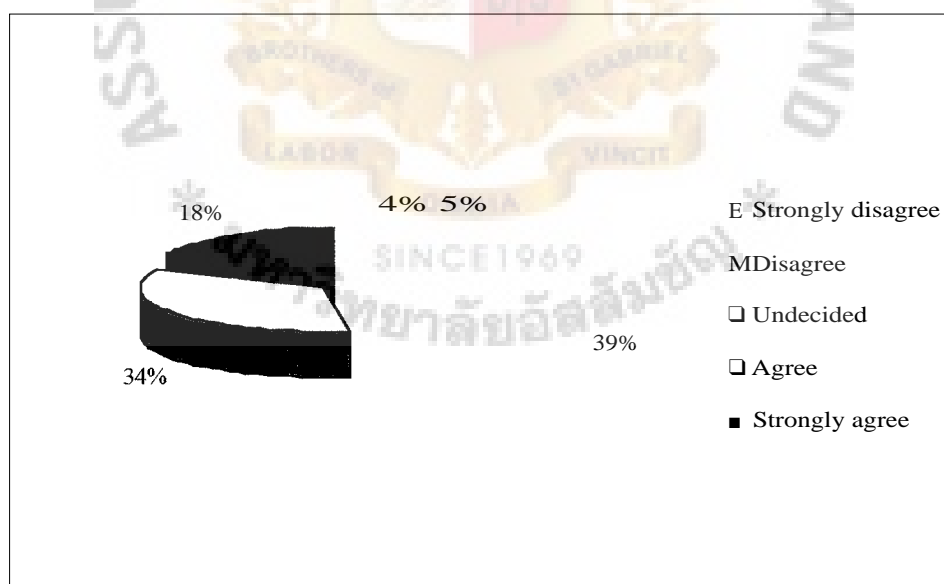


Figure 4.19. Taking the Tutorial Course(s) Helps Students Manage Their Leisure Time.

H_0 = The average score of taking the tutorial course(s) helps students manage their leisure time is equal to 3.

H_1 = The average score of taking the tutorial course(s) helps students manage their leisure time is more than 3.

From SPSS program, Table 4.4 shows that the significance is .000 which is less than 0.05. Therefore, it means reject H_0 , and accept H_1 .

Therefore, the effectiveness of tutorial schools helps students manage their leisure time more than 3 (Agree to Strongly Agree).

From the questions, taking the tutorial course(s) helps students' parents decrease worried in their study field, were ranked as:

Strongly Disagree, answered by 7 respondents or 4%.

Disagree, answered by 24 respondents or 13%.

Undecided, answered by 81 respondents or 44%.

Agree, answered by 48 respondents or 26%.

Strongly Agree, answered by 21 respondents or 12%.

Missing answered by 1 respondents of 1%.

We get a mean of 3.29 and a standard deviation of 0.97.

Taking the tutorial course(s) helps students' parents decrease worried in their study field can be summarized as shown in Figure 4.20.

H_0 = The average score of taking the tutorial course(s) helps students' parents decrease worried in their study field is equal to 3.

H_1 = The average score of taking the tutorial course(s) helps students' parents decrease worried in their study field is more than 3.

From SPSS program, Table 4.4 shows that the significance is .000 which is less than 0.05. Therefore, it means reject H_0 , and accept H_1 .

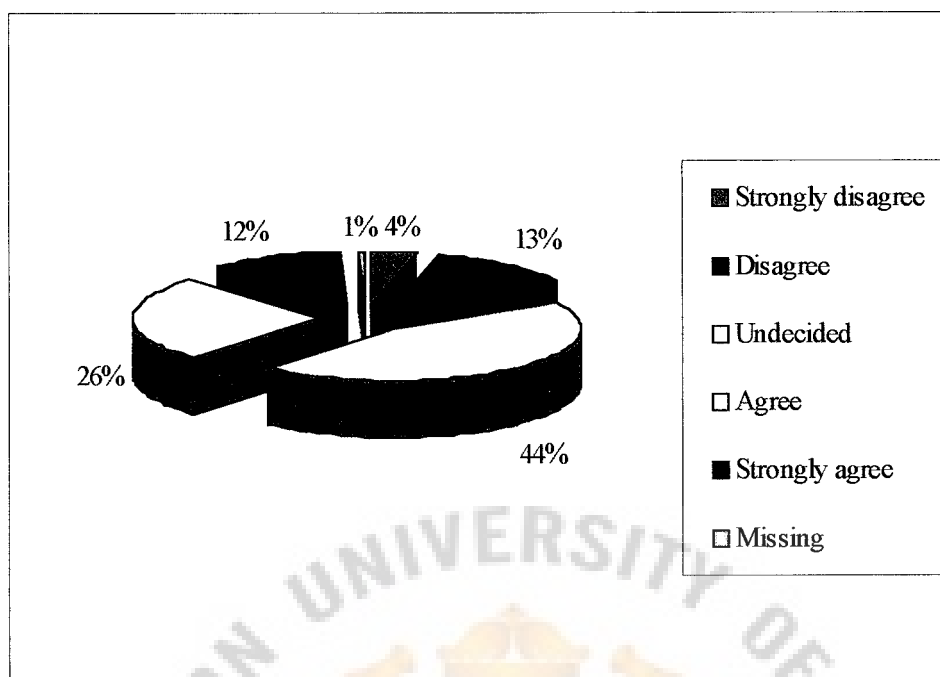


Figure 4.20. Taking the Tutorial Course(s) Helps Students' Parents Decrease Worried in Their Study Field.

Therefore, the effectiveness of tutorial schools helps students' parents decrease worried in their study field is more than 3 (Agree to Strongly Agree).

From the questions, taking the tutorial course(s) allows students to learn more in favorite subjects, were ranked as:

- (1) Strongly Disagree, answered by 2 respondents or 1%.
- (2) Disagree, answered by 15 respondents or 8%.
- (3) Undecided, answered by 60 respondents or 33%.
- (4) Agree, answered by 80 respondents or 44%.
- (5) Strongly Agree, answered by 25 respondents or 14%.

We get a mean of 3.61 and a standard deviation of 0.86.

Taking the tutorial course(s) allows students to learn more in subjects can be summarized as shown in Figure 4.21.

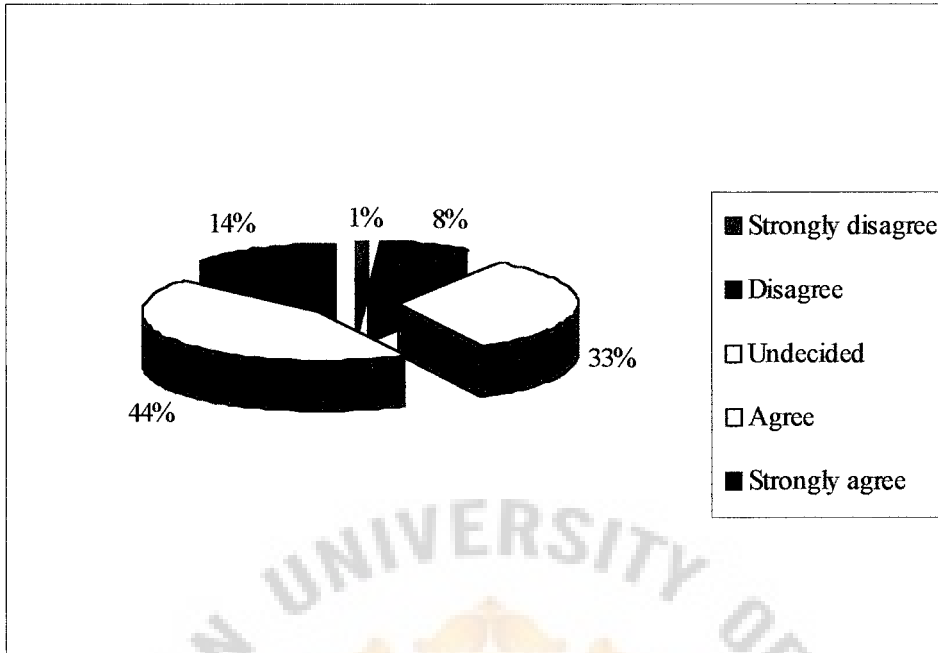


Figure 4.21. Taking the Tutorial Course(s) Allows Students to Learn More in Their Favorite Subjects.

H_0 = The average score of taking the tutorial course(s) allows students to learn more in their favorite subjects is equal to 3.

H_1 = The average score of taking the tutorial course(s) allows students to learn more in their favorite subjects than 3.

From SPSS program, Table 4.4 shows that the significance is .000 which is less than 0.05. Therefore, it means reject H_0 , and accept H_1 .

Therefore, the effectiveness of tutorial schools allows students to learn more in their favorite subjects than 3 (Agree to Strongly Agree).

From the questions, taking the tutorial course(s) allows students to learn with their favorite teachers, were ranked as:

- (1) Strongly Disagree, answered by 6 respondents or 3%.
- (2) Disagree, answered by 24 respondents or 13%.

- (3) Undecided, answered by 61 respondents or 34%.
- (4) Agree, answered by 69 respondents or 38%.
- (5) Strongly Agree, answered by 22 respondents or 12%.

We get a mean of 3.42 and a standard deviation of 0.98.

Taking the tutorial course(s) allows students to learn with their favorite teachers can be summarized as shown in Figure 4.22.

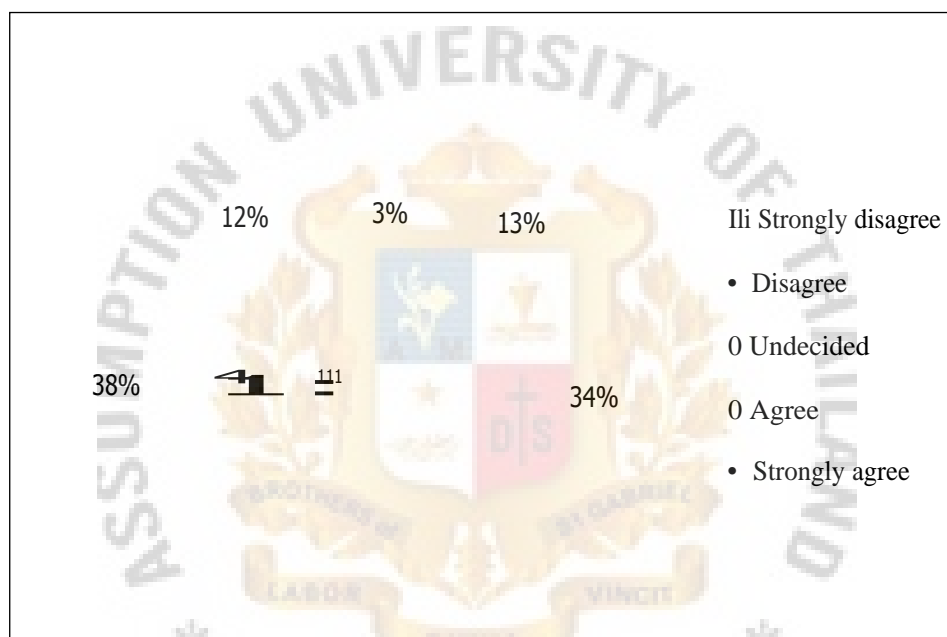


Figure 4.22. Taking the Tutorial Course(s) Allows Students to Learn With Their Favorite Teachers.

H_0 = The average score of taking the tutorial course(s) allows students learn with their favorite teachers is equal to 3.

H_1 = The average score of taking the tutorial course(s) allows students learn with their favorite teachers is more than 3.

From SPSS program, Table 4.4 shows that the significance is .000 which is less than 0.05. Therefore, it means reject H_0 , and accept H_1 .

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Therefore, the effectiveness of tutorial schools allows students to learn with their favorite teacher more than 3 (Agree to Strongly Agree).

From the questions, taking the tutorial course(s) helps students fix their weakness, were ranked as:

- (1) Strongly Disagree, answered by 1 respondents or 1%.
- (2) Disagree, answered by 9 respondents or 5%.
- (3) Undecided, answered by 44 respondents or 24%.
- (4) Agree, answered by 93 respondents or 51%.
- (5) Strongly Agree, answered by 35 respondents or 19%.

We get a mean of 3.84 and a standard deviation of 0.81.

Taking the tutorial course(s) helps students fix their weakness can be summarized as shown in Figure 4.23.

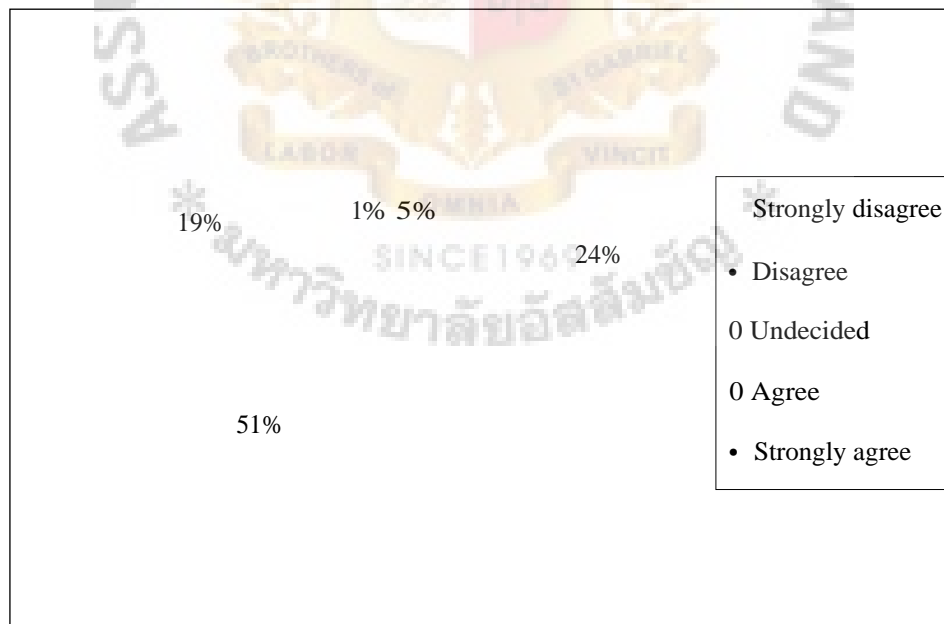


Figure 4.23. Taking the Tutorial Course(s) Helps Students Fix Their Weakness.

H_0 = The average score of taking the tutorial course(s) helps students fix their weakness is equal to 3.

H_1 = The average score of taking the tutorial course(s) helps students fix their weakness is more than 3.

From SPSS program, Table 4.4 shows that the significance is .000 which is less than 0.05. Therefore, it means reject H_0 , and accept H_1 .

Therefore, the effectiveness of tutorial schools helps students' fixes their weakness is more than 3.

From the questions, taking the tutorial course(s) helps students learn to adjust themselves for new social group, were ranked as:

- (1) Strongly Disagree, answered by 3 respondents or 2%.
- (2) Disagree, answered by 15 respondents or 8%.
- (3) Undecided, answered by 73 respondents or 40%.
- (4) Agree, answered by 58 respondents or 32%.
- (5) Strongly Agree, answered by 31 respondents or 17%.

We get a mean of 3.55 and a standard deviation of 0.93.

Taking the tutorial course(s) helps students learn to adjust themselves for new social group can be summarized as shown in Figure 4.24.

H_0 = The average score of taking the tutorial course help students learn to adjust themselves for new social group equal 3.

H_1 = The average score of taking the tutorial course help students learn to adjust themselves for new social group more than 3.

From SPSS program, can be summarized, as in Table 4.4, the significance is .000 that less than 0.05. Therefore, it means reject H_0 , and accept H_1 .

Therefore, the effectiveness of tutorial schools helps students learn to adjust themselves for new social group more than 3.

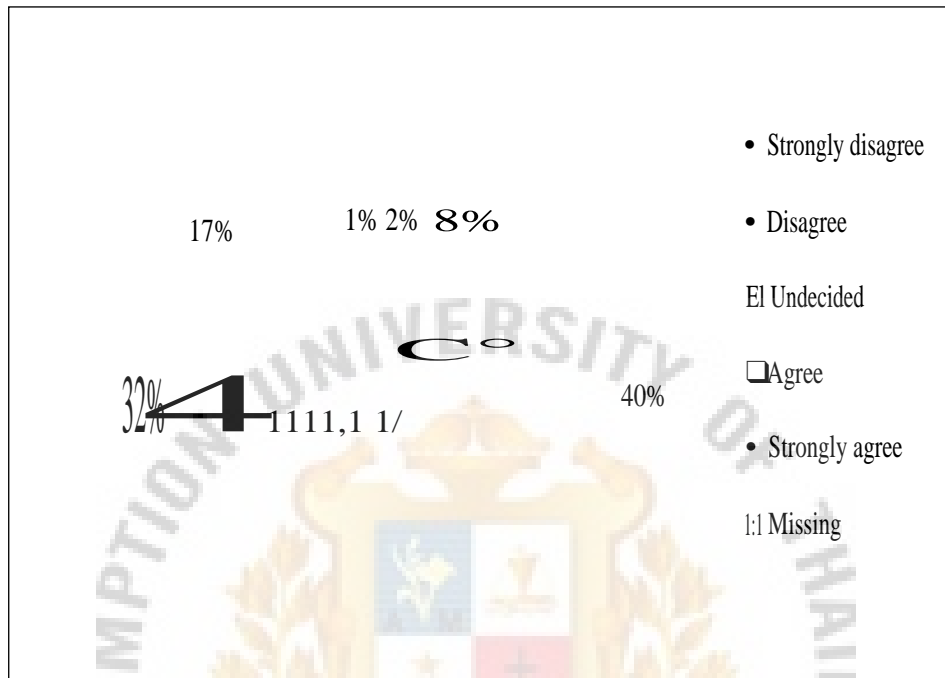


Figure 4.24. Taking the Tutorial Course(s) Helps Students Learn to Adjust Themselves for New Social Group.

From the questions, taking the tutorial course(s) lets students meet/come around with new friends, were ranked as:

- (1) Strongly, Disagree answered by 8 respondents or 4%.
- (2) Disagree, answered by 9 respondents or 5%.
- (3) Undecided, answered by 74 respondents or 41%.
- (4) Agree, answered by 56 respondents or 31%.
- (5) Strongly Agree, answered by 33 respondents or 18%.
- (6) Missing, answered by 2 respondents or 1%.

We get a mean of 3.54 and a standard deviation of 0.99.

Taking the tutorial course(s) lets students meet/come around with new friends can be summarized as shown in Figure 4.25.

H_0 = The average score of taking the tutorial course(s) lets students meet/come around with new friends is equal to 3.

H_1 = The average score of taking the tutorial course(s) lets students meet/come around with new friends is more than 3.

From SPSS program, Table 4.4 shows that the significance is .000 which is less than 0.05. Therefore, it means reject H_0 , and accept H_1 .

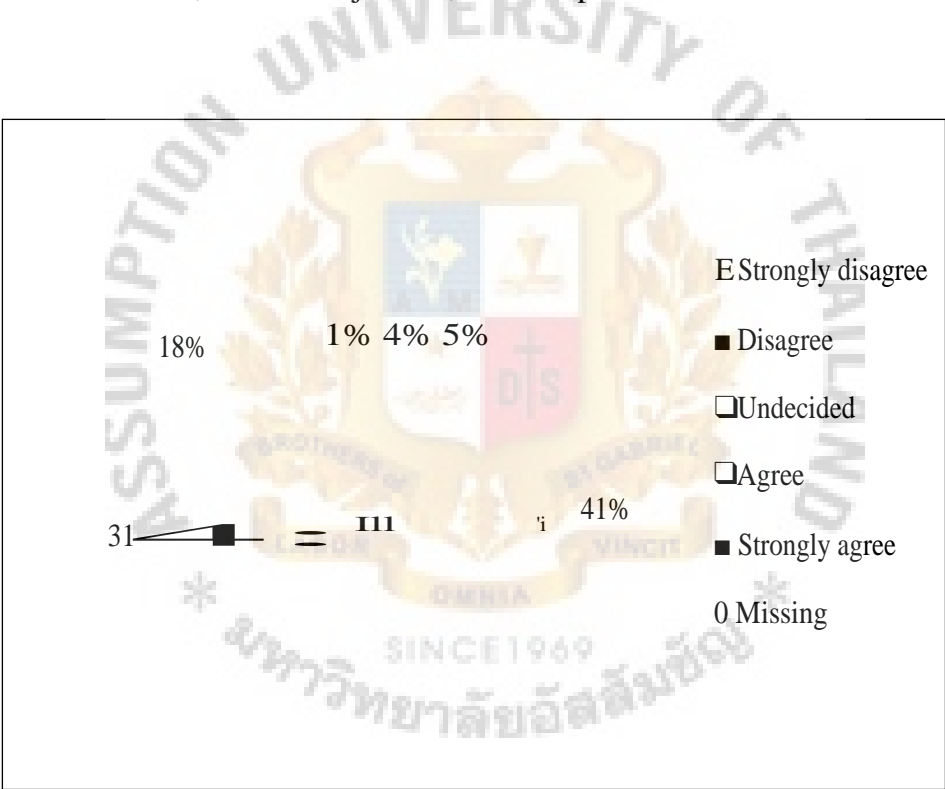


Figure 4.25. Taking the Tutorial Course(s) Lets Students Meet/Come Around with New Friends.

Therefore, the effectiveness of tutorial schools lets students' meet/come around with new friends is more than 3 (Agree to Strongly Agree).

Table 4.4. A Summary of T-test Result from SPSS Program.

Taking the tutorial course...	Test Value =3			
	t	df	Sig (2-tailed)	Mean Difference
Helps students get more knowledge and better grade	16.509	181	.000	.92
Helps students review their lesson	18.517	181	.000	.99
Helps students increase more self-confident in their school examination	17.195	181	.000	.93
Lets students know more trick or let students know than class	23.741	181	.000	1.26
Helps students more understand in normal class	16.337	181	.000	.90
Helps students manage their leisure time	7.895	181	.000	.57
Helps students' parents decrease worried about their study field	3.988	180	.000	.29
Allows students to learn more in their favorite subjects	9.516	181	.000	.61
Allows students to learn with their favorite teachers.	5.848	181	.000	.42
Helps students fix their weakness	13.892	181	.000	.84
Helps students learn to adjust themselves for new social group.	7.941	179	.000	.55
Lets students meet/come around with new friends	7.276	179	.000	.54

The last two questions ask about their opinions on the student. The result of taking the tutorial course is necessary were ranked as:

(1) Strongly Disagree, answered by 9 respondents or 5%.

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- (2) Disagree, answered by 26 respondents or 14%.
- (3) Undecided, answered by 94 respondents or 51%.
- (4) Agree, answered by 41 respondents or 23%.
- (5) Strongly Agree, answered by 12 respondents or 7%.

We get a mean of 3.12 and a standard deviation of 0.91.

Taking the tutorial course(s) is necessary can be summarized as shown in Figure

4.26.

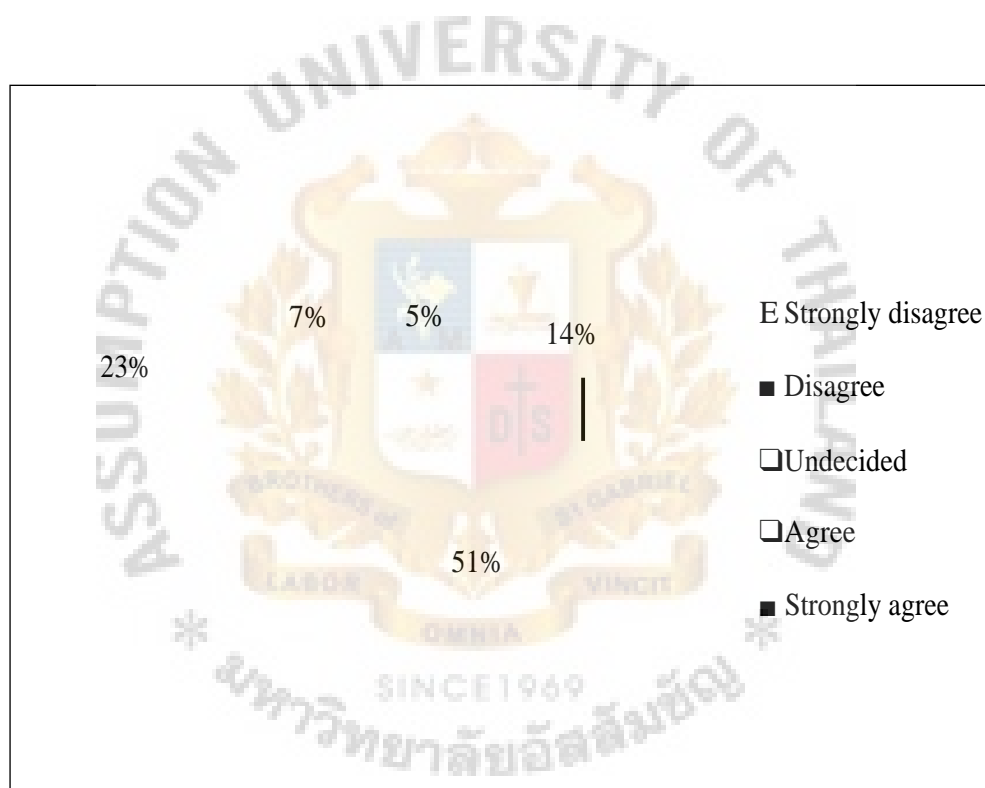


Figure 4.26. Taking the Tutorial Course(s) Is Necessary.

The last question, in their opinions, taking the tutorial course(s) is not worthwhile were ranked as:

- (1) Strongly Disagree, answered by 16 respondents or 9%.
- (2) Disagree, answered by 42 respondents or 23%.

- (3) Undecided, answered by 79 respondents or 44%.
- (4) Agree, answered by 28 respondents or 15%.
- (5) Strongly Agree, answered by 17 respondents or 9%.

We get a mean of 2.93 and a standard deviation of 1.05.

Taking the tutorial course(s) is not worthwhile can summarized as shown in Figure 4.27.

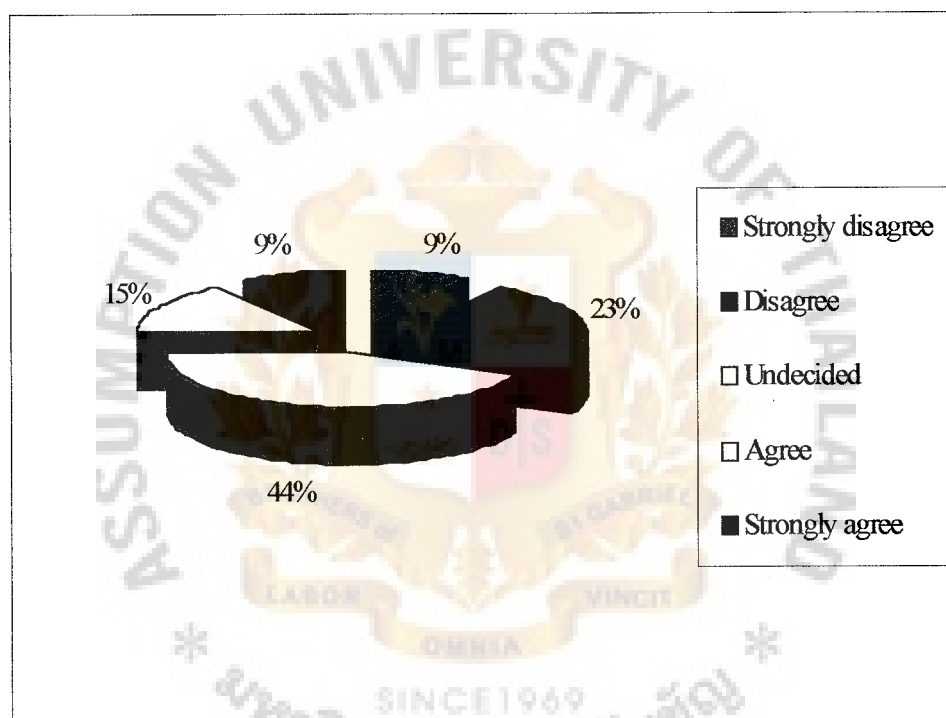


Figure 4.27. Taking the Tutorial Course(s) Is Not Worthwhile.

V. CONCLUSIONS AND RECOMMENDATIONS

From "A Study of the Effectiveness of the Tutorial schools, the purpose of this project is to analyze the relationship between students and tutorial courses in the following objectives.

- (1) To study the effectiveness of the tutorial schools.
- (2) To know why the students take the tutorial courses.
- (3) To know the reasons for choosing the tutorial school(s).
- (4) To analyze whether the students are satisfied during taking the tutorial courses.

Therefore, researcher used the questionnaire as an instrument. The target population of the research is 2 groups:

- (1) Students who are living in Bangkok and studying in Mattayom 1-6 and taking or used to take the tutorial course(s).
- (2) Undergraduate students who used to take the tutorial course(s) before taking the entrance examination.

Therefore, the 200 questionnaires were distributed; then, the researcher received 182 questionnaires or 91% as the responses.

5.1 Conclusions

5.1.1 Personal Data

(1) Sex

- (a) Male 103 respondents.
- (b) Female 79 respondents.

(2) Age

- (a) 11-15 years 54 respondents.
- (b) 16-20 years 110 respondents.

(c) 20-25 years 18 respondents.

(3) Education level

(a) Secondary school 34 respondents.

(b) High school 110 respondents.

(c) Undergraduate 86 respondents..

The subjects that most students would like to take can be summarized as shown in Table 5.1.

Table 5.1. The Subjects That Most Students Would Like to Take.

Subjects	Number of Students	Percent (%)
Mathematics	213	26.4
English	160	19.8
Physics	107	13.3
Thai	74	9.2
Science	70	8.7
Social	68	8.4
Chemistry	65	8.1
Others	50	6.2
Total	807	100

The popular tutorial schools can be summarized as shown in Table 5.2.

Table 5.2. The Popular Tutorial Schools.

Subjects	Schools
Mathematics	The Brain, A.Jia, The Tutor
Physics	Applied Physics, Neo Physics
Chemistry	A.Ooh
Social	Pep, A.Ping
Thai	Pep, The Brain
English	Access, The Brain
Science	The Brain, Pep

The average of number of courses that student taken is 4.79.

The average of number of schools taken by each student is 2.91.

5.1.2 Attitude and Opinion toward the Tutorial Schools

The reasons for taking the tutorial courses were increase more self-confidence, cannot follow the classroom, persuaded by friends, and others.

The reasons for choosing the tutorial schools were the reputation of the school, the reputation of the tutor, persuaded by friends, and others.

For the effectiveness of the tutorial course compared with that of the normal class, students think it's better than or equal to class by 70% by using Binomial test.

Tutorial course is worth enough the time and money spent and students think that it's worth it 81.1%. For this question, the researcher used Chi-square test with education level, for checking the independent factor. After testing, the result is the tutorial course is worth it and the education level is independent.

In order to check the effectiveness of tutorial schools, the researcher used t-test for the questions number 6-17 in the questionnaire. The questions are as follows:

- (1) Taking the tutorial course(s) helps students get more knowledge and better grades.
- (2) Taking the tutorial course(s) helps students' review their lessons.
- (3) Taking the tutorial course(s) helps students increase more self-confidence in their school examination.
- (4) Taking the tutorial course(s) lets students know more tricks or lets students know more than from the normal class.
- (5) Taking the tutorial course(s) helps students understand more than in the normal lesson.
- (6) Taking the tutorial course(s) helps students manage their leisure time.
- (7) Taking the tutorial course(s) helps students' parent decrease worries in their study field.

- (8) Taking the tutorial course(s) allows students to learn with their favorite subjects.
- (9) Taking the tutorial course(s) allows students to learn with their favorite teachers.
- (10) Taking the tutorial course(s) helps students fix their weakness.
- (11) Taking the tutorial course(s) helps students learn to adjust themselves for the new social group.
- (12) Taking the tutorial course(s) lets students' meet new friends.

After the testing, all of the answer indicate effectiveness.

For the last two questions, the researcher needs to check the opinion of the students about the tutorial course (questions number 18-19), the question are as follows;

- (1) Taking the tutorial course is very necessary.
- (2) Taking the tutorial course is not worthwhile.

It can be concluded that most of the students think that taking the tutorial course is very necessary because the average of this question is 3.12. Moreover, the students did not think that taking tutorial course is not worthwhile because the average of this question is 2.93.

After fmishing this project study, we can get the answer for all objectives set as we intended.

5.2 Recommendations

After studying the project, the researcher has some recommendations toward the related groups as follows:

5.2.1 The Authorized Officers

The authorized officers have to closely to look after and protect the students and enable them to gain the most effectiveness as they can.

5.2.2 The Students

From a study the effectiveness of the tutorial schools, we obtained the result that the students were satisfied with studying in tutorial schools.

The students have to be carefully determined before taking the tutorial course about following 3 topics.

- (1) Should they take the tutorial course?
- (2) What course(s) should they take?
- (3) Who should they learn with?

Should they take the tutorial course? Since every student has the different ability to learn everything equally, they also have the different economic situation and different objectives. They have to analyze there by themselves.

What course(s) should they take? Since students are different in knowledge background and intentions, they are suited to the different tutorial courses from others. What course(s) they are going to take, should be desired according to their own situation. It's a waste of time and money if they have to take any tutorial course because they would like only to abide by/listen to their friends or parents and ignore their own desires.

Who should they learn with? Each tutor has different style and techniques in communicating with each student. The students should select the tutors who can communicate with them effectively.

However, students should realize the fact that only taking the tutorial course(s) cannot guarantee them to pass the examination, unless they will not working very hard by themselves.

5.2.3 The Tutors

The tutors are playing an important role in the tutorial class. Students decide to take the tutorial courses and accept the expenses occurred because they hope the courses can help them fulfill their objectives. So, the tutors have to update their knowledge as often as possible and they should find the new technique to communicate with their students to gain the effectiveness. Much more important process is to check the feedback from the class whether the students do not miss the lesson or not.

5.2.4 Parents of the Students

Parents do not only take the responsibility for any tutorial expenses, but also play the important role of persuading students to take the tutorial course in both direct and indirect way. Parents should not pressured their children with their over expectation, as well as not leaving the study problems to their children and tutors. On the other hand, they should help their children by supporting them with the necessary information and respect children's decision.

5.2.5 The Owner of the Tutorial Schools

They should be concerned more about business ethics and morals than other business fields because they are running business with the future of our country. They should set charges as well as provide the efficient for tutors, programs and equipment in order to help those students fulfill their objectives.

5.3 Further Work

This project study will be useful and adjustable for further study. According to the project's limitations, the scope of the sample group of respondents should be extended to be the whole country students or divided into separate parts of the country. The more extended the sample size and the questionnaire conducted, the more error will be reduced.

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Moreover, other interesting topics should be put in to further analysis such as time and expenditure from each student, their attention given and success rate gained in order to adjust the data to be useful for the present tutorial courses.





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APPENDIX B

ENGLISH QUESTIONNAIRE

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A study of effectiveness of the tutorial schools

Please write down your favorite answer or fill ('J) in the blank.

Part I: Personal attitude and opinion toward tutorial courses

1. Have you ever taken the tutorial course?

Yes

No (Stop answer the questionnaire)

2. Why did you decide to take the tutorial course?

Increase more self-confidence in examination.

Cannot follow the classroom teaching (in school).

Persuaded by friends

Persuaded by parents

To hang out

Others, please specify _____

3. Why did you decide to take this tutorial school?

Reputation of the institute

Persuaded by friends

Reputation of the tutor

Advertisement

Others, please specify _____

4. In your opinion, what is the effectiveness of the tutorial course compared with your normal class?

Better than normal class

The same as normal class

Worse than normal class

5. Do you think tutorial course is worth the time and money spent?

Yes.

No.

Please consider and indicate the extent by filling Ai to the agree and disagree rating for the following statements.

How much do you agree with this message?	Strongly Agree	Agree	Un-decided	Dis-agree	Strongly Disagree
6. Taking the tutorial course(s) helps students get more knowledge and better grades.					
7. Taking the tutorial course(s) helps students' review their lessons.					
8. Taking the tutorial course(s) helps students' increase more self-confidence in their school examination.					
9. Taking the tutorial course(s) lets students know more tricks or lets students know more than the normal class.					
10. Taking the tutorial course(s) helps students to understand more than the normal lesson					
11. Taking the tutorial course(s) helps students manage their leisure time.					
12. Taking the tutorial course(s) helps students' parent decrease worried in their study field.					
13. Taking the tutorial course(s) allows students to learn more in their favorite subjects.					
14. Taking the tutorial course(s) allows students to learn with their favorite teachers.					
15. Taking the tutorial course(s) helps students fix their weakness.					
16. Taking the tutorial course(s) helps students learn to adjust themselves for new social group.					
17. Taking the tutorial course(s) lets students' come/meet around with new friends.					
18. In your opinion, taking the tutorial course(s) is necessary.					
19. In your opinion, taking the tutorial course(s) is not worthwhile.					

Part II: Personal Data

20. Sex 0 Male _ Female

21. Age 0 11-15 years old

0 16-20 years old

0 21-25 years old

22. You are studying in

Secondary school

High School

Undergraduate

23. The major program you are studying or studied.

U Science

U Arts

24. Please specify the tutorial school(s) and course(s) you took:

1.	Subject 1.	2	3.
2.	Subject 1.	2	3.
3.	Subject 1.	2	3.
4.	Subject 1.	2	3.
5.	Subject 1.	2	3.
6.	Subject 1.	2	3.
7.	Subject 1.	2	3.
8.	Subject 1.	2	3.
9.	Subject 1.	2	3.
10.	Subject 1.	2	3.

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