

CHAPTER II

LITERATURE REVIEW

Introduction

From three National Dental Surveys between 1976-1989, it was shown that 90% of the population of 5 year groups classified by WHO suffer from gingivitis and periodontitis and almost 80% of the population have dental caries. These alarming dental prevalences are very crucial to the well being of the individual, and to the Health for All in the year 2000.

Faculty of Dentistry was established in 1980 with the main objective to produce more dentists to serve the region where the dentist-population ratio was 1 : 150,000 at that time. In 1990, Thailand has only 4,000 dentists for almost 60 million population. About half of these dentists are working in Bangkok and its metropolitan whose population is about 10 million. Therefore, it is a question of maldistribution of dentists that we have to increase our enrolment from 50 students in 1989 to 80 students in 1990 and 100 in 1992 to palliate the shortage of dentists in the Northeastern region of Thailand.

The Faculty conducts a six-year curriculum and grants the degree of Doctor of Dental Surgery (D.D.S.). There are 9 departments within the Faculty.

1. Department of Oral Surgery
2. Department of Pedodontics
3. Department of Oral Diagnosis
4. Department of Orthodontics
5. Department of Periodontics
6. Department of Restorative Dentistry
7. Department of Prosthodontics
8. Department of Oral Biology
9. Department of Community Dentistry

As the Faculty is within Health Science Centre our dental clinic is closely attached to the University Hospital. All preclinical subjects such as Anatomy, Biochemistry, Physiology are taught by medical staffs from the Faculty of Medicine.

This study focuses on the clinical practicum achievement of dental students which is the most important part in study in Dentistry. Eight from nine Departments of the Faculty are responsible for clinical subjects. Moreover, when students graduate and work in the community, most of work which they have to face is treatment and some community work.

The prediction of achievement has been the primary concern of many investigators. The bulk of previous research on prediction has been conducted in a theoretical framework where achievement is regarded as a function of cognitive variables. This framework has been useful in guiding

research on these determinants of achievement and has been thoroughly exploited. The numerous studies on academic prediction might be summarized by stating that the average relationship between aptitude variables, whether taken singly or in multiples, and achievement criteria ranges between .50 - .75; conversely, one-half to three-quarters of the variability in academic achievement remains unexplained. Therefore, research on achievement prediction has shifted toward the measurement of nonintellective factors in academic performance.

Relavant Research Work

1. Past Knowledge Background: Past academic grade

The studies and researches in Thailand on the relationship between the past knowledge background and achievement of the students in the university have focused on final grade in secondary school and entrance examination score. In 1967, the research on the relationship between final grade in secondary school, entrance examination score, and the successes of graduates of the university in Bangkok was made by many researchers such as; Chavevan Promsakanaskonnakorn(1967) studied in the students of Thamatsat University, Hunsa Saraithong(1967) studied in the students of Medical University, Thipparn nopavongnayudthaya (1967) studied in the students of Silpakorn University and Chulalongkorn University, and Saiyud Keawdoknoi(1967) studied in the students of Kasetratsat University. All of

them discovered that both final grade of secondary school and entrance examination score could predict achievement of the students in the first year and the second year. Moreover, in the same year, Wasana Panichakarn(1967) studied the relationship between final grade in secondary school, entrance examination score and achievement of students of Chiangmai University and Khon Kaen University. Similar to other researchs in Bangkok, she found that both final grade in secondary school and entrance examination score were the best predictor.

Consequently, in 1985, Tussanee Trivanchai (1985) studied the variables related to learning achievement of nursing students at Prince of Songkhla University. The result showed that past academic grade was able to predict achievement of the students in this academic year.

In oversea research, Layman (1967) studied the prediction of achievement of the first year and second year of students of State University Colledge Portland, New York. The result showed that the best predictor of achievement in the first year was final grade in secondary school and the best predictor of achievement in the second year was the first year grade.

2. The Study Habits and Attitudes

A behavior regularly expressed by a person until it becomes a habit does not arise from instinct. It is the result of learning and training, thus it can be changed and

improved. The study habits are the learning behavior adopted regularly. The study habits will arise and get enhanced as the learning is successful and satisfactory, or if it can solve problems (Maddox 1963).

An attitude is a trend responding to stimuli which we may be divided into appropriate groups, such as races or ethnic clans, traditions, any one subject, or any one institution. We cannot perceive direct attitude, but we can only conclude from behavior expressed in language and nonlanguage aspects (Anastasi 1976).

Cole (1963) studied and made a research on university students' study habits for many years and found that the students who were successful in their studies had different study habits from those who were unsuccessful in their studies, even though they have the same I.Q.. Maddox (1963) studied and found that the learning achievement did not depend only on the personal ability and hard work, but it also depend on the efficient method of studying, because it always appeared that many students with high I.Q. failed in their examinations or made lower grades than those who had medium or low I.Q.. The difference in the accomplishment of each person depend on I.Q. factor about 50 to 60%, on efficiency and good study habits 30 to 40%, and on the opportunity and environment about 10 to 15%. But Lindgren (1969) was of the opinion that the reason that the students achieving success in their studies depended on

their good study habits 33%, on their learning interest 25%, on their I.Q. 15%, and rest depended on other factors. Students were unsuccessful in their studies, due to the fact that they had bad study habits 24%, lack of learning interest 35%, and the rest depended on their personal problems and other factors.

Naphaphorn Mekraksavanich(1972) studied the relationship of the study habits and attitudes of the fourth year secondary school students in Bangkok and found that the study habits and attitudes had an important positive relationship at the significant level of 0.01 with the learning achievement ($r=0.614$ and 0.40 respectively). Apart from this, she also found that the students who had high learning achievement had better study habits and attitudes than those who had low learning achievement at the significant level of 0.01. Suvimol Wongvanich (1979) had studied and found that the study habits and attitudes had an important relationship with the first year secondary school students' achievement on the significant level of .01 by having the correlation coefficient at the level of .398. And when the study habits was separated from the study attitudes, it was found that there were a positive relationships with the achievement, equivalent to 0.381 and 0.322 respectively. Wassana Phithaksalee(1984) studied and found that the study habits (Delay avoidance and Working method) and the study attitudes (Educational acceptance) had a relationship

with the accumulated grades of the second year secondary school students, both in the large and extralarge schools under the responsibility of the Ministry of Education in Bangkok. The attitudes of teacher approval had a relationship with the average accumulated grades of the students in the extralarge schools but there was no relationship with the average accumulated grades of the students in the large schools ($P < 0.05$). Wallapha Chanphen (1984) had studied the factors related to the achievement of the students who had high and low achievements in the fifth year secondary school in Bangkok, and found that the study habits had an important relationship at the significant level of 0.01 with the achievement of the students having both high and low achievements (For high achievement group, $r = 0.2541$ and for low achievement group, $r = 0.6097$), and that the study attitudes had an important relationship at the significant level of 0.01 with the achievement of the students having both high and low achievements (For high achievement group, $r = 0.3972$ and for low achievement group, $r = 0.5027$). Wimol Tansakul (1985) had studied and found that the study habits had a relationship with the mathematics learning achievement according to the subject teachers of the third year secondary schools of Wat Ratchaborphit, Wat Benjamarachalai, and Wat Sangwej, having the correlation coefficient of between 0.1853 to 0.4139. As for the study attitudes, the correlation coefficient was between 0.1718

to 0.2411 ($p < 0.05$). Chan Tiya Wong (1985) had studied and found that the study habits had a relationship with the achievement of the first year education students of Chulalongkorn University ($r = 0.1562$, $p < 0.05$).

Brown and Holtzman (1955) had studied and found that the relationship between the scores obtained from the survey form of study habits and attitudes and the achievement grades of a semester for male and female students were equal to 0.50 and 0.52 respectively ($r = 0.50, 0.52$). Gawronski and Mathis (1969) had studied the study habits of fourth year secondary school students having lower and higher achievement than their levels of ability, and found that the students in the two groups had different study habits. The students having higher achievements than their level of ability were interested in and more attentive to the school activities. They tried hard to do the assignments in order to earn high grades. There were more systematic planning of work and learning practice than the students who had lower achievements than the levels of their ability. Apart from this Carton (1967), Lin and McKeachie (1960) and Diener (1960) had studied the study habits of students having lower and higher achievements than their levels of ability similarly to Gawronski and Mathis, and also found that the students who had higher achievement than their levels of ability had better study habits than the students who had lower achievements than their ability.

3. Socioeconomic Status

3.1 Occupation of Parents

The study and research in Thailand on the relationship between the fathers' and the mothers' occupation and the achievement of the students was made by Samphan Phanphruak (1976) who studied the relationship between the factors and features of the study completion of regional university students, comparing between Khon Kaen University and Chiangmai University by studying the factors of sex, age, parents' occupation, residency of fifth year, secondary school grades, and order of choices. The parents' occupation were divided into five groups, i.e. government officials, labourers, merchants and business operators, farmers and others. The research revealed that occupation of parents were one of the factors having relationship with the feature of the educational accomplishment of the students in some faculties in each university.

Subsequently in 1980 Chitrapha Kunthonbutr (1980) had studied the suitable equation for forecasting the achievements of the students of Faculty of Education in Chulalongkorn University by studying the relationship in the background variations and the average accumulated grades throughout the course which included sex, age, occupation of parents, grades in the fifth year secondary schools, and average grades in the first year of education by dividing the occupation of fathers and mothers into two categories,

i.e. government officials and nongovernment officials. The sample used in the research was the Master Degree graduates in Chulalongkorn University's education course during the academic years 1974-1978. The results showed that the occupation of fathers and the occupation of mothers had no relationship with the achievement. And in 1981, Phornthip Thavornchak had also studied the factors that were related to the accomplishment of Chulalongkorn University students by studying three variables which were the parents factor, students factor and extracurricular activities factor. The research showed that the incomes of father were one of the factors having relationship with the students' achievement.

In the foreign research, Albert Eugene Johnson (quoted in Tussanee Triwanchai, 1985) had made a study comparing the background of economic and financial situations, social status, inspirations with the achievement of three groups of students of Baker University, Baldwin University, and Kansas University. The sample was the 440 freshers in the academic years of 1975 and 1978. These students were divided into three groups, viz. the Presister Group 276 persons equivalent to 63%, the Voluntary Withdrawers Group 69 persons equivalent to 16%, and the Academic Dropouts Group 95 persons equivalent to 32% of the total number of students. The variables used in this study were the average grade in the secondary school level, the classroom placement, the grade from the American College

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background of the nursing students had a negative relationship with their first year's achievement having the statistical significance at level 0.01 in only one case, which was the level of education of their mothers.

In research work in foreign countries, Kemeth B. Clark (quoted in Porhtip Thavornchuk, 1981) had studied the relationship between the educational level, occupation and incomes of the parents and the educational status of 1,519 American Negro descendents who attended various universities. It was discovered that the level of parent's education had direct relationship with their descendents' education successes and failures. If either the father or the mother was graduated from a university, the trend was that his or her descendents would graduate with a degree. If the parents had never completed the university level education, the trend was that their descendents would not complete their university level education.

3.3 Expense Recieved per Month

In 1981, Phornthip Thavornchak studied components related with the study efficiency of the students of Chulalongkorn University. The variables put to study composed of three kinds which were the parents, the students and the additional curricular activities. The research discovered that the sum of money received monthly by students was a variable related to the achievement the students. Later in 1984, Krisnee Uthumphorn (1984) studied

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the relation between the variable of personal status and education and study achievement of postgraduate students of Chulalongkorn University. The research found out that the variables of income, expenditure were related to study achievement with significant level of 0.05.

In foreign research, Jeanotte, Leigh Dennis (quoted in Tussanee Triwanchai, 1985) studied the variable that made the Indian-American students leave the university half-way or completed studies from North Dakota University. He collected data by using questionnaire for a group of students who registered during the years 1970-1979 by dividing into two groups of subjects, which were 71 students who left half-way and 45 students who completed their studies. The researcher copied data from the registration unit of the university and analyzed the data by chi-square and test of difference between groups with statistics by t-test at significant level 0.05. The research showed that there was a difference with significant measure on financial assistance, the financial guarantee and expenditure.

From the study of Chopra (quoted in Nisaluk Silpadet, 1989), it was discovered that the parents' career was related to the study achievement of students of secondary education. Students of parents in academic career have higher marks of study efficiency than students of parents in other professions and in the same way Worthington and Grant (quoted in Nisaluk Silpadet, 1989), learned the

component related to the study efficiency of the students. The result showed the study efficiency was related to the economic and social status, meaning the career and the income of the students' parents.

4. Instruction : Educational Management

From the long study to appraise a 4-year nursing program of the nursing students under the command of working division of the Nursing College in the academic year 1981 by studying the relation between the study efficiency and the students' satisfaction in five ways which were the content, theoretical study, practical study, educational administration, facilities. The research discovered the satisfaction of learning in the college did not relate to the achievement of the nursing students in the first and second years. The result thus obtained differed from that of the research work of Krisnee Uthumphorn (1984) who studied the relation between the variable components on the personal side and on the educational side and the study achievement of the Master Degree students of Chulalongkorn University. The sample was the 1,429 students graduated from graduate school, Chulalongkorn University in the academic years 1981 and 1982. The research discovered that the students' opinions on rendering services to the staff of the graduate school were one variable joining together to predict the study achievement of all the students.



Subsequently, in 1985, Tasanee Triwanchai studied the variables related to learning achievement of nursing students at Prince of Songkhla University and found that past academic grade and opinion on instruction with regard to content and learning facilities could explain 58.44% of the variation in learning achievement ($R^2=0.5844$).

In oversea research, Jeanotte, Leigh Dennis (quoted in Tussanee Triwanchai, 1985) studied the component that made the Indian-American students leave the university half-way or graduated at North Dakota University. He collected the data by using questionnaire for the group of students who enrolled in the years 1970-1979 and the researcher copied the data from the registration unit of the university, analyzed the data with chi-square method and tested the difference among groups by statistics at (t-test) at the significant grade 0.05. The research discovered that the services perceived by students from the university and students' satisfaction on the services provided by the university formed a component that made the students successful in studies.