

Gender Differences in Academic Performance of Entrepreneurial Course

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Abstract

In recent years, entrepreneurial learning has become compulsory in Malaysia's public higher learning institutions. Hence, a continuous monitoring system to ensure its academic effectiveness is crucial. Among the valuable methods to examine this will be identifying gender disparity in academic performance. This study analyses the academic performance differences between male and female students taking the ENT300 (Fundamentals of Entrepreneurship) course in UiTM Negeri Sembilan. A total respondent of 119 students taking ENT300 were used as a sample for the empirical analysis of academic performance. The results exhibited gender disparity in academic performance, where the female students outperformed the male students significantly. Given the nature of the course, which is generally non-technical, the outcome is somehow within our expectations. By incorporating interactive methods in the teaching and learning process, we perceive that male students' interest in entrepreneurial studies may be enhanced, and their academic performance will eventually improve.

Keywords: Academic performance, gender disparity, entrepreneurial learning, UiTM Negeri Sembilan

INTRODUCTION

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In the age of unprecedented global and technological transformation, the education ministry, through higher learning institutions such as universities, has progressively designed various learning programs for students to adapt to skills that had been neglected or not been the point of focus in the curriculum before. This is reflected when entrepreneurship became a demanding subject and is now compulsory for all Malaysian public university students. At Universiti Teknologi MARA (UiTM), all undergraduate students are required too to take the entrepreneurship subject ENT300 (Fundamentals of Entrepreneurship).

Thereby, the efficiency of entrepreneurial learning programmes, which were first implemented into the educational system a few decades ago, should be regularly examined to ensure excellence in academic achievement. Furthermore, in emphasising the value of learning accomplishment, issues like gender differences in academic performance have become a hot topic of discussion. It has been said that ENT300 is a

non-technical topic. People often presume that because of this, it is a reading-based topic in which female students would perform better than male students.

Therefore, the main question driving this study is: Is it true to claim that gender performance differences exist in the ENT300 course? To address this issue, we compared the academic performance of ENT300 between male and female students in the UiTM Negeri Sembilan branch. The findings may assist us in bringing innovative approaches for the potential development of this course. Eventually, creating learning environments that are efficient in developing and amplifying practical entrepreneurial skills.

LITERATURE REVIEW

Since the 1980s (Keller, 1985; O'Dea, Lagisz, Jennions, and Nakagawa, 2018; Tessa and Charlesworth, 2019; Justus, 2021), there has been discussion on the context of gender inequalities. Women have made achievements in both the classroom and the workplace. They are now representatives in both places, and they earn equitable salaries and recognition through awards, grants, and publications. Yet there are still gender disparities in the disciplines of science, technology, engineering, and mathematics (STEM). O'Dea, Lagisz, Jennions, and Nakagawa (2018) revealed that gender differences in both mean and variance of grades are smaller in STEM than in non-STEM subjects. It was proposed that greater variability is insufficient to describe male over-representation in STEM. Simulations of these differences suggest the top 10% of a class contains equal numbers of girls and boys in Stem subjects, although more females study non-STEM fields. The study used a sample of 1.6 million students to compare gender inequalities in academic performance by utilising new meta-analytic advances. Strong evidence is found that there is strong evidence for lower variation among girls than boys and higher average grades for girls.

Additionally, a study conducted at a private school in Pakistan with a population sample of 72 eighth-grade students (aged 12 to 15) reveals a positive influence on students' engagement and learning results, where girls outperformed boys. There are five phases of the experiment. In the first phase, the study investigates how gamification and digital game-based learning (DGBL) affect engagement, learning, and inequality between men and women. In the second phase, they plan to learn activities and create a GBL application. In the third phase, they conduct an intervention with the sample using a quasi-

experimental research framework. In the following phases, they observe respondents' behaviour and emotions during science lessons. Finally, in the fifth phase, they accompany pre and posts tests to assess the learning outcomes by focusing on group discussions. The Friedman test, Mann-Whitney U test, and Wilcoxon Signed Rank test were the statistical tests that were employed (Tessa & Charlesworth, 2019).

A study was conducted using an online survey with a sample of 281 students at universities in Germany and Czech in which gender-specific differences in the form of various components of entrepreneurial competence were examined. The findings showed that, except for entrepreneurial intention, the mean differences had statistically significant lower values for female students than for male students for all the variables investigated. This study focused on five key areas: entrepreneurial knowledge, domain-specific entrepreneurship interest, leadership role interest and entrepreneurial intention. The results emphasised the importance of promoting female entrepreneurship, specifically within the context of academic entrepreneurship education (Justus, 2021).

METHODOLOGY

A total of 119 students (44 male and 75 female) of Universiti Teknologi MARA, Negeri Sembilan branch, specifically Seremban and Rembau campuses, who sat for ENT300 Fundamentals of Entrepreneurship, semester March 2021 have been employed as the subjects of the study. The students are from the Faculty of Business Management, Faculty of Information Management, Faculty of Sports Science and Recreation, and Faculty of Communication and Media Studies that enrolled in Diploma in Banking Studies, Diploma in Information Management, Diploma in Sports and Recreational Management, and Diploma in Communication and Media respectively. The bar chart in Figure 1 illustrates the distribution of respondents by programme and gender, which is also listed in Table 1. The largest sample, which included 38.7% of the population, came from a Diploma in Communication and Media. Whilst 63 per cent of the population is female, and 37 per cent is male.

Table 1: Respondent Distribution across Programme (Faculty)

PROGRAM (FACULTY)	MALE STUDENTS	FEMALE STUDENTS	TOTAL
Diploma in Banking Studies (Faculty of Business Management)	6 (37.5)	10 (62.5)	16 (13.4)
Diploma in Information Management (Faculty of Information Management)	16 (45.7)	19 (54.3)	35 (29.4)
Diploma In Sports and Recreational Management (Faculty of Sports Science & Recreation)	11 (50.0)	11 (50.0)	22 (11.6)
Diploma in Communication & Media Faculty of Communication & Media Studies	11 (23.9)	35 (76.1)	46 (38.7)
Total	44 (37.0)	75 (63.0)	119 (100)

Note: (% within programme)

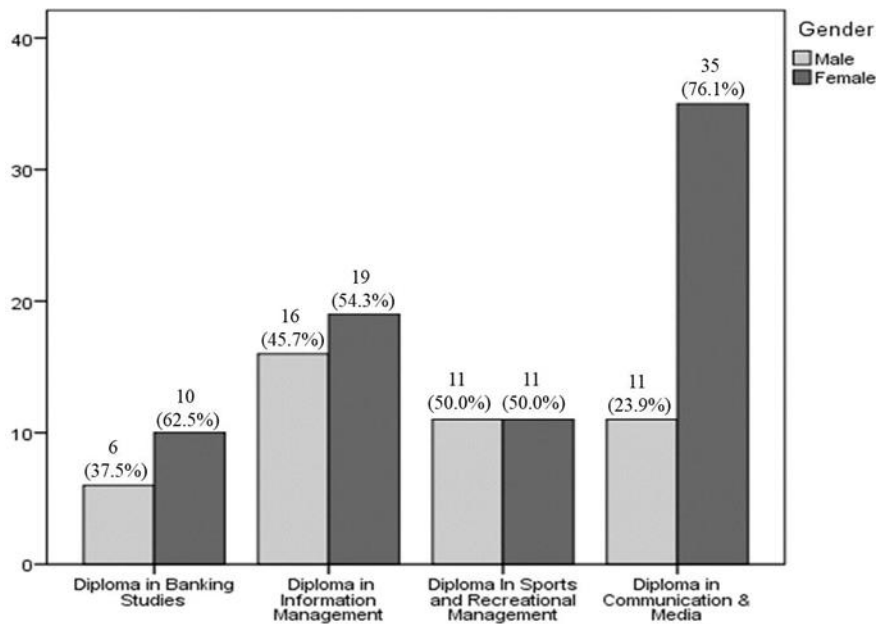


Figure 1: Bar Chart of the Respondent Distribution Across Programme

To analyse the differences between two independent samples (male and female), a parametric test was carried out. The independent t-test is considered an appropriate test to run in this case. The calculation of the t-statistic is:

The formula for the T-test is given below:

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}} \quad (1)$$

Where \bar{x}_1 is the mean of sample 1, \bar{x}_2 is the mean of sample 2, S_1 is the standard deviation of sample 1, S_2 is the standard deviation of sample 2, n_1 is the total number of values in sample 1, and n_2 is the total number of values in sample 2. The independent t-test uses the assumption that the variances of the two groups are equal or homogenous. A Levene's test is automatically paired with the independent t-test in SPSS if the option for equality of variances is assumed. The insignificant findings suggest that the variance is homogeneous. In contrast, if significant findings are found (equal variances are not assumed), a modified t-test, sometimes referred to Welch t-test, would be performed. IBM SPSS v.20 was utilised to perform all the analyses.

RESULTS AND DISCUSSION

Based on the group descriptive statistics, the male mean score is 82.17 (sd. 6.27), and the female mean score is 84.73 (sd. 6.42). Figure 2 illustrates the boxplots of the mark for each gender. Based on the mean statistics and the diagram, it is reasonable to conclude that female students outperformed males in the ENT300 course. The mean difference is 2.56. Nevertheless, descriptive statistics do not seek to infer characteristics about the entire population; rather, they simply describe a sample in the research. On the other hand, inferential statistics draw inferences about the entire population based on the sample. Thus, the analysis proceeds with the independent sample t-test.

Table 2: *Group Statistics*

	<i>Gender</i>	<i>N</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>Std. Error Mean</i>
Mark(s)	Male	44	82.166061	6.2694649	.9451574
	Female	75	84.731788	6.4236913	.7417440

The variance homogeneity assumption is fulfilled by the independent sample t-test, by the results of Levene's test. Based on the independent sample t-test ($t(117) = -2.122, p = 0.036$), the mark differences between gender are statistically significant at a 5 per cent significant level. It was predictable since the gender mean difference of 2.56 was previously reported. Therefore, it has been proven statistically that male and female students score significantly different on the ENT300 course.

The results of this study seem to contradict the findings by Goni et al. (2015) but instead support the findings by Parajuli and Thapa (2017). As per Parajuli and Thapa's study in 2017, there was a significant gender disparity in the academic performance of the students, with female students outperforming their male counterparts. They claimed that male students are more engaged in a variety of extracurricular activities than females, while girls may devote more time to their assignments or to complete lecturer-assigned duties, as well as self-study after class, leading to higher academic achievement than male students. In contrast, Goni et al. found no significant gender difference in students' academic performance (2015).

Table 3: *Equality of Variances & Independent Samples t-test*

<i>Variables</i>	<i>Equality of Variances</i>		<i>Independent Samples t-test</i>		
	<i>F</i>	<i>p-value</i>	<i>t</i>	<i>df</i>	<i>p-value</i>
Mark (s)	.043	.836	-2.122	117	.036

*All equal variance assumed

CONCLUSION

Examining gender variations in academic success, particularly in ENT300, is the main objective of this study. It was found that female students performed significantly better than male students. Given that male students are more inclined to choose technical degrees, this is not surprising. The ENT300 course is a non-technical course with more

than half of the chapters being reading-based, leading to the main reason why male students are less interested in this course. However, incorporating interactive methods in the teaching and learning process, such as digital technology and more visualisations, may enhance male interest in the class. The lectures could be aided by interactive videos, game-based learning and online learning.

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