FACTORS THAT INFLUENCE ACADEMIC PERFORMANCE IN SST

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DECLARATION

I affirm that this research is of my own effort, except for the materials to as cited in the reference section.

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ABSTRACT

The independent variables: mean CGPA of major, minor and PPIB subjects will be tested with the dependent variables CGPA by using correlation test to find out the relationship between them. Besides, demographic factor of gender and race were added to examine the relationship between the dependent variables and the independent variables. Furthermore, two way ANOVA also added to this study to find whether there is an main effect on the demographic factor in each category of the subject. Regression model had been added to this study to find out which category of the subjects that influence the academic performance most. In this research, 692 students from SST who graduate in the year 2007 were taken as the sample of this study It is important to find out which category of the subject that influence the CGPA most because a student with lower CGPA was found hardly to find a job compare to those who score a higher CGPA. In the same time, by finding out which of the category that affect the overall CGPA most, suitable guideline can be given to the future student in SST to improve the overall performance of in academic. The results suggest that the independent variables of mean CGPA of major, minor and PPIB shows a positive relationship with the overall CGPA while the number of semester taken to graduate show a negative relationship with it. Besides, race was found to have a main effect on each category of the subject except PPIB subjects. Furthermore, major subjects are found to affect the academic performance most

FAKTOR YANG MEMPENGARUHI PRESTASI AKEDEMIK PELAJAR SST

ABSTRAK

Ujian korelasi telah digunakan untuk menguji kaitan di antara pembolehubah tidak bersandar, min PNGK major, minor dan PPIB subjek dan bilangan semester yang diggunakan untuk menamatkan pengajian dengan PNGK keseluruhan. Selain itu, faktor demografi juga ditambah ke dalam ujian korelasi untuk mencari hubungan antara pembolehubah bersandar dan pembolehubah tidak bersandar. Ujian ANOVA dua hala juga ditambah ke dalam kajian ini untuk mencari adakah faktor jantina dan etnik mempunyai kesan terhadap beberapa kategori subjek tersebut. Model Regressi juga telah dibentuk untuk tujuan mencari kategori subjek yang manakah yang paling mempengaruhi prestasi akedemik pelajar. Dalam kajian ini, 692 pelajar daripada SST yang mana menamatkan pengajian pada 2007 telah diambil sebagai sampel. Keputusan mencadangkan bahawa, min PNGK major, minor dan PPIB mempunyai hubungan yang positif dengan PNGK keseluruhan manakala bilangan semester yang digunakan mempunyai hubungan yang negative dengan PNGK keseluruhan. Selain itu, faktor etnik didapati mempunyai kesan terhadap semua kategori subjek kecuali PPIB. Pada masa yang sama, subjek major didapati paling mempengaruhi prestasi kesuluruhan pelajar dalam akedemik.

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CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

Academic performance had become the main target of student in most of the colleges and university. As the result, CGPA (Cumulative Grade Pointer Average) or PNGK (Purata Nilai Gred Keseluruhan) is commonly use in university and colleges because it is the best indicator to measure how good a student perform in his academic (Camara and Echthernacht, 2000). The CGPA indicator is important as it will reflect whether a student can master in the subject that they studied.

Many colleges and university set a minimum CGPA that should be maintain in order to continue their study. Student who fails to maintain the minimum grade will fail to graduate on time. At Universiti Malaysia Sabah (UMS), the minimum requirement for degree is 2.00. In other hand, for any graduate program, a CGPA of 3.0 or higher consider an indicator of a good academic performance.

When a graduate student start to find a job, they will realize that academic performance will be one of the criteria that under consideration by the employers. So, it is hard for those graduate with low CGPA to get job because they unable to compete with those who done well in their academic. As the result, the number of jobless among graduate student in the country will become higher and higher. So, it is important to determine which factors that influence student's academic performance most, in order to solve the jobless problem among graduate student.

1.2 BACKGROUND OF STUDY

Since develop of the psychology field, there are many psychological studies on student's academic achievement that had been done. The variables of gender, race, prior education and personalities are commonly used among the psychologist to compare with the academic performance in university and colleges. Example, in Ramsden's (1992) modified contextual model, it includes age, gender, prior education experience, as the variables that influence an individual's orientation.

However, there are very less studies that had been done before in order to test which category of subject that influences the overall CGPA most. Most of the studies were just focus on the overall CGPA. The category of subject that will be tested here are major, minor and PPIB subject. Although the subjects that must be taken between courses are different, however, in order to graduate, a student must take the same number of subject from the three categories above.

In this project, the study of which of the category of subject that influence the academic performance in School of Science and Technology (SST) most in University Malaysia Sabah (UMS) will be tested. Besides, the relationship between gender, race, and previous academic achievement with major, minor, PPIB subject will also be studied. This will hope to make sure which of the factor that influence the student's performance most, so that, a suitable guideline can provide to future student in UMS to improve the overall performance of the result.

1.3 RESEARCH OBJECTIVES

Below are the objectives of this research:

i. To determine the relationship between mean CGPA of major, minor, and PPIB subject with the overall CGPA.

ii. To identify which category of subject that affects the academic performance most.

iii. To determine the relationship between gender and race with mean of major, minor, PPIB subject.

1.4 SCOPE OF RESEARCH

Students from SST of UMS year that graduate in the year 2007 have been chosen for this study. The data, CGPA/PNGK of the student will be used. The data was provided by the UMS academic department. This data include student's matric number, gender, race, and final CGPA/PNGK.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

The research of the academic among college and university student had been done since long time ago. Most of these researches are related to the factor that will influence the performance of the student in college and university. In this chapter, the past researches that had been done regarding to the factor that influence the academic performance in college and university will be discussed.

2.2 GENDER ISSUES IN ACADEMIC PERFORMANCE

Since the psychological field, the effect of gender in academic performance had started to be studied. From those studies, there are many reports that show female failing to choose science courses in tertiary education (Fraser and Giddings, 1987). However the statement above cannot accurately describe the true situation as biological sciences have high

female participation rates if compare to other subjects like mathematics and physics (Kahle, 1987).

Richardson and King (1996) in their research regarding males and females reports that in some studies males took the "surface" approach and females took the "deep" approach. Furthermore, Richardson (1991) also found that there are no gender differences to approaches to study of social science students.

In the same time, Fan and Li (2004) had also made the similar research about gender differences for the students who take computer science as major in the college of Taiwan. Subjects were college students registered in five universities offering computer science programs. A numbers of 940 valid questionnaires were collected which includes 796 males (85%) and 144 females (15%). The variables that used in this research are gender, average score for all course work in high school level, average score for all math courses in high school level, total score of the college entrance examination (CEE), CEE physics score, CEE math score, CEE English score, CEE chemistry score, the number of computer courses taken, experience in structured programming prior to entering college, average score of all the college math courses taken, score achieved in introductory computer science courses and average scores for computer science core courses.

The conclusion from the research is, there is no significant difference between genders for the most CEE scores, prior computer experience and the prediction models of college performance. However, female students achieved significantly higher in CEE

language component and also outperform males in academic performance at both the high school and college levels, include math courses. From the result, it can be conclude that, female who decide to take computer science courses are seems to be more confident with their ability to compete with males in the male-dominated field. It may due to the appropriate amount of math discipline and computer experience that they gained in their prior education before entering the college (Fan and Li, 2004).

2.3 THE EFFECT OF PERSONALITIES AND FAMILY BACKGROUND WITH STUDENT'S ACADEMIC PERFORMANCE

Over the pass decade, personalities variables had been used widely became more and more important as an indicator to test with academic performance. Siegel and Shaugnessy (1992) had concluded that "certain personality variables are being seen as increasingly relevant to academic success in particular disciplines". According to Abourserie (1995), the variable of personalities has a significant influence on students' approaches to study and the levels of information processing. Moreover, it may be important factor in differentiating between a good with a poor students (Purdie and Hardie, 1995).

Many studies had been made into the personality characteristics associated with general performance and school achievement. Most of the studies were extracting from Eysencks' (1967) research on Extraversion and Introversion. Extrovert tends to perform better at more interesting tasks and able to perform well even in disturbing condition while Introvert tends to be successful at more boring tasks and recall information better in

silent condition. In primary education, Extraversion was also found to be an important predictor of academic achievement, while Introversion was found to be an important factor that influences academic performance among universities students. Goh and Moore (1978) obtained the similar results respect to the role of Introversion among their sample of university students. The differences between school and universities which found from the research above suggested that students who are capable become more introverted as they get older.

Besides that, personality type is also important for predicting a student's performance at different types of academic activities. Peoples which were categories as Extraverts were seemed to be able to pay more attention in academic seminars and if were willing to participate in oral tasks such as giving verbal presentations to fellow students but in the essay writing part, they show less interest in it. However, regard to Frebregat *et al.* (1999) the best predictor of seminar outcome was the psychoticism dimension and not extraversion. Psychoticism has the characteristic of low in motivation, to have poor work habits, poor oral expression, and so on. Similarly, Aluja-Fabregat and colleagues recently found that students who were rated by their teachers as being interested in their studies scored low on psychoticism.

Other than extraversion, conscientiousness, agreeableness and openness to experience are among the personalities that attract the interest of the psychologist to include them in research. Heaven *et al.* (2002) reports that "Conscientiousness is an important personality domain that underpins academic performance as it encompasses

such elements as drive, carefulness, concentration, endurance, and being organized." Furthermore, competence, order, dutifulness, achievement striving, self-discipline and deliberation which are among the aspects of the Conscientiousness dimension were found to be the best predictor of the successful in final grades at university (Heaven *et al.*, 2002). Finally, evidence from previous research seemed to suggest that Agreeableness is not particularly useful in predicting academic outcome (Heaven *et al.*, 2002). Indeed, De Fruyt and Mervielde (1996) show that there are no significant relationship between academic performance and Agreeableness.

Besides personalities, parental style is also found to be important not only for the general emotion health of the adolescent, but also for academic performance (Dornbusch *et al.*, 1987). Although it is possible that parental behaviors can be shaped by those of their children, but Baumrind (1971) by differentiating parenting style found that each style had its own unique implications for the child's psychological health. The following research showed that authoritative parenting was best for the psychological adjustment and positive attitudes to school of young people. By contrast, a permissive style or an authoritarian parenting style (high in parental demand and low in parental responsiveness) were found to be less conductive to psychological well-being. It has been argued that an authoritative parenting style leads to low problem behaviors and psychological maturity in young people (Steinberg *et al.*, 1989).

Heaven *et al.* (2002) concluded that personality factors play a greater role in predicting academic performance than what the parental bonding do. Parental bonding

found to be quite weak, particularly with respect to self-rated academic performance although there is undoubted evidence that parental care is implicated in the adolescent's views of school.

2.4 PRIOR ACHIEVEMENT AND AGE IN DETERMINING THE SUCCESS IN UNIVERSITY

The increasing participation rates in tertiary education in Australia (Anderson, 1992), had caused people starting concern about the decrement of standards of the courses and the failure of students with lower tertiary entry standards to successfully complete the courses. There have been few studies showing that there is a close relationship between prior performance and success in tertiary education. Manning *et al.* (1993) reported that there is a significant correlation between High School entry Score test (HSC) and Grade Point Average for more than 2000 tertiary students. However, other studies have indicated that there is no clear relationship between the prior achievement and result in university.

Manning *et al.* (1993) reported that HSC where found to be strongly correlated with grade point average in tertiary studies, but with students who were elder, HSC was poorly correlated with grade point average. That means that the effects of maturity are more important and override the effects of prior education. Cullen *et al.* (1996) however conclude that secondary education was a strong indicator of subsequent success in tertiary studies only for the first few years. In more general, it would indicate that the

reduction in entry level into tertiary education in recent years will not necessarily result in lowering the standard of graduates. Students with lower entry standards did as well as better qualified by the end of their degree course.

In exploring the relationship between student age and course performance, Sadler-Smith (1996), used a sample of university business school undergraduates including of 245 students (130 males and 115 females) aged between 18 and 58 years old, to investigate the relationship between approaches to leaning, age and performance. Sadler-Smith(1996) found that mature students reported using a 'deeper' approach. That is, they tried to workout the meaning of information for themselves, undergo critical examination of themselves before accept any new ideas and try to relate ideas from what they studied to wider context. The non- mature students, on the other hand reported a more 'surface' approach. They accepted ideas without necessarily understanding them.

However, Murray-Harvey (1993) found that the older the student is, the higher the achievements will be getting from a study of identifying the characteristics of successful Australian tertiary student. For older students, because of the greater depth and quality of learning in themselves, it had affected their academic performance. Other studies also suggest that such differences may be due to mature students being more motivated by essential goals and may also be more likely to manage with the demands of autonomous than non-mature students (Richardson, 1995; Harper and Kember, 1986; Biggs, 1979)

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