Accounting for Non-Accounting Students: Determinants and Academic Performance

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Abstrak

This study examines the determinants affecting the academic performance of non-accounting students in completing an accounting course, that is, Principles of Accounting. A secondary data was administered to a total of 497 non-accounting students who enrolled in a Principles of Accounting course for a semester. The factors considered are program, gender, race, background and lecturers which include deep, surface and strategic approaches on academic Performance by International Business and Engineering Entrepreneurship students at UniMAP. Motivational systems theory is used in this study which explains more on the initiation of learning strategies to do things, people's behaviour and what directs or channels such behaviour is maintained or sustained. Using multiple regression analysis, the results reveal that program, gender, race, background and lecturers have a positive significant impact on academic performance by non-accounting students. This present study mainly focused on the overall performance of the students. The findings imply that the Principles of Accounting course is relevant to be included in business course since it plays a vital role in running a business in the future regardless of program they are enrolling, gender, race, background and lecturers. Additionally, for as long as money has exited, so has accounting. Students can be well-disciplined in managing money, financial records and knowing the current economic condition of the country taking taxes as an example as to know the reputation and health of self-finance and country's condition. The present study is unique as it considers the students’ performance in a subject that is not the main discipline of the students (i.e., accounting course for non-accounting students).

Keywords: Academic Performance; program; gender; race; background; lecturers.

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INTRODUCTION

Accounting is a subject that needs calculation dexterity. Having knowledge in accounting is a value added to students since businesses need systematic bookkeeping in order for them to achieve their goal in maximizing profit. Given the significant impact of accounting to business, basic accounting is the first accounting subject for non-accounting students in a business course. It is considered to be the utmost important element that plays a key part for academic success (Duve, 2016; Ismail and Kasim, 2011; and Tan and Laswad, 2006). Basic accounting which involves classifying, recording, summarizing and interpreting process tends to fall under the category of courses that is labeled as a high risk with high rate of failure among non-accounting students. This is due to the tedious operations involved that need passion in doing it. Moreover, there are so many assumptions on accounting subject itself. For example, the aim of taking this subject (accounting) is normally different. As for the non-accounting students, accounting subject is taken because they are being motivated in meeting and completing the requirements of the business school’s curriculum.

Given the significance of accounting subject in business courses, it is no wonder that the determinants in enhancing students’ performance may differ. There are studies investigating the impact of accounting subject on the academic performance of university students. However, the findings are inconclusive. Baldwin and Howe (1982), Bergin (1983) and Schroeder (1986) conclude that performance is insignificantly associated with prior exposure to university accounting education. In contrast, previous studies by Eskew and Faley (1988), Bartlett, Peel and Pendlebury (1993), Gul and Fong (1993) and Rohde and Kavanagh (1996) disclose a significant relationship between factors influencing academic success taking accounting as a subject for non-accounting students.

Normally, non-accounting students believe that their background and learning style could be very different from that of the pure accounting students (Duve, 2016; Ismail and Kasim, 2011; and Tan and Laswad, 2006; Susilawati et al., 2022). In fact, previous study has illustrated that the pure accounting students who performed well in accounting subjects are regarded as having strong mathematical skills (Gist & Stevens, 1998). Past experience on bookkeeping or accounting knowledge also show the difference (Eskew and Faley, 1988). Furthermore, it is assumed that students who are not array with strong mathematics background will not choose accounting as their field of interest since accounting is a systematic way of mathematics in general. As such, without majoring mathematics, students tend to assumethat they are unable to succeed in accounting field. Most of the non-accounting majors may need remedial work in the area of mathematics.

Another factor that may lead to academic success is the lecturers. Teaching can be laborious when the lecturers fail to identify that they have a natural tendency to explain concepts in a way that may not match how the non-accounting major might perceive. Most people understand the concept and able to prepare a full set of accounts but they are unable to explain clearly and in depth regarding the subject matter. Passion is the key to become a successful educator. Passion is indispensable for teaching that facilitates learnings through desire and enthusiasm. Passionate teachers create an effective learning environments that endeavor to increase learning potentials for non-accounting students to understand accounting effectively (Lloyd and Abbey, 2009).

Beside the lecturers, gender and race of students play an important role that may lead to academic success. It is believed that female students perform better as compared to male students since female students put more effort when dealing with academic matter. However, past studies conclude different outcome. Results on previous studies reveal the same as for race. Studies also have divulged that Chinese is expert in quantitative matter involving mathematics and accounting. Hence, these studies reveal inconclusive results.
Literature Review

Academic performance considers the grade or quality of an academic excellence by students in an institution. Students are decisive to attain their own personal targets, goals, and ambitions. Thus, students with magnificent academic performances can accomplish the stipulation in the employment market. Consequently, this enhances nation to achieve its vision and mission. Particularly, in Malaysia, the government grants a huge amount of funds annually peculiar to education system to achieve Vision 2020 (Ismail and Kasim, 2011; Marbun et al., 2019). So far, with substantial evidence from previous studies, determinants that lead to academic performance are various. For instance, the demographic factor, family background and learning styles act as important parts in enhancing academic performance. Many studies investigated the factors influencing the academic performance by students based on different level of education. These studies have found that factors such as extracurricular activities (Fujita, 2006); study habits (Khurshid et al., 2012); cognitive style and instructors (Jones & Wright, 2011; Susilawati et al., 2021); prior accounting knowledge (Jones & Wright, 2011, and Byrne & Flood, 2008); gender (Khurshid et al., 2011; Gracia & Jenkin, 2002; and Considine & Zappalà, 2002); prior academic achievement (Byrne & Flood, 2008); and family social and economic disadvantage (Considine & Zappalà, 2002) are significant in affecting the academic performance of the students.

Motivational systems theory explains the interactive construct majoring the path of a person leads to, the emotional energy and affective experience inhibiting or supporting movement in that path to reach the goals (Ford, 1992; Susilawati et al., 2022). In academic perspective students are motivated to learn expanding effort to be successful. They usually will have a strong mental effort during learning process (Pinrich & De Groot, 1990). Thus, “The initiation of learning or habitual pattern of movement of behaviour on why people do thing, why they behave in a certain way, why they conform to a certain pattern. It concerns with (1) what energizers human behaviour, (2) what directs or channels such behaviour and (3) how this behaviour is maintained or sustained” (Bandura, 1991).

Specifically, accounting subject is offered to all business and non-business students. Early exposure on accounting knowledge is crucial to those who want to become an entrepreneur or a businessman. Past researches found out that business or non-business students apprehend the accounting subject to be peripheral to their field of study. Consequently, several non-accounting students did not perform well in the accounting courses (Malgwi, 2006; Illias et al., 2009).

2.1 Course Program and Academic Performance

The course performance can be the benchmark for the knowledge level, skill and ability needed for the target course. “The entry requirements are: (a) Pass Sijil Tinggi Pelajaran Malaysia (STPM) or minimum grade C and GMP 2.00 with 2 subject and pass mathematics and English subject in Sijil Pelajaran Malaysia (SPM) or, (b) Pass Sijil Tinggi Agama Malaysia (STAM) with minimum Jayyid or (c) Pass Diploma (level 4 KKM)/ advance Diploma (level 5 KKM) or Pass Matriculation or Foundation with minimum CGPA 2.00 or (d) Pass unified examination certificate (UEC) with minimum B in 5 subjects and pass mathematics and English subjects” (UniMAP Handbook, 2021). Eskew and Foley (1988) conduct a study to test the association between undergraduate students of accounting and academic performance in an introductory accounting course. Additionally, (Duve, 2016; Ismail and Kasim, 2011; and Tan and Laswad, 2006; Susilawati et al., 2022) conduct an in-depth study to examine the impact of prior accounting knowledge on academic performance in sequential accounting courses in more complex area. The researchers reveal that although earlier studies of high school bookkeeping had positive effects on performances in the first accounting course, these
studies negatively affected performances in the subsequent accounting course. As such, the results are somewhere inconclusive and need further research. An attractive indication of this result is a complex relationship among undergraduate courses in terms of varying performance factors. Hence it is hypothesised that:

H1: There is a positive relationship between course program and academic performance.

2.2 Gender and Academic Performance

Previously, studies have revealed differences in the academic performance of male and female students and had reported mixed evidence. (Duve, 2016; Ismail and Kasim, 2011; Mutchler et al., 1987 and Tan and Laswad, 2006) conduct a study to determine the relationship between gender and academic performance. The result explains that female students perform better as compared to male students since female students put more effort when dealing with academic matter. Specifically, performance of female and male students in higher level accounting courses and reveal that female students significantly performed higher grades than the male students. The same result found by Tyson (1989) claimed that female students performed significantly better than the male students in his study on 200 students who were taking introductory accounting courses. Contrary to Mutchler et al. (1987); Koh and Koh (1999) and Okafor and Egbon (2011) come out with different result. Male students outperformed their female counterparts. Although past studies reveal a positive and negative relationship, Rebele et al. (1991) and Gist (1996) disclose that gender has no significant impact on academic performance. Hence, it is hypothesised that:

H2: There is a positive relationship between gender and academic performance.

2.3 Race and Academic Performance

Ethnicity or race has been disclosed to be one of the determinants in varying academic performance. Malaysia is a multinational country. It has made up of 60% Bumiputeras, 23% Chinese, 7% Indians, and 10% other races (BBC News, 2013). For that reason, the possible effect of this factor on performance is paramount. Prior studies in the Malaysia setting have consistently confirmed that non-Bumiputeras (mainly Chinese) students are higher performers than Bumiputera (mainly Malay) students (Azmi & Harith, 2012; Azmi & Mustafa, 2017; Othman et al., 2009). Azmi and Harith (2012), in their study of assessing students’ performance from different ethnic groups, found that the Chinese students performed much better than the Bumiputera students across different cognitive levels. Similarly, Othman et al. (2009) reveal that first-year engineering students with the Malaysian Higher School Certificate pre-university qualifications did better in their first-year results as compared to students with matriculation pre-university qualifications. Since Chinese is expert in quantitative matter involving mathematics and accounting, it is hypothesised that:

H3: There is a positive relationship between race and academic performance.

2.4 Prior Exposure to Knowledge (Background) and Academic Performance

Non-accounting students believe that their background and learning style could be very different from that of the pure accounting students (Duve, 2016; Ismail and Kasim, 2011; and Tan and Laswad, 2006). In fact, previous study has illustrated that the pure accounting students who performed well in accounting subjects are regarded as having strong mathematical skills (Gist, 1998). Past experience on bookkeeping or accounting knowledge also show the difference (Eskew and Paley, 1988). Furthermore, it is assumed that students who are not array with strong mathematics background will not choose accounting as their field of interest since accounting is a systematic way of mathematics in general. As such, without majoring mathematics, students tend to assume that they are unable to succeed in
accounting field. Most of the non-accounting majors may need remedial work in the area of mathematics. Previous studies have concluded mis results and yet still inconclusive (Baldwin and Howe, 1982; Bergin, 1983; Schroeder, 1986; Eskew and Foley, 1988; Bartlett, Peel and Pendlebury, 1993; Gul and Fong, 1993; Rohde and Kavanagh, 1996) However, it is believed that prior accounting knowledge will have a significant impact on academic performance. Hence, it is hypothesised that:

H4: There is a positive relationship between Prior Exposure to Knowledge (Background) and Academic Performance

2.5 Lecturers and Academic Performance

Another factor that may lead to academic success is the lecturers. Teaching can be laborious when the lecturers fail to identify that they have a natural tendency to explain concepts in a way that may not match how the non-accounting major might perceive. Most people understand the concept and able to prepare a full set of accounts but they are unable to explain clearly and in depth regarding the subject matter. Passion is the key to become a successful educator. Passion is indispensable for teaching that facilitates learnings through desire and enthusiasm. Passionate teachers create an effective learning environments that endeavor to increase learning potentials for non-accounting students to understand accounting effectively (Lloyd and Abbey, 2009). Prinsloo and Van Rooyen (2007) explored a blended learning approach improving students’ success in the teaching of second-year Accounting. Hence, it is hypothesised that:

H5: There is a positive relationship between lecturers and academic performance.

RESEARCH METHOD

This study uses quantitative method with the collection of secondary data (the final exam result) from student profile through AMIS (UniMAP website) platform. A secondary data is administered to a total of 497 non-accounting students who enrolled in a Principles of Accounting course for semester 1/2019. Marks and personal details of first year students of Bachelor of Engineering Entrepreneurship (RP59) and International Business (RE09) in UniMAP Semester 1/2019 are analysed. Data are then analysed using Stata Statistical software to run the regression analysis to examine the relationship between the independent variables and dependent variable. The determinants gathered are gender, age, race, prior exposure to knowledge and lecturer efficiency as follows:

| Acronyms | Variable Name       | Measurement                                      |
|----------|---------------------|--------------------------------------------------|
| PERF     | Performance         | Accounting Marks (Final Exam) (0% - 100%)        |
| PROG     | Course Program      | Dummy variable: “0” for Bachelor of Engineering Entrepreneurship (RP59) and “1” for International Business (RE09) at UniMAP |
| GEN      | Gender              | “0” is female and “1” is male                    |
| RC       | Race (Ethnicity)    | “0” is Malay, “1” is Chinese, “2” is Indian and “3” is others |
| BKG      | Background          | “0” with no basic accounting while “1” is for    |
the students who have basic on accounting field. “0” is for Lecturer A, “1” is for Lecturer B, “2” is for Lecturer C and “3” is for lecturer D.

Regression model:
\[ \text{PERF} = \alpha + \beta_1 \text{PROG} + \beta_2 \text{GEN} + \beta_3 \text{RC} + \beta_4 \text{BKG} + \beta_5 \text{LECT} + \mu \]

**RESULT AND DISCUSSION**

This section presents the results of the empirical tests based on the research process outlined in section 2 and section 3. Basically, this chapter presents and discusses the result of the model that estimates the accounting for non-accounting students: determinants and academic performance.

| Variable | Mean | Median | Std. Dev. | Min | Max |
|----------|------|--------|-----------|-----|-----|
| PERF     | 63.39| 63     | 15.55     | 10  | 99  |
| PROG     | 0.61 | 1      | 0.49      | 0   | 1   |
| GEN      | 0.47 | 0      | 0.50      | 0   | 1   |
| RC       | 0.63 | 0      | 0.82      | 0   | 3   |
| BKG      | 0.16 | 0      | 0.37      | 0   | 1   |
| LECT     | 1.62 | 2      | 1.06      | 0   | 3   |

Note: n=497. PERF is performance; PROG is program; GEN is gender; RC is race; BKG is background; LECT is lecturers.

Table 4.1 shows the descriptive statistics of the independent variables of PROG, GEN, RC, BKG, and LECT and PERF as the dependent variable. The mean for PERF is 63.39. It explains that most students score 63.39% marks on the average for accounting subject. The average score is at the level of B-. As for the PROG, the mean is 0.61. Based on two programmes: The Bachelor of Engineering Entrepreneurship (RP59) and International Business (RE09), both depicts the average value of 0.61 towards the academic performance. The mean for GEN is 0.47 which explain half of male and female students score on the average. RC illustrates the mean of 0.63, BKG outlines the average of 0.16 and LECT portrays 1.62 mean value. Additionally, the minimum score for PERF is 10% and the highest score is 99%. This shows that there are students with 99% score marks. As for the PROG, GEN and BKG, the minimum level is 0 and the maximum level is 1. RC and LECT illustrates the minimum value is 0 and the highest value is 3.

Table 4.2: Pearson Correlation Matrix of the Research Variables

|       | PERF | PROG     | GEN     | RC      | BKG     | LECT    |
|-------|------|----------|---------|---------|---------|---------|
| PERF  | 1.00 | 0.54***  | 0.01    | 0.01    | 0.01    | 0.01    |
| PROG  | 0.54*** | 1.00     | 0.20*** | 0.20*** | 0.20*** | 0.20*** |
| GEN   | 0.01 | 0.20***  | 1.00    | 1.00    | 1.00    | 1.00    |
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| RC  | 0.21*** | 0.04 | 0.02 | 1.00 |
|-----|---------|------|------|------|
| BKG | 0.06    | 0.03 | 0.12*** | 0.03 | 1.00 |
| LECT| 0.10** | 0.02 | 0.08 | 0.09 | 0.03 | 1.00 |

Note: n=497. PERF is performance; PROG is program; GEN is gender; RC is race; BKG is background; LECT is lecturers.

Table 4.2 presents the Pearson correlation matrix for the research variables included in the academic performance model. Based on the Pearson correlation matrix, PERF correlates with PROG, GEN, RC, BKG and LECT according to the estimate statistical significance levels of 1%, 5% and 10% respectively. PERF is positively correlated with the PROG and RC (r = 0.54, and 0.21 respectively at p < 0.01) at 1% significance level and at 10% level (r = 0.10, p < 0.1). PROG is correlated to GEN at (r = 0.20 at p < 0.01) and GEN is correlated with BKG at (r = 0.12 at p <0.1). Overall, based on the Pearson correlation matrix, the indicated significantly correlation values are considered small when all r values are lower than the range of +/- 0.30 to +/- 0.49. Hence, there is no evidence of multicollinearity problem among variables in the model as suggested by Pallant (2007).

Table 4.3: Regression Analysis of the Accounting for Non-Accounting Students: Determinants and Academic Performance.

| PERF | Expected | Coefficient | Std. Error | P-value |
|------|----------|-------------|------------|---------|
| PROG | +        | 17.90       | 1.18       | 0.000***|
| GEN  | +        | 3.99        | 1.16       | 0.001***|
| RC   | +        | 3.49        | 0.69       | 0.000***|
| BKG  | +        | 3.61        | 1.53       | 0.019***|
| LECT | +        | 0.94        | 1.43       | 0.082* |

Adj. R² 34.85

Note: n=497. PERF is performance; PROG is program; GEN is gender; RC is race; BKG is background; LECT is lecturers. * p<0.10; ** p<0.05; *** p<0.01

It can be seen in Table 4.3, the adjusted R² value shows that the regression model which consists of PROG, GEN, RC, BKG and LECT could explain 34.85 percent variations in PERF. With regards to significant p-value, all variables presented are significant on PERF at their own p-value. PROG, GEN, RC and BKG are reported to be significantly associated with PERF at 1% (p < 0.01) while LECT is significant at 10% (p <0.1).

Apart from p-value, the (+/-) sign shows the direction of the relationship between the independent variables and dependent variable. All variables are found to meet the expected sign or can be best described to support the constructed hypotheses in section 2: literature review. PROG, GEN, RC, BKG and LECT have positive relationship with PERF. It means that, course programme, gender, race, background and lecturer play important roles in enhancing accounting performance.

Table 4.3 illustrates that PROG or course programme is positively associated to PERF. Consistent with the hypothesis of this study, the p-value is 0.000 and the sign is positive. Therefore, it means that the course performance can be the benchmark for the knowledge level, skill and ability needed for the target course. With regards to course performance, it can reflect specific requirements of the target course in a way similar to GPA which reflects overall ability. Therefore, related course performance is a valid predictor of target course performance as well as GPA.
Next, GEN is positively associated to PERF. Consistent with the hypothesis of this study, the p-value is 0.001 and the sign is positive. Thus, gender portrays better accounting performance in detail, Mutchler et al. (1987) conduct a study to determine the relationship between gender and academic performance. The result explains that female students perform better as compared to male students since female students put more effort when dealing with academic matter. Specifically, performance of female and male students in higher level accounting courses and reveal that female students significantly performed higher grades than the male students. The same result found by Tyson (1989) claimed that female students performed significantly better than the male students in his study on 200 students who were taking introductory accounting courses.

Apart from course programme and gender, race (RC) also outlines a positive result towards accounting performance. Consistent with the hypothesis of this study, the p-value is 0.001 and the sign is positive. In specific, past researches have also divulged that Chinese is expert in quantitative matter involving mathematics and accounting. The result supports prior studies. It is confirmed that non-Bumiputeras (mainly Chinese) students are higher performers than Bumiputera (mainly Malay) students (Azmi & Harith, 2012; Azmi & Mustafa, 2017; Othman, Nopiah, Asshaari, Razali, Osman, & Ramli, 2009). Azmi and Harith (2012), in their study of assessing students’ performance from different ethnic groups, found that the Chinese students performed much better than the Bumiputera students across different cognitive levels. Similarly, Othman et al. (2009) reveal that first-year engineering students with the Malaysian Higher School Certificate pre-university qualifications did better in their first-year results as compared to students with matriculation pre-university qualifications.

In terms of the background (BKG), BKG is positively associated to PERF. Consistent with the hypothesis of this study, the p-value is 0.019 and the sign is positive. Prior Exposure to Knowledge has a positive relationship with Academic Performance. This is because accounting is a subject area that requires skills of calculation; and having a prior knowledge is one of the advantages to students. Several researchers have investigated the impact of prior exposure to accounting and mathematical background courses on performance in college accounting courses. This shows that the non-accounting students believe that their background and learning style could be very different from that of the pure accounting students (Tan and Laswad, 2006). In fact, previous study has illustrated that the pure accounting students who performed well in accounting subjects are regarded as having strong mathematical skills (Gist, 1998). Past experience on bookkeeping or accounting knowledge also show the difference (Eskew and Haley, 1988). Furthermore, it is assumed that students who are not array with strong mathematics background will not choose accounting as their field of interest since accounting is a systematic way of mathematics in general. As such, without majoring mathematics, students tend to assumethat they are unable to succeed in accounting field. Most of the non-accounting majors may need remedial work in the area of mathematics.

Another factor that may lead to academic success is the lecturers. LECT has a positive relationship with PERF at the p-value of 0.082. Lecturer Efficiency has a positive relationship with Academic Performance. This is because there is no doubt about the importance of lecturer’s role to educate students and motivating them to get the highest achievement of performance in their study. This is supported by Tucker et al. (2002), they found that teacher involvement had a powerful and direct impact on the academic engagement. Teaching can be laborious when the lecturers fail to identify that they have a natural tendency to explain concepts in a way that may not match how the non-accounting major might perceive. Most people understand the concept and able to prepare a full set of accounts but they are unable to explain clearly and in depth regarding the subject matter. Passion is the key to become a
successful educator. Passion is indispensable for teaching that facilitates learnings through desire and enthusiasm. Passionate teachers create an effective learning environments that endeavor to increase learning potentials for non-accounting students to understand accounting effectively (Lloyd and Abbey, 2009).

CONCLUSION

This study is notable as it considers accounting subject to all business and non-business students. Early exposure on accounting knowledge is crucial to those who want to become an entrepreneur or a businessman. It can encourage active learning environment by amplifying accounting educators to fully utilize learning strategies and various teaching methods. Furthermore, this paper will bestow many underemployed ideas in dispensing learning opportunities to non-accounting students in the first accounting subject of their course structure. Constructive teaching procedures will further nurture active learning in evolving non-accounting students to develop interest in accounting and uplift their critical thinking skills in the acquisition of accounting knowledge are explored.

Also, teaching methodologies such as the use of remedial modules, case studies, hands-on student participation opportunities, within or separate from the lecture and quizzes are discussed. Direct approach towards students is purveyed to fulfill their responsibility to students who faced difficulties in understanding accounting since it is rule-dominated, math-oriented, and consequently, “high risk” course of introductory accounting. Also, this study enlightens UniMAP and other universities on possible factors that could drive the students’ academic performance.

Besides, this study will enlighten students on the importance of studying accounting. By practising accounting knowledge in daily life, student can know how to focus on money management, financial recording and reporting. Thus, student must prepare himself/herself with no more certain assumptions or mental blocking mentioning that accounting is not important and difficult to understand. By mastering accounting knowledge, student will learn various skills and method with several rules to study accounting effectively. The key of learning accounting starts with desire and hard work.

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