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Assessing the Gender Effects on Students' Accounting Course Performance in Bangladesh: A case study of Bangladesh University of Business & Technology

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ABSTRACT

There has been a renewed debate on the controversial issue of gender differences on accounting course performance. The present study examined the impact of gender effects on students' accounting course performance. To facilitate the analysis of data the study divided the gender effects into two categories that might have impact on the students' performance those are: the gender of the students and the gender of the instructors. The study conducted a field survey of 202 students of Bangladesh University of Business and Technology who have already completed at least two accounting courses and experienced both the male and female instructors. The results of the courses examined in this study are financial accounting and management accounting. After analyzing the questionnaire, the study found there is a significant difference between the gender effects of the students and their performance. On the other hand, the study found no significant difference between the instructors' gender effects and the students' performance. The results of the study may enlighten the accounting educators and career counselors on what is required to effectively educate both genders.

Keywords: Financial accounting, Management accounting, Gender effect on academic performance, Bangladesh. This is an open access article under [Creative Commons Attribution 4.0 License](https://creativecommons.org/licenses/by/4.0/).

1. Introduction

Since 1960 the increasing number of women entering the accounting profession has been larger than the increasing field of law, engineering or medical (Buckless, 1991). Because of this large influx of women into accounting, the effect of gender in performance in the accounting classroom and in the profession has become an increasingly important issue. The role of gender in classroom behavior and performance across many academic subjects has been studied by different researchers.

Students' academic performance has been extensively researched over the last decades from numerous perspectives. Academic achievement is commonly measured by examinations or continuous assessment which is the outcome of education. In addition to interactions with faculty members, interactions with other students could impact a student's sense of belonging and confidence in her discipline. In contrast to the work on gender biases among faculty (DZ Grunspan, 2016)

Grades are an important factor affecting student performance (Maksy, 2012a, 2012b). MacDermott (2013)

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reports that alternative grading policies have a significant impact on student performance when different methods are employed to improve students' grades, such as dropping the lowest graded assignment, they perform better on their final exam for that course. Some studies report that gender has a significant effect on performance while others find it is not a significant factor. Many studies have looked at the impact of gender on performance in conjunction with other factors, such as personality type.

There are two studies of student attitudes towards accounting. Geiger (1990) found that introductory accounting students are less able to distinguish between accounting concepts and practical accounting applications than intermediate accounting students and those attitudes are positively associated with course performance. However, there was no lasting effect in that improved attitudes the case method was discontinued. Neither of these studies examined the influence of student attitudes existing at the beginning of the course. Harrell and Stahl (1983) found that it was positively associated with overall grade point averages, course grades in Auditing, and intentions to make public accounting a career.

However, most recent research suggests that once ability is controlled (SAT, ACT, GPA, etc.) there is no significant difference in the performance of males and females in accounting courses (Khattab, N., & Modood, T. (2018) Eames, M., Luttman, S., & Parker, S. (2018). Moss, G. (2017). Faccio, M., Marchica, M. T., & Mura, R. (2016). Other studies have tested, with varying results, whether the gender effects could be explained by the interaction of instructor and student gender. Female instructors awarded higher grades to both females and males than male instructors (Mutchler et al. 1987). Males (females) received higher grades than females (males) in male (female) instructed classes (Lipe 1989). Buckless et al. (1991) found an interaction between instructor and student gender at one of three institutions under study, however, using SAT or ACT scores as a covariate eliminated the interaction. In a regression analysis which included academic ability variables, Doran et al. (1991) found no evidence that same or opposite gender of students and instructors explained success in accounting principles.

Even in the sciences, where it has been suggested that males often outperform females, at least in terms of number degrees earned (Taasoobshirazi & Carr, 2008), females have been observed to outperform males in some instances. Tai (2008) found that females achieved higher grades in undergraduate algebra-based physics courses while males had higher grades in calculus-based physics courses. Chyung (2007) found that females achieved higher exam scores than males across several disciplines in an on-line course environment.

Other studies have identified gender as one of the factors that explain academic performance (e.g. Bagamery, Lasik & Nixon, 2005; Black & Duhon, 2003; Gracia & Jenkins, 2002). Traditionally, males' academic achievement was considered superior to that of females especially in mathematics and sciences because of higher levels of inherent ability (Benbow & Stanley, 1980). At the same time, females' performance was placed above their male counterparts in language because of their greater verbal and reasoning abilities (Wilberg & Lynn, 1999).

The research questions that the study is going to address are as follows:

This study mainly investigates the gender effects on students' accounting course performance in the context of some selected private universities of Bangladesh. Specifically, the study investigates to identify the answers of the following two research questions.

1. Does the students' gender effect have any influence on Accounting Course Performance?
2. Does the instructors' gender effect have any influence on students' Accounting Course Performance?

Thus, the study objectives will be -

1. To analyze the students' gender effects on Accounting Course Performance .and
2. To analyze the instructors' gender effects on students' Accounting Course Performance.

Very few studies have examined factors that influence gender academic achievement in the perspective of private university in Bangladesh. They have sought the views of students. Most of them have analyzed the past and current academic results of students and attempted to deduce the factors which could be causing a certain gender group to outperform the other. This study seeks the opinions of students as to what could be the reasons of female students performing better than their male counterparts at tertiary level. The results of the study may enlighten the accounting educators and career counselors on what is required to effectively educate both genders. We also need to understand gender differences in accounting performance so that early measures may be taken to avoid gender imbalances in education. Widening gender gap in education combined with recent wage and employment polarization will likely lead to widening inequalities and is linked to declining male labor force participation.

2. Literature review

Arthur and Everaert (2012) find that gender has a major impact on examination performance of accounting students, they note that women performed better overall in the examination, but that gender played a more significant role in subjective questions than multiple-choice questions. Russo and Kaynama (2012) report that women students with a "judging type" personality perform better. On the other hand, Picou (2011) and Borg and Stranahan (2002) find no significant impact for gender on student performance. Marks (2008) studies the impact of gender on performance for different socioeconomic groups of students, but does not find that gender has any significant impact in this context. Huh, Jin, Lee, and Yoo (2009) test the effect of several student

characteristics on academic performance and observe that gender affects performance more significantly for a sample of offline accounting students than for online accounting students. Gammie et al. (2003) and Kaighobadi and Allen (2008) found that females earned higher grades than males in Accounting and Auditing subjects. Cullen et al. (2004) confirmed that females do better than males in Math and English courses. Nguyen et al. (2005) and Sheard (2009) found the relationship between the gender (male and female) and students' achievements. Both studies found that performance is associated with variables such as student gender. In 2011, Al-Mutairi examined the association of some factors such as gender and age with the student Grade Point Average (GPA) at Arab Open University (AUO)—Kuwait. The study indicated that both factors play an important role in determining students' GPA. In the same year Garkaz et al. tested student gender in The Islamic Azad University and reached the same conclusion which revealed that female students have better academic performance than male students. Sarwar and Sarwar (2012) investigated the students' performance in University of Punjab, Pakistan by testing students' gender as a parameter to determine the relationship between gender and students' GPA. Most of the prior academic research arrived at the same conclusion that females perform and achieved better grades than males in the course at university. These analyses have reported a significant correlation between gender and academic performance of business students.

Mutchler et al (1987) found some reasons why female students have superior performance than male students. They are: females may feel driven to do better than males students. They may be more success driven and career motivated than males; and instructor may perceive female students as being more outstanding than males and hence tend to favour them in some ways. Sheard (2009) found that female students had better grades than their males counterparts and showed more commitment and control over demands of their programme.

Okafor and Egbon (2011) examined two accounting courses' grades of first year university students in Nigeria and concluded that there was no significant difference between academic performance of male and female. They however found that males' mean performance in both courses was higher than that of their female counterparts.

Harbeson (1943) observes that better textbooks and course material improve student performance in any subject. How students participate in the learning process is also discussed as an important aspect of learning and performance. Joseph (1965) examines the students of economics and argues that exercises in which they were asked to act out real-life scenarios enabled a better understanding of the concepts being taught. Doney and Neumann (1965) find that neither teaching methodology nor the weekly frequency of classes affects student performance on accounting courses.

Hatcher, Henson, and LaRosa (2013) discuss grade point average (GPA) as an intervening factor in the relationship between mode of teaching and performance, where the mode of teaching ceases to be a significant factor while GPA becomes more important.

Chung's (1968) model predicts student performance based on ability, needs, incentives, and expectations. Grades are an important motivational factor in this context. Carpenter and Strawser (1971) have carried out an experimental study of how grading systems affect student performance. Drawing on a sample of accounting students, they find that a proper grading system improved performance compared to one in which students were told merely whether they had performed satisfactorily. Artés and Rahona (2013) observe that questions assigned as graded problems in an examination increased the performance of a sample of Spanish students compared to questions from an ungraded problem set.

Eskew and Faley (1988) found five measures associated with performance in the first college-level financial accounting course. A positive relationship to performance was found for (1) SAT scores, (2) high school math and English grades, (3) collegiate GPA, (4) the number of voluntary quizzes taken.

Doran, Bouillon, and Smith (1991) found a positive and significant relationship between course performance and the following variables (listed in order of highest variance explained to lowest variance explained): cumulative grade point average, standardized academic test scores (ACT's), declaration as an accounting major, male, and high school bookkeeping course.

Baldwin and Howe (1982) and Bergin (1983) found that while students with previous accounting background perform better on the first accounting examination, their performance deteriorates as the difficulty of material increases until there is no significant difference in the final grade.

Schroeder (1986) extended the study of previous accounting background and found that students with over one year of high school bookkeeping performed better than all other students on all examinations throughout the course. He also found performance to be positively associated with the ACT comprehensive score, high school rank, and the intention to major in accounting (for those with more than one year of high school bookkeeping).

In an Australian study, Rohde and Kavanagh (1996) found a positive association between performance and high school accounting as well as standardized academic achievement scores.

Examining the variables that affect the academic performance of accounting students in undergraduate accountancy programmes has attracted significant research interest for almost thirty years. Much of the work has focused on programmes in the US (Bergin, 1983; Buckless et al., 1991; Clark and Sweeney, 1985; Doran et al., 1991; Krausz et al., 1999) and the UK (Bartlett et al., 1993; Byrne and Flood, 2008; Gammie et al., 2003; Gracia and Jenkins, 2002, 2003) although studies have also been done in Australia (Cooper, 2004; Hartnett et al., 2004; Rohde

and Kavanagh, 1996), Hong Kong (Gul and Fong, 1993), Malaysia (Ayob and Selamat, 2011; Tho, 1994), New Zealand (Keef and Roush, 1997) and Singapore (Koh and Koh, 1999). So numerous number of research works regarding gender effect on accounting course performance have been conducted all over the world basically in the developed countries. But very few research works were accomplished in Bangladesh. There is a research gap existed in this field in the context of Bangladesh. So, here the endeavor is to fulfill the gap by identifying the impact of the student and instructor gender effects as well as instructor /student gender interaction effects on students' Accounting Course Performance. It also tries to find out a comparative study among different private universities regarding students' gender effects on Accounting Course Performance.

3. Methodology

3.1 Research design

This paper used common examination results of Bangladesh University of Business & technology. The results of the courses considered for the study is: Introduction to Financial Accounting, Introduction to Management Accounting. To facilitate the analysis of data the study divided the gender effects into two categories that might have impact on the students' performance those are: the gender of the students and the gender of the instructors. A structured questionnaire with open ended questions was used for collecting primary data. Statistical Package for Social Science (SPSS) was used to analyze and interpret the data.

3.2 Sample size and sample selection

The size of the sample will be determined by the following formula-

$$n = \frac{Z^2 pq}{e^2}$$

Where,

n = Size of the sample

z = The value of standard variant at a given confidence level and to be worked out from table showing area under normal curve.

p = Sample proportion, q = 1-p

e = acceptable error

So the sample size for this study will be:

$$n = \frac{(1.96)^2 * 0.5 * 0.5}{0.069^2}$$

$$\text{or } n = 201.68 \approx 202$$

Here:

z = 1.96 at 5%,

p=0.5, so

q = 0.5

As it is stated earlier that, the research is based on a field work this was conducted in Bangladesh University of Business & technology. For the convenience of study, the researchers selected the sample of 202 students randomly who have already completed at least two accounting courses and experienced both the male and female instructors.

3.3 Sources of data

Both the primary and secondary data was used in the present study. Secondary data and information was collected from the published results of Bangladesh University of Business & technology in the respected courses and existing literature and in the said field. The primary data was collected through the questionnaire survey.

3.4 Questionnaire design and tools used

A structured questionnaire with open ended questions was used for collecting primary data and Statistical Package for Social Science (SPSS) was used to analyze and interpret the data.

3.5 Reliability and validity of data

For achieving much validity of the questionnaire a pilot study was conducted among the 15 respondents.

After some minor correction of the questionnaire from the pilot study it was administered among the respondents. The reliability of the items was verified by computing the Cronbach's alpha. The Cronbach's alpha suggests that a minimum alpha of .6 is sufficed for early stage of research. The value of the Cronbach's alpha .84

3.6 Theoretical Framework and Hypotheses

This study assessed the impact of gender on the students' performance using the chi square test in SPSS. Hence the hypotheses drawn for this study are:

Hypotheses:

H01 = There is no significant difference between gender effects of the students and their Financial Accounting Course performance.

H02 = There is no significant difference between gender effects of the students and their Management Accounting Course performance.

H03 = There is no significant difference between gender effects of the instructors and students' Financial Accounting Course Performance.

H04 = There is no significant difference between gender effects of the instructors and students' Management Accounting Course Performance.

4. Data analysis and findings

Gender effects of the students and their Financial Accounting Course performance:

Test of the hypothesis 1: The following table (table 1) shows the t test result to test the hypothesis that, there is no significant difference between the gender effects of students and their financial accounting course performance:

Table 1.

Students' gender impact on grade of financial accounting

		Grade point in management accounting			
		Equal assumed	variances	Equal assumed	not
Levene's Test for Equality of Variances	F Sig.	.185 .668			
t-test for equality of Means	t df Sig.(2-tailed) Mean difference Std. error difference	-3.120 200 .002 -.31435 .10074		-2.878 44.368 .006 -.31435 .10921	
95% confidence Interval of the difference	Lower Upper	-.51426 -.11444		-.53440 -.09430	

From the above table (table 1) in the Levene's Test for Equality of Variances, we will see the results whether the variances are equal and whether the variances are not equal. Since the P value is .970 in this regard, it indicates that the equal variances assumed. So we will decide from the values of the equal variances assumed column to accept or reject the hypothesis. It is seen that P value of the t statistic is .001 ($p > .05$), hence we will reject the null hypothesis. That means there is a significant difference between gender effects of the students and their Financial Accounting Course Performance.

Gender effects of the students and their Management Accounting Course performance:

Test of the hypothesis 2: The following table (table 2) shows the t test result to test the hypothesis that, there is no significant difference between the gender effects of students and their managerial accounting course performance:

Table 2.

Students' gender impact on grade of management accounting

		Grade point in management accounting			
		Equal assumed	variances	Equal assumed	not
Levene's Test for Equality of Variances	F Sig.	.185 .668			
t-test for equality of Means	t df Sig.(2-tailed) Mean difference Std. error difference	-3.120 200 .002 -.31435 .10074		-2.878 44.368 .006 -.31435 .10921	

95% confidence Interval of the difference	Lower	-51426	-53440
	Upper	-11444	-09430

From the above table (table 2) in the Levene's Test for Equality of Variances, we will see the results whether the variances are equal and whether the variances are not equal. Since the P value is .668 in this regard, it indicates that the equal variances assumed. So we will decide from the values of the equal variances assumed column to accept or reject the hypothesis. It is seen that P value of the t statistic is .002 ($p > .05$), hence we will reject the null hypothesis. That means there is a significant difference between gender effects of the students and their management Accounting Course Performance.

Gender effects of the instructors and students' Financial Accounting Course Performance:

Test of the hypothesis 3: The following table (table 3) shows the t test result to test the hypothesis that, there is no significant difference between the gender effects of the instructors and the students' financial accounting course performance:

Table 3.

Instructors' gender impact on students' Financial Accounting Course

		Grade point in financial accounting		
		Equal variances assumed	Equal variances not assumed	
Levene's Test for Equality of Variances	F	.000		
	Sig.	.990		
t-test for equality of Means	t	-.213	-.213	
	df	98	57.921	
	Sig.(2-tailed)	.832	.832	
	Mean difference	-.01964	-.01964	
	Std. error difference	.09235	.09231	
	95% confidence Interval of the difference	Lower	-.20290	-.20441
		Upper	.16363	.16514

From the above table (table 3) in the Levene's Test for Equality of Variances, we will see the results whether the variances are equal and whether the variances are not equal. Since the P value is .990 in this regard, it indicates that the equal variances assumed. So we will decide from the values of the equal variances assumed column to accept or reject the hypothesis. It is seen that P value of the t statistic is .882 ($p > .05$), hence we will accept the null hypothesis. That means there is no significant difference between gender effects of the instructors and students' Financial Accounting Course Performance

Gender effects of the instructors and students' Management Accounting Course Performance:

Test of the hypothesis 4: The following table (table 4) shows the t test result to test the hypothesis that, there is no significant difference between the gender effects of the instructors and the students' managerial accounting course performance:

Table 4.

Instructors' gender impact on students' Management Accounting Course Performance.

		Grade point in management accounting		
		Equal variances assumed	Equal variances not assumed	
Levene's Test for Equality of Variances	F	.740		
	Sig.	.392		
t-test for equality of Means	t	-.715	-.684	
	df	98	36.139	
	Sig.(2-tailed)	.496	.498	
	Mean difference	-.08004	-.08004	
	Std. error difference	.11193	.11695	
	95% confidence Interval of the difference	Lower	-.30217	-.31720
		Upper	.14208	.15711

From the above table (table 4) in the Levene's Test for Equality of Variances, we will see the results whether the variances are equal and whether the variances are not equal. Since the P value is .392 in this regard,

it indicates that the equal variances assumed. So we will decide from the values of the equal variances assumed column to accept or reject the hypothesis. It is seen that P value of the t statistic is .496 ($p > .05$), hence we will accept the null hypothesis. That means there is no significant difference between gender effects of the instructors and students' Management Accounting Course Performance.

5. Conclusion & suggestions

From the above analyses it is easy to conclude that the performance of the female students of BUBT in both accounting courses is better than the performance of the male students. Performance of female students in Management Accounting course is better than the performance of Financial Accounting course also. But there is no significant difference between gender effects of the instructors and students' Accounting Course Performance.

As the world is witnessing the surging of females in education in terms of enrolment and achievement, educational authorities should be careful to avoid the recurring of gender imbalances in education which existed during the era when females were at the disadvantaged end. Gender inequality against males may have greater damaging consequences to labour markets, wage gaps, and social peace. Therefore, means of achieving balance in gender academic attainment should be sought. Further studies may focus on what can be done by the community and educational institutions to create gender equity through balanced gender academic performance.

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