

**MASTERS OF SCIENCE IN TECHNICAL EDUCATION
(MECHANICAL ENGINEERING)**

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



**STUDENTS' ACADEMIC PERFORMANCE COMPARED WITH
THEIR ENTRY LEVEL ACADEMIC RESULTS: A CASE OF
ISLAMIC UNIVERSITY OF TECHNOLOGY**

by

ABDULHADI MOHAMMAD AHMAD ALGHADRI

STUDENTS NO: 171031102

DEPARTMENT OF TECHNICAL AND VOCATIONAL EDUCATION (TVE)

ISLAMIC UNIVERSITY OF TECHNOLOGY (IUT)

DHAKA- BANGLADESH

October, 2019

**MASTERS OF SCIENCE IN TECHNICAL EDUCATION
(MECHANICAL ENGINEERING)**



**STUDENTS' ACADEMIC PERFORMANCE COMPARED WITH
THEIR ENTRY LEVEL ACADEMIC RESULTS: A CASE OF
ISLAMIC UNIVERSITY OF TECHNOLOGY**

by

ABDULHADI MOHAMMAD AHMAD ALGHADRI

STUDENTS NO: 171031102

DEPARTMENT OF TECHNICAL AND VOCATIONAL EDUCATION (TVE)

ISLAMIC UNIVERSITY OF TECHNOLOGY (IUT)

DHAKA- BANGLADESH

October, 2019

RECOMMENDATION OF THE BOARD OF EXAMINERS

The thesis titles “Students’ academic performance compared with their entry level results: a case of Islamic university of technology (IUT)” submitted by Abdulhadi Mohammad Ahmad Al-ghadri Students no: 171031102 of Academic Year 2018-2019 has been found satisfactory and accepted as partial fulfillment of the requirement for the degree of Master of Science in Technical Education (MCE).

Board of Examiners

Dr. Faruque A. Haolader

Professor (Internal)
Department of Technical and Vocational Education (TVE)
Islamic University of Technology (IUT)
Gazipur, Bangladesh

Chairman

Dr. Md. Abu Raihan

Head of Department of Technical and Vocational Education (TVE)
Islamic University of Technology (IUT)
Gazipur, Bangladesh

Member
(officio)

Dr.Md. Shahadat Hossain Khan

Professor
Department of Technical and Vocational Education (TVE)

Member

Islamic University of Technology (IUT) Gazipur, Bangladesh

Professor

Department of Technical and Vocational Education (TVE)
Islamic University of Technology (IUT)
Gazipur, Bangladesh

Member

External Examiner and Former Chairman
Bangladesh Technical Education Board

Member

DECLARATION

This is to certify that the work presented in this thesis is the outcome of investigation carried out by Abdulhadi Mohammed Ahmed Al-ghadri under the supervision of Professor Dr. Faruque Ahmed Haolader at the Department of Technical and Vocational Education (TVE), Islamic University of Technology (IUT), Gazipur, Bangladesh. It is hereby declared that this thesis/report or part of it has not been submitted elsewhere for the award of any Degree or Diploma.

Professor Dr. Faruque A. Haolader

Supervisor

Department of Technical and Vocational Education (TVE)

Islamic University of Technology (IUT) Gazipur, Bangladesh

Mr: Abdulhadi Mohammed A. Al-ghadri

Student No. 171031102

Academic Year: 2018-2019

DEDICATION

Dedicated to my family and friends.

ACKNOWLEDGMENT

First and foremost, I feel grateful and wish to acknowledge my deep gratitude to, Professor Dr. Faruque Ahmed Haolader, the Department of Technical and Vocational Education, Islamic university of technology (IUT). His deep knowledge in the field of research influenced me to carry out this study. His endless patience, scholarly guidance, continuous encouragement constant supervision, constructive criticism, valuable advice and responding to my request at all circumstances have made it possible to come to this stage.

I would like to convey my deep gratitude and appreciation to the TVE faculty for their guidance and valuable suggestions regarding this study.

Finally, I like to appreciate and thank my family members and my colleagues for their patience and continuous encouragement for completion of this thesis.

ABSTRACT

Education is one of important processes in developing individual's community and societies by imparting knowledge and skills that allow them to develop. Education is measured through academic performance in mechanism that allows governments and individuals gauge how well an individual has achieved. The academic performance is affected by many factors among them is the background of the students and environment. This study was conducted to examine the role of factors affecting on students academic performance. The study utilized descriptive and quantitative methods to answer the research questions, objectives and to test the research hypothesis. Data was collected through questionnaires and mimeograph. Based on the data collected the correlations and differences between students' background and academic performance prior to entry in to the university and university academic performance for three semesters was examined. From the results we concluded that there is no correlation in students' prior academic performance and their university also no correlation in performance of students with different language background of instruction. Furthermore, there is no significant difference in academic performance of male and female whereas there is a significant difference in academic performance of native and international students as well as students who come from city and town areas.

Table of Contents

DECLARATION	4
DEDICATION	5
ACKNOWLEDGMENT.....	6
ABSTRACT.....	7
Table of Contents	8
List of tables.....	11
CHAPTER ONE	12
INTRODUCTION	12
1.1 Background	12
1.2 Statement of the problem	13
1.3 Research aim and objectives	14
1.4 The hypothesis.....	14
1.5 Research questions	15
1.6 The significance of the study	15
1.7 Assumptions	15
1.8 Delimitations	15
1.9 Definition of terms	16
2.0 Organization of the thesis.....	16
CHAPTER TWO	17
LITERATURE REVIEW	17
2.0 Introduction	17
2.1 Factors influence the students’ academic performance.....	18
2.1.1 Environment	19
2.1.2 Student’s prior knowledge and enrolment process.....	19
2.1.3 Student’s gender	20
2.2 Education systems of selected OIC countries	21
2.2.1 Education system of Bangladesh.....	22
2.2.2 Education system of Cameroon.....	23
2.2.3 Education system of Yemen	23
2.2.4 Education system of Nigeria.....	24
2.3 University system.....	25

2.4 Course load.....	25
2.5 IUT Course curriculum (1 st , 2 nd and 3 rd semesters).....	26
CHAPTER THREE	31
METHODOLOGY	31
3.1 Research design.....	31
3.2 Research population	31
3.3 Sample and sampling technique	31
3.4 The Research Tools.....	32
3.5 Data Collection Procedure	32
3.6 Data Analysis Procedure	32
CHAPTER FOUR.....	34
ANALYSIS AND DATA INTERPRETATION	34
4.1 Demographic data related to participated students	34
4.1.1 Students’ background information	34
4.1.2 Students’ prior-academic performance.....	34
4.1.3 Students’ university performance	37
4.2 Findings/ proof of hypothesis.....	39
4.2.1 correlation among academic performance of students at SSC and HSC levels and their university academic performance (1 st , 2 nd and 3 rd semesters).....	39
4.2.3 Academic performance of male and female students	41
4.2.4 Significant difference in the performance of Natives and international students.....	45
4.2.5 Significant difference in academic performance of students who comes from City and Town.....	48
4.3 FINDINGS RELATED TO STUDENTS’ ACADEMIC PERFORMANCE	52
4.3.1 Impact of study habits on academic performance of students	52
4.3.2 Impact of learning skills on academic performance	52
4.3.3 Impact of hard work on academic performance	53
4.3.4 Impact of academic interaction on students’ performance	54
4.3.5 Effectiveness of Students’ academic performance	55
4.3.6 Influence of instruction facilities and social media on students’ academic performance	55
CHAPTER 5	57

DISCUSSION OF MAJOR FINDINGS, IMPLICATIONS, CONCLUSION AND RECOMENDATION.....	57
5.1 Discussion and implications.....	57
5.1.1 Correlation between the students in their entry level and academic performance	57
5.1.2 Correlation in academic performance of students with English, French, Arabic, and Bangla background	Error! Bookmark not defined.
5.1.3 The acadimic performance of female students and male students	58
5.1.4 Performance between international and native students.....	58
5.1.5 Academic performance of students in IUT having come from town areas and city areas	58
5.2 Factors affecting academic performance at IUT	58
5.2.1 Study habits	59
5.2.2 Learning skills	59
5.2.3 Hard working abilities	59
5.2.4 Academic ineractions	59
5.2.5 Individual reflections on academic performance.....	60
5.2.6 Instruction and technological facilities.....	60
5.2.7 Insight into major proplems facing IUT students.....	60
5.3 Limitations	61
5.4 Recommendation.....	62
5.5 Conclusion.....	63
References.....	64
Appendix.....	66

List of tables

Table 1 CSE department first semester courses.....	26
Table 2 CSE department second semester courses.....	26
Table 3 CSE department third semester courses.....	27
Table 4 EEE department first semester courses.....	27
Table 5 EEE department second semester courses.....	28
Table 6 EEE department third semester courses.....	28
Table 7 MCE department first semester courses.....	29
Table 8 MCE department second semester courses.....	29
Table 9 MCE department third semester courses.....	30
Table 10: Distributions and responses of questionnaire source researcher.....	32
Table 11: Showing Weighted Mean and Interpretation.....	33
Table 13: Demographic data related to participated students background information.....	34
Table 14: shows participated students prior-academic performance.....	34
Table 15: showing the academic performance of the students in the university.....	37
Table 16 correlation between students SSC, HSC entry marks and university performance.....	39
Table 18: Comparison between mm Mmale and female students academic performance using ANOVA.....	41
Table 19: showing significant difference between male and female students in academic performance using t-Test.....	42
Table 20: Showing significant difference between academic performance of native and international students.....	45
Table 21: Significant difference between native and international students in academic performance using t-Test.....	46
Table 22: Significant difference in academic performance between City and Town students using ANOVA.....	48
Table 23: Shows the Significant difference in academic performance between City and Town students using t-test.....	49
Table 24: Impact of study habits on academic performance.....	52
Table 25: Impact of learning skills on academic performance.....	53
Table 26: impact of hard work on students' academic performance.....	53
Table 27: Impact of academic interaction on students' performance.....	54
Table 28: Effectiveness of Students' academic performance.....	55
Table 29: Influence of instruction facilities and social media.....	56

CHAPTER ONE

INTRODUCTION

1.1 Background

Academic performance of students at universities has become a major interest of academic research (valentine kassarang, 2018). A number of research efforts has been dedicated to document factors that influence student performance at universities (Gbollie, 2017). Important factors such as previous study environment, Home environment, size of the class, age of the students, entry level performance et cetera (Alexandros G Sahinidis, 2016), have been found to have impact on how students perform in the university setting (Chemers, 2001). Several other studies found that the social status of the parents, and their education has a significant effect on the student's overall performance. Poor performance has dominant effect on development of human capital for the countries from which the students come (Psacharopoulos, 1988). Additionally, poor performance causes lack of employment which in turn effect the well-being of the students after graduation. Of recent, there has been concern that the general progress of the students' performance in the university does not match their entry results (Christie, 2004). Therefore, in this study we present findings about academic performance of students against their background at Islamic university of technology.

Islamic University of Technology (IUT) is a subsidiary organ of Organization of Islamic Cooperation (OIC), which enrolls its students from 57 OIC member countries. These students admitted come from different education settings, societies and cultures. The University admits students from OIC countries with background in Bangla, French, English and Arabic languages. In IUT English is main language instruction. Students with weak command in English are bound to have academic performance problems. Similar study was done by Faruque at el. (Faruque A. Haolader, 2017) in which comparative study of performance of students with art background and science was done at Islamic university in Uganda. This study shows that students' academic background in previous level of education has a profound effect on their performance in specifically programming for information technology course.

Academic performance defines students' academic achievement over the past semesters (Haolader, Hakim, Kassim, & Mubarak, 2017). It is measured by final grade earned in the course. Grade Point Average (GPA) is used by most of the tertiary institutions as a convenient summary

measure of the academic performance of their students. The GPA is a better measurement because it provides a greater insight into the relative level of performance of individuals and different group of students. In many high schools around the world academic performance is measured in percentages or grade points (Masrom, 2015). For the case of this study, academic performance refers to the grade obtain by the students in relation to their high school grades.

This study, will compare Grade point average of students across three semesters with entry points, starting from the first semester to the third semester. We shall collect samples of the application form for Bachelor of Science and Engineering in mechanical and chemical Engineering (MCE), Bachelor of Science and Engineering in Computer science and Engineering (CSE), Bachelor of Science and Engineering in Electrical and electronic Engineering (EEE).

1.2 Statement of the problem

Academic performance is concern for students, teachers, parents and the administration. IUT admit students from different backgrounds and employs teachers with different qualifications some have attained PhDs, Masters Degrees, and Bachelor's Degrees. Recently, about 2000 students who sat for examinations in the winter semester of 2018-2019, about 200(10%) students were referred. Of the referred students 39(19%) failed. The reason for their failure could be attributed to students' inability to pass the set exams due to weak background in science, language, health issues, etc. There has been no study to establish the causes for poor academic performance of some students at IUT. To this purpose a study is required to find out the causes of poor performance so as to guide the university in finding the solutions to elevate poor academic performance.

1.3 Research aim and objectives

The aim of this research is to light upon the factors which affect the performance of IUT students, so that the managerial level of the university is well informed that it can find appropriate solutions and take necessary steps.

The specific objectives of this study are

- i) To determine the correlation between academic performance of students at their entry level when joining the university and during their university time.
- ii) To determine the correlation in academic performance of students with English, French, Arabic, and Bangla background.
- iii) To compare the academic performance of male and female students.
- iv) To determine if there is significant difference in the performance of students from town areas and those from the city.
- v) To determine if there is a significant difference in performance between the native and international students.

1.4 The hypothesis

H₁: There is no significant correlation between academic performance of students at their entry level and their university performance.

H₂: There is no significant correlation in academic performance of students with English, French, Arabic, and Bangla background.

H₃: There is no significant deffirence in the performance of male and female students

H₄: There is no significant deffirence in academic performance of native and international students.

H₅: There is no significant deffirence between the performance of students who come from town areas and city areas

1.5 Research questions

- i) Is there any correlation between the students in the entry level and their academic performance?
- ii) Is there any correlation in academic performance of students with English, French, Arabic, and Bangla background of instruction?
- iii) Is there any significant difference in the academic performance of male and female students?
- iv) Is there any significant difference in academic performance of students who come from the town area and city area?
- v) Is there any significant difference in academic performance between international and native students?

1.6 The significance of the study

In this study researcher will study the present performance of the students achievement in each semester in which they will come up with clear academic measures about the student performance and how does students' progress in their achievement either good or bad compared to their entry or collage performance. By doing the research the researcher will give clear feedback to the administration about student performance, issues as well as recommend solutions to improve the quality of education.

1.7 Assumptions

- i) Researcher assumes that data is available from the university archives in regards for the academic performance.
- ii) Assumes that additional information that collected from the students is reliable.

1.8 Delimitations

- i. Students of engineering selected from three departments (CSE, EEE, and MCE).
- ii. Student's results from secondary school, high school and university (3 semesters) will be used for correlation and comparative analysis.

1.9 Definition of terms

Academic performance

Academic performance is the extent to which a student, teacher or institution has achieved their educational goals in short or long-term.

Students' academic performance in SSC and HSC

The results of SSC and HSC which is needed in order for the students to be considered eligible for application in the university or institution.

Students' background

Widely defined as the places of origin of either individual student or the school the student attended. In this study students background can be international or local, rural or urban.

2.0 Organization of the thesis

This thesis is organized in five chapters. Chapter 1 gives the background of the study, research aims, hypothesis, and significance of the study. Assumptions, delimitations, research questions and definition of the terms. Chapter 2; explores the related literature of the study. Chapter 3; provides the methodologies used in this study. Chapter 4; provides the analysis of collected data from both mimeograph and questionnaires. Chapter 5; presents a discussion of the findings, limitations, conclusion and recommendation.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

Education takes place as a learning process conducted in institutions of learning referred to as Schools as well as institutions of higher learning (Universities, Polytechnics and College) (Adeyemi, 2014). In a society education helps to produce human capital, which is an important factor that determines its development. Academic performance is directly linked to social economic development of the country (Mushtaq & Khan, 2012). The academic performance of students at most Universities in the world today has recently come under scrutiny for a number of reasons. For example, a number of studies have been carried out to identify causal factors of poor academic performance in a number of institutions worldwide. Most of these studies focus on the three elements that intervene, that is, parents (family causal factors), teachers (academic causal factors), and students (personal causal factors) (Díaz, 2003). In light of the above, this study purports to investigate the main factors that affect students' academic performance at IUT.

The system of education has an important impact on the student academic performance (Yang, 2004). Academic performance depends on the education system applied in the country and the system of the education differs from one country to another. It depends on their ministry of education policies and how they designed it (Bray, 2009). The education system in general consists of levels starting from primary school, secondary school and tertiary school. For example the Education systems in Bangladesh follows eight years at primary school level and six years at high school level which is 14 years before joining the university (Monem & Muhammad, 2010). The education system in Yemen follows six years at primary school three years lower secondary school, and three years in upper secondary school level which is 12 years before joining the university (Sánchez & Sbrana, 2009). The educational system in Cameroon is divided into primary six years, middle school five years, secondary school two years which is 13 years before university. Uganda follows Seven years of primary school, six years of secondary school before university level (Njeuma et al., 1999). At each level in the education system path a curriculum is designed to impart specific set of knowledge and skills for students to progress from one level to another, to be examined and based on their academic performance they are promoted to the next level.

Assessment of student's performance takes many forms, some are graded using performance in form of marks while others are graded in form of grade point average. In the first form student's performance takes on numbers in percentages as performance measure. The second form takes on letter grades as a measure of performance depending on policy.

Curriculum is an important component of the education system, it determine the set of the skills and competences that are exposed to learners in line with the national agenda for continued growth in human capital and technology development for national, social, political, and economic prosperity (Gorman et al., 2001). Moreover, curriculum forms abases of evaluation of students' performance. A set of letters or numbers is assigned, meaning to show how best a student has performed. Progressively a student is said to have perform well if his grade or cumulative sum of his grade over period of time is above the required threshold, e.g. if student attained 50% of the marks required then he has performed well, in some incenses if student is attained D then he has performed well. A student is said to have improved in his performance if his previous grades are less than the current grades, and vice versa. The progress of student's performance is affected by many factors which could be environmental, student background, talent, etc. (Haolader et al., 2017; Mushtaq & Khan, 2012; Yang, 2004).

2.1 Factors influence the students' academic performance

Academic performance is a yardstick upon which student achievements are measured. In many occasions academic performance in specific area of study translate to the ability of a person who accomplish some kind of job in future, for instance a students at high school who performs well in physics, mathematics, biology and other related science subjects are highly likely to take courses in engineering, medicine, science, etc. At the university which later translates into engineering, medical, science, etc. workforce for their country (Mushtaq & Khan, 2012). Academic performance at different levels of education systems is subject of interest in education research. There are many factors that determine student performance that include environment, enrolment procedures, support from teachers, fairness, equity and equality, parents support, self-efficacy, course load, burnout, etc. (Sánchez & Sbrana, 2009; Yang, 2004). Highlighting the importance of environment of academic performance of students (Barth, Dunlap, Dane, Lochman, & Wells, 2004).

2.1.1 Environment

Environment influence before now have not considered as one of the factors that affects academic performance in higher institution, hence it has little or no attention in educational discourse and consideration. But over the past decades in correlation between the environment and academic performance of students. Environment play a major role in the life of every individual whether a student, teachers, employer or employee. Classroom setting vs. combination of individual students character that may promote individual, social, and academic behaviors (Barth et al., 2004). This include characteristics such as order, organization, rule clarity, teacher control, affiliation and support. They show that when student operate in a good environment they become effective and efficient thus perform better. Similarly, students who show low social status among their classmates are consistent with per group norms of poor environment (Kurdek & Sinclair, 1988). In addition to poor performance, students who come from poor environment often show high signs of aggression and withdraw from academic activities such as attending classes, attending projects and assignments, avoid discussions with peers etc. (Brock, Nishida, Chiong, Grimm, & Rimm-Kaufman, 2008), hence poor academic performance. Therefore, we apply this concept in studying academic performance compared to students' background.

2.1.2 Student's prior knowledge and enrolment process

Enrollments in institutions of higher education depend upon the respective institution's power of attracting students from a pool of educationally qualified individuals and upon the desire and ability of those students to continue their study. The enrollment of each institution is affected by factors probably characteristic only to the institution in question. Each institution, for example, draws its students initially from a group of high school graduates or from some other institution in which the high school graduates began their collegiate experience. Each institution may have a characteristic service area, admissions policy, and rate of attrition (Lins, 1960). To pass the examination, students and their parents are forced to hire coaching services. Consequently, students are forced to memories content that only allows them to pass and join the next level. Moreover, their performance is skewed towards how best their teachers are, additionally many students live their parents' dreams. If the parents feel that their child should be an engineer or a doctor then the children are forced to take science during their previous level of education before joining the university, even if they have low capacity for science. In attempt for students to pass entry examination students are forced to

work tremendously hard to an extent that they traumatize due to intensity of preparation before entry to university system, as a result of high competition amongst the candidate (Yang, 2004). In some universities, prospectus students are required to take language proficient examination such as TOEFL or IELTS in addition to qualifying exams (Martirosyan, Hwang, & Wanjohi, 2015). On this regards therefore, we investigate if the current performance of students at the university has a relationship with their previous performance at high school.

IUT admits students every year to its engineering, technical vocational and education and technology and management programs. Given that IUT is an international university its admission procedure is twofold, i) the procedure that caters for the natives of the host country and ii) The procedure that caters for international students who come from the rest of OIC countries.

The native students after passing their SSC and HSC examinations with the minimum grade of 4.5 out of 5.00 CGPA at both levels are eligible for admission. Prior to admission these students are required to take admission test. For each admission test the best candidates for maximum available slots are chosen and published. The chosen students are given a threshold of time to make the requirement of admission under scholarship scheme, partial scholarship scheme and fully financed scheme. If a student does not report within the threshold it is assumed the student has turned down the admission opportunity. The slot that has fallen in vacant during this threshold is filled by another set of selection. This is done throughout the admission period. For the international students a nominating mechanism is used. In this, the host OIC countries through their ministries of educations and foreign affairs nominate the eligible students and send the nominated student list with their qualification(s) and application form to the university. The university scrutinizes the admission and pick a number that is required for full scholarship, partial and self-financed. However, unlike the native admission process if an international slot falls vacant it's not replaced by any other candidate even if they're from the same country (IUT, 2019).

2.1.3 Student's gender

Among a host of factors that affect performance, gender of students may play an important role due to differences in childhood training and experiences. Gender differences in attitude, parental and teacher expectation, difference in talent to handle some courses, biological differences between successes are instrumental in giving rise to gender differences in performance at all levels of education system (Kurdek & Sinclair, 1988).

In many societies genders desperation in public life and society structures create lag between male and female, there is a belief that female are not as good as male in science and engineering fields and there are others who believes that mathematics is a man's thing (Sadler-Smith, 1996). In other societies female are not given priority to attain some kind of education. They are often left home to look after the family and prepared to get married and fulfill other family obligations. The few who are given chance struggle through a tone of challenges and abuses by male teachers, staff, students etc. The female levels of literacy across the globe as compared to the male is low. For example in Bangladesh, the adult's male literacy levels is 75% as compared to 70% for female. In Yemen it is 77% for mal and 40.5 for female, in Cameroon a literacy level for male is 81.2% ad for female is 68.9%. In the recent past, efforts have been placed by international organizations such as UN, OIC, governments, and civil society organization to improve the education literacy levels. As of current the literacy levels for male stand at 90% and 68.2% of the female (Trudell, 2006; Yousif, 2011). Following the above therefore we look at gender differences in the previous academic performance of male and compare it to that of female. Farther we compare their progressive performance at the university.

2.2 Education systems of selected OIC countries

The education systems forms programs and creates opportunities to promote information literacy at both lower and upper levels of education. Considering the different types of education systems, the traditional approach of education systems are theory based. Recently, efforts has been made to convert the current education structures from theory based to skill based. Arguments have been placed by educationists that the traditional systems of education no longer meets the needs of the current generation given that it is based on theory and memorization of information. Another effort in streamline of education systems is promoting education quality by restructuring the different parameters affecting the education systems such as educational environment, curriculum, efficiency, instructors' effectiveness, students' performance, and adoption of education technologies that suits the current generation. To this purposes the structuring education systems has a profound on student performance (Teichler, 1988). We evaluate the current education systems of selected countries in this study so as to determine the academic performance of candidates coming from countries with different education system backgrounds.

The original vision of OIC in the early 1970s was to promote education among the Muslim countries. In the conference that convened in Lahore, Pakistan 1975 the resolution was passed to establish Islamic universities in OIC countries. Following the same vision Islamic University of Technology, Dhaka was established to take care of Technical and Vocational Education and Training Sector and Engineering. Unlike other Islamic universities, IUT was established as subsidiary organ specifically for the fore mentioned purpose. As of current out of 57 countries international students come from 18 countries all over the OIC countries.

. In view of the above, we describe the education systems of three OIC member states (Bangladesh, Cameroon, and Yemen), we select Bangladesh because they are the huge population, for Africa we select Cameroon because they have two education system English and French, then to represent middle east we chose Yemen as a representation of the regions covered under OIC as follows:

2.2.1 Education system of Bangladesh

In Bangladesh, all citizens must undertake twelve years of compulsory education which consists of eight years at primary school level and six years at high school level. Primary and secondary education is financed by the state and free of charge in public schools.

The education system of Bangladesh has at least two levels before entry to university. There are two carrier path followed, i.e. circular education and Madrasa education. The Madrasa education follows Ebtedayee as its foundation, Dakhil then Alim. In Ebtedayee pupils recite and memorize the Quran. The next level Dakhil, students are involved in Nadwa, khitba, arts, Arabic, hadith, Tafsir, math, English etc. The second last level Alim which is equivalent of junior secondary students learner are involved in languages, technology, Islamic studies, Islamic history, and environmental education, then secondary education which include, Hadith, Tafsir, Daawa, Hadith history, Islam history etc. After the Alim students enroll for fazil and Kamil and Equivalent to bachelor and masters. On other hand student who enroll for circular education join primary school for at least 5 years before joining junior secondary school for at least 3 years. After completing junior secondary school the students enroll for either secondary education or trade certificate or artisan course for at least 2 years. On completion of artisan program, students can enroll for high secondary school vocational or certificate in agriculture or education. Farther more students at this level can enroll for diploma course in communication or nursing. Students who opt for trade certificate may continue with diploma in engineering and join a bachelor degree. In the path

described above form the course of (bachelor- technical- education). The secondary school certificate path include students after junior secondary school, joining secondary school for 2 years then high secondary school for 2 years before joining the university for bachelor course.

2.2.2 Education system of Cameroon

The educational system in Cameroon is divided into primary (six years, compulsory), middle school (five years), secondary (high school, two years), and tertiary, University. The academic year runs from September to June, at which time, end-of-year-examinations are always written. There are two separate secondary schooling systems, depending on whether the French or British colonial models apply. In broad terms though, the secondary phase comprises a lower (middle school) and an upper level (high school). For the majority of young people this distinction remains academic, because their parents are unable to afford secondary school fees at all. Students who graduate from a five-year secondary school program have to sit for the General Certificate of Secondary Education (GCE) Ordinary Level, and those who graduate from a two year high school program have to sit for the GCE Advanced Level. So far, the GCE advanced level and the Baccalaureate (the French equivalent of academic attainment) are the two main entrance qualifications into institutions of higher learning, in the higher education there are two paths for students to go for engineering or arts. Further in engineering there is three years to get technical certificate or five years to get qualified with bachelor's degree. After secondary school, there is the possibility of undertaking "vocational studies," courses aimed to unemployed people under the responsibility of the Ministry of employment.

2.2.3 Education system of Yemen

In the education system of Yemen a student has to finish twelve years of compulsory school to gain high school certificate or diploma in vocational education. In the first six years of the primary school, three years of primary school the students have to learn the basic principles of writing, reading, memorizing, Arts, math as well as Quran and Islamiat. Quran and Islamiat is compulsory in all over the 12 years. Further, in the upper level of the primary school students will be required to write and read in Arabic properly, take Algebra and science course (Biology, Physics, chemistry), and arts. As for the middle school students have to take English language course, Mathematics, Physics, Chemistry, Biology, Arts, where the students in class nine have to sit for an exam fixed by ministry of education leading to Al-shadah Ala'aaadadya. After middle school, there are two education paths for the students to further in their education, the first one is High school

which is three years in either science or arts. This is chosen in the second year of high school, and in the third year the students have to sit for the ministry set exam leading to Al-shahda Al-thanawya al-amah. The second path includes joining an institute for a period of three years, which is equivalent to the high school but student qualify for vocational certificate. After completing the high school students can join either university or institute. At the university students attain bachelors or diploma and at the institutes students are awarded either ordinary or higher diplomas. In the universities there are two categories, Science and Arts and that depends on the type of high school certificate and CGPA earned by the student at that level (Sánchez & Sbrana, 2009).

2.2.4 Education system of Nigeria

The Nigerian national educational institutions include the creation of the right types of values that can help a student survive in Nigerian society. It will help new members of the society adapt quickly and use their skills to help Nigeria. However, without understanding the historical development of guidance and counseling practices – it would be impossible to implement the right goals for Nigerians.

The Federal Ministry of Education encouraged guidance and counseling development in schools by establishing guidance and counseling unit in 1961. It was suspended later during the civil war but re-established shortly after the civil war. It was during that time that they introduced the new system of education – 6- 3-3-4. The Federal Government finally recognized the importance of guidance and counseling at the end of the 1970s. According to the third National Development Plan, the main efforts were focused on man power needs. Therefore, to achieve this goal, it was adopted to give the sense of fulfillment to the people. It led to the creation of the Counseling Association of Nigeria. This organization was connected with the American Personnel and Guidance Association.

In 1981, the Federal Government of Nigeria acknowledged the need for guidance and counseling services. Soon, these two concepts were implemented to the National Policy of Education. It provided the possibility to establish the counseling units in universities and even in the ministries of education.

2.3 University system

Although each institution is organized differently, nearly all universities have a board of trustees, a president, chancellor, or rector, at least one vice president, vice-chancellor, or vice-rector; and deans of various divisions. Universities are generally divided into a number of academic departments, schools or faculties. Public university systems are ruled over by government-run higher education boards. They review financial requests and budget proposals and then allocate funds for each university in the system. They also approve new programs of instruction and cancel or make changes in existing programs. In addition, they plan for the further coordinated growth and development of the various institutions of higher education in the state or country. However, many public universities in the world have a considerable degree of financial, research and pedagogical autonomy. Private universities are privately funded and generally have broader independence from state policies. However, they may have less independence from business corporations depending on the source of their finances (Etzkowitz, Webster, Gebhardt, & Terra, 2000).

2.4 Course load

The course load can be defined as, the number and difficulty of courses taken in an academic setting. In addition, it is the workload involved in an academic course. Extensive course load and comprehensive information in academic curricula necessitates use of proper time management and effective study strategies (Sansgiry & Sail, 2006). Time management can be defined as clusters of behavioral skills that are important in the organization of study and course load. Hence, one of the aspects of time management is to develop effective study habits that essentially help in managing the study load. Time management skills typically include planning in advance, prioritizing the work, and adhering to the preset schedules. Students' perceptions of their learning environment are important determinants of the quality of their learning outcomes. Thus, students' perceptions of these curriculum elements need to be taken into account in curricula assessment and evaluation. The course load may also affect the manner in which students learn and can be useful in the design and evaluation of curricula. The course load may also affect the manner in which students learn and can be useful in the design and evaluation of curricula. Students' perceptions of the teaching and the learning environment, such as assessment methods, relevance of the course, and their course load also influence students' approaches to learning.

2.5 IUT Course curriculum (1st, 2nd and 3rd semesters)

As mentioned in above section, course load is an important factor that can largely effect the students' academic performance. Therefore, it is necessary to enlist the courses that students are required to take in three semesters in CSE, EEE and MCE as listed below;

Regarding CSE department the courses that are sorted for students to be taken throughout the first three semesters of their university level are enlisted as below:

Table 1 CSE department first semester courses

FIRST SEMESTER

Course Number	Course Title	Contact Hours	Credit Hours
		L-P	
Hum 4145	Islamiat	2-0	2.0
Hum 4147	Technology, Environment and Society	3-0	3.0
Math 4141	Geometry and Differential Calculus	4-0	4.0
Phy 4141	Physics I	3-0	3.0
CSE 4105	Computing for Engineers	3-0	3.0
CSE 4107	Structured Programming I	3-0	3.0
		18.0	18.0
Hum 4142 OR Hum 4144	Arabic I English I	0-2 0-2	1.0 1.0
Phy 4142	Physics I Lab	0-3/2	0.75
CSE 4108	Structured Programming I Lab	0-3	1.5
CSE 4104	Engineering Drawing Lab	0-3/2	0.75
		8.0	4.0
	Contact Hours: 26.00 Credit Hours: 22.00		

Table 2 CSE department second semester courses

SECOND SEMESTER

Course Number	Course Title	Contact Hours	Credit Hours
		L-P	
Hum 4241	Islamic History Science and Culture	2-0	2.0
Math 4241	Integral Calculus and Differential Equations	4-0	4.0
Phy 4241	Physics II	3-0	3.0
Chem 4241	Chemistry	3-0	3.0
CSE 4203	Discrete Mathematics	3-0	3.0
CSE 4205	Digital Logic Design	3-0	3.0
		18.0	18.0
Hum 4242 OR Hum 4244	Arabic II English II	0-2 0-2	1.0 1.0
Phy 4242	Physics II Lab	0-3/2	0.75
Chem 4242	Chemistry Lab	0-3/2	0.75
CSE 4202	Structured Programming II Lab	0-3	1.5
CSE 4206	Digital Logic Design Lab	0-3/2	0.75
		9.5	4.75
	Contact Hours: 27.50 Credit Hours: 22.75		

Table 3 CSE department third semester courses

THIRD SEMESTER

Course Number	Course Title	Contact Hours	Credit Hours
		L-P	
Math 4341	Linear Algebra	3-0	3.0
EEE 4383	Electronic Devices and Circuits	3-0	3.0
CSE 4301	Object Oriented Programming	3-0	3.0
CSE 4303	Data Structures	3-0	3.0
CSE 4305	Computer Organization and Architecture	3-0	3.0
CSE 4307	Database Management Systems	3-0	3.0
		18	18
EEE 4384	Electronic Devices and Circuits Lab	0-3/2	0.75
CSE 4302	Object Oriented Programming Lab	0-3	1.5
CSE 4304	Data Structures Lab	0-3	1.5
CSE 4308	Database Management Systems Lab	0-2	1.0
		9.5	4.75
	Contact Hours: 27.50 Credit Hours: 22.75		

Regarding EEE department the courses that are sorted for students to be taken throughout the first three semesters of their university level are enlisted as below:

First semester

Table 4 EEE department first semester courses

Course Code	Course Title	Type of Course	Contact Hours	Credit Hours
Hum 4122/ Hum 4124	Arabic I/ English I	Practical	2	1.00
Hum 4125	Islamic Philosophy, History and Culture	Theory	3	3.00
Math 4121	Mathematics I (Calculus and Geometry)	Theory	3	3.00
Math 4123	Mathematics II (Matrices and Differential Equations)	Theory	3	3.00
Phy 4121	Engineering Physics I	Theory	3	3.00
Phy 4122	Engineering Physics I Lab.	Practical	3/2	0.75
Chem 4121	Engineering Chemistry	Theory	3	3.00
Chem 4122	Engineering Chemistry Lab.	Practical	3/2	0.75
EEE 4101	Electrical Circuit I	Theory	3	3.00
EEE 4102	Electrical Circuit I Lab.	Practical	3	1.50
MCE 4192	Mechanical Engineering Drawing	Practical	3/2	0.75
CEE 4106	Civil Engineering Drawing	Practical	3/2	0.75
	Contact Hours: 29 Credit Hours: 23.50			

Second semester

Table 5 EEE department second semester courses

Course Code	Course Title	Type of Course	Contact Hours	Credit Hours
Hum 4222 /Hum 4224	Arabic II/ English II	Practical	2	1.00
Hum 4225	Professional Ethics and Legal Issues	Theory	3	3.00
Math 4221	Mathematics III (Complex Variable, Vector Analysis and Statistics)	Theory	3	3.00
Phy 4221	Engineering Physics II	Theory	3	3.00
Phy 4222	Engineering Physics II Lab.	Practical	3/2	0.75
EEE 4201	Electrical Circuit II	Theory	3	3.00
EEE 4202	Electrical Circuit II Lab.	Practical	3	1.50
EEE 4203	Electronics I	Theory	3	3.00
EEE 4204	Electronics I Lab.	Practical	3	1.50
CSE 4271	Computer Programming	Theory	2	2.00
CSE 4272	Computer Programming Lab.	Practical	3	1.50
Contact Hours: 29.5 Credit Hours: 23.25				

Third Semester

Table 6 EEE department third semester courses

Course Code	Course Title	Type of Course	Contact Hours	Credit Hours
Math 4321	Mathematics IV (Transform Techniques and Linear Algebra)	Theory	3	3.00
EEE 4301	Power System I	Theory	3	3.00
EEE 4302	Power System I Lab.	Practical	3/2	0.75
EEE 4303	Electronics II	Theory	3	3.00
EEE 4304	Electronics II Lab.	Practical	3	1.50
EEE 4305	Energy Conversion I	Theory	3	3.00
EEE 4306	Energy Conversion I Lab.	Practical	3/2	0.75
EEE 4307	Digital Electronics	Theory	3	3.00
EEE 4308	Digital Electronics Lab.	Practical	3	1.50
MCE 4391	Basic Mechanical Engineering	Theory	3	3.00
MCE 4392	Basic Mechanical Engineering Lab.	Practical	3/2	0.75
Contact Hours:			28.5	S 23.25

Regarding MCE department the courses that are sorted for students to be taken throughout the first three semesters of their university level are enlisted as below:

First semester

Table 7 MCE department first semester courses

Course Number	Course Title	Contact Hours		Credit hours
		L	P	
Math 4111	Solid Geometry, Differential and Integral Calculus	4	0	4
Phy 4113	Structure of Matter, Electricity and Magnetism and Modern Physics	3	0	3
Phy 4114	Physics lab I	0	.75	.75
MCE 4103	Engineering Mechanics	4	0	4
MCE 4104	Engineering Mechanics Lab	0	2.0	1
Chem 4115	Physical and Inorganic Chemistry	3	0	3
Chem 4116	Physical and Inorganic Chemistry Lab	0	1.5	.75
Hum 4117	Islamic History and Culture	3	0	3
MCE 4101	Introduction to Mechanical Engineering	2	0	2
Hum 4112 / Hum 4114	Arabic I / English I	0	2	1
MCE 4110	Workshop Practice I	0	2	1
MCE 4108	Mechanical Engineering Drawing	0	2	1
Total L-P		19	11	
Total Hours		30.00		24.50

Second semester

Table 8 MCE department second semester courses

Course Number	Course Title	Contact Hours		Credit
		L	P	
Math 4211	Differential Equations and Special Functions	4	0	4
Phy 4213	Waves and Oscillation, Geometrical Optics and Wave Mechanics	3	0	3
Phy 4214	Physics Lab II	0	1.5	.75
Chem 4215	Chemistry of Engg. Materials	2	0	2
Chem 4216	Chemistry of Engg. Materials Lab	0	1.5	.75
EEE 4281	Basic Electrical Engineering	3	0	3
EEE 4282	Basic Electrical Engineering Lab	0	1.5	.75
MCE 4241	Computer Programming and Applications	2	0	2
MCE 4242	Computer Programming and Applications Lab	0	2	1
Hum 4217	Islamic Philosophy and Professional Ethics	3	0	3
MCE 4208	3D Solid Modeling and Assembling	0	2	1
MCE 4210	Workshop Practice II	0	2	1
Hum 4212/ Hum 4214	Arabic II/ English II	0	2	1
Total L-P		17	12.5	
Total Hours		29		23.25

Third Semester

Table 9 MCE department third semester courses

Course Number	Course Title	Contact Hours		Credit Hours
		L	P	
Math 4311	Vector Analysis	3	0	3
MCE 4311	Fluid Mechanics I	4	0	4
MCE 4312	Fluid mechanics I Lab	0	1.5	.75
MCE 4305	Basic Thermodynamics	3	0	3
MCE 4306	Basic Thermodynamics Lab	0	1.5	.75
Phy 4313	Electronics and Semiconductors	3	0	3
Phy 4314	Electronics and semiconductors Lab	0	1.5	.75
MCE 4321	Manufacturing Process	4	0	4
MCE 4322	Manufacturing Process Practices	0	1.5	.75
Hum 4317	Social studies and Accounting	3	0	3
Total L-P		20	6	
Total Hours		26	23.00	

CHAPTER THREE

METHODOLOGY

3.1 Research design

This is a quantitative research. Causal comparative research design was employed in this study. This study employed a cross-sectional survey with a researcher designed questionnaire for student background data collection. Students' academic performance

3.2 Research population

The population of the study will consist of students in three departments out of six departments in Islamic University of Technology for the academic year (2018). They are students of Bachelor of Science in Engineering (B.Sc. Eng.) (Mechanical and Chemical Engineering (MCE), B.Sc. Eng. (Computer Science and Engineering (CSE), B.Sc. Eng. (Engineering in Electrical and Electronic Engineering (EEE).

This population consists of students who come from the hosting country that is Bangladesh and other OIC countries. Students from hosting country will be referred as native students, while students from other countries will be referred as international students. Both native and international students will be categorised by gender, places they come from that is either rural or urban.

A total population of students in MCE is 79 in two sections, EEE is 145 in three sections, and CSE is 83 in two sections. Summing up all the student numbers 307 is realized as a total.

3.3 Sample and sampling technique

The research participants of this study comprised of 307 students drawn from Islamic University of Technology. Sample and sampling the students were selected from three departments, the respondents were sampled by sections, and 35 students were selected from CSE, 29 students from EEE and 53 students from MCE. Among these students, 94 were natives and 23 were international. The number of female students were 22 and male were 95. As per the sample 93 are from city locations whereas 24 are from the town areas.

Table 10: Distributions and responses of questionnaire source researcher

S/NO	Name of the Department	No. Issued out	No. Returned
1	Computer science and Engineering	40	35
2	Electrical and electronic Engineering	43	29
3	Mechanical and chemical Engineering	43	53
Total		126	117

3.4 The Research Tools

A Questionnaire and mimeograph were used in this study.

The questionnaire used in this study had seven sections that included both open and closed ended questions. The first section included questions seeking for demographic information, the second to sixth sections were designed according to a five point likert scale (1=strongly disagree to 5 = strongly agree) (Binar, 1993; Roberts, Irani, Telg, & Lundy, 2005). The last section is an open ended question seeking to find specific problems faced by students that could affect their performance.

The mimeograph was used to collect data from the registry about the student background and entry level performance. This was tabulated and results presented in the study.

3.5 Data Collection Procedure

Data was collected using printed forms. The form was distributed to students in class and collected thereafter. Collected data was entered into a statistical package for social scientists (SPSS) for later analysis.

3.6 Data Analysis Procedure

Data collected from the mimeograph and questionnaire was tabulated in the form of frequencies, descriptive statistics and separate tables were drawn for different sections. The first section includes the mimeographic data related to student's academic background, country of origin, SSC, HSC, grown up area, location of the college and university academic performance. The second section is the questionnaires which include the factors that affect students' academic performance. Each table was followed by its interpretation. SPSS version 25 software was used to do the quantitative analysis. Weighted Mean (W.M) of each component was determined and conclusion drawn. Table below provides a summary of interpretations.

Table 11: Showing Weighted Mean and Interpretation

Weighted Mean	Weighted Mean Interpretation
$W.M \geq 4.5$	Strongly Agree (SA)
$4.5 > W.M \geq 3.5$	Agree (A)
$3.5 > W.M \geq 2.5$	Neutral(N)
$2.5 > W.M \geq 1.5$	Disagree (D)
$1.5 < W.M$	Strongly Disagree (SD)

The table above shows interpretation of weighted mean where by Weight mean ≥ 4.5 implies that the respondents strongly agree and their opinions have superior confidence, whereas Weight mean $4.5 > W.M \geq 3.5$ indicates that responds agree and their opinions have high confidence, lastly Weight mean below 3.5, indicates respondents are either uncertain or disagree and their opinions on the item in question are low and have no confidence in them.

Weighted Arithmetic Mean as computed using equation 1

$$x = \frac{\sum_{i=0}^n w_{n-i} N_i}{\sum_{i=1}^{n-1} w_i} \dots\dots\dots(1)$$

Where, w_{n-i} , is the value on Likert scale of 1 to 5 representing the level of agreement respondents. 1 for strongly disagree and 5 for strongly agree. N_i is the number of respondents

Who choose that option on the Likert scale, w_i is the weight of each scale. In addition to the above test, we performed one way ANOVA and t-test to investigate the significances between variables. Lastly. We performed a bivariate correlation to determine pearson correlation between variables.

Data provided by open ended question in the questionnaire were classified into themes to enable the reseachers understand the challenges faced by students at IUT. The themes were ranked using a count of number of appearance in the responses. They were covered into percentages and interpreted accordingly.

CHAPTER FOUR

ANALYSIS AND DATA INTERPRETATION

4.1 Demographic data related to participated students

Data was collected from students from the three selected departments of IUT. The sampled students from the mimeograph were given questionnaires to fill in. Out of 126 forms that were distributed, 117 were returned. The return rate of the questionnaires is 92%. Given the return rate, the collected data represent the sample required for this study. The questionnaire is consist of three parts. The first part contains the background information, the second part contains data related to student's prior-academic performance and the third part contains the data related to students' university academic performance.

4.1.1 Students' background information

The Table below shows the general data of the student's background information as they filled in by the questionnaire given.

Table 12: Demographic data related to participated students background information

Department	N	Gender	N	Country	N	Grown-up in	N	College location	N	Language of instruction	N
CSE	25	Female	21	Native	94	City	91	City	96	Local	56
EEE	42									English	54
MCE	50	Male	96	International	23	Town	26	Town	21	French	5
										Arabic	2
Total	117	Total	117	Total	117	Total	117	Total	117	Total	117

4.1.2 Students' prior-academic performance

The table below shows the performance of students in their prior level (SSC and HSC).

Table 13: shows participated students prior-academic performance

Variables	Gender	N	Mean	Min	Max
SSC	Male	96	3.8614	2.20	4.00
	Female	21	3.8057		
HSC	Male	96	3.8646	2.20	4.00
	Female	21	3.8057		

The table above shows the performance of students in their prior levels (SSC and HSC). As per the data IUT admits students who have scored considerably high marks during their SSC and HSC examinations. The mean scores of SSC and HSC are 3.8514 and 3.8540 out of a maximum score of 4.00 (the SSC and HSC academic results were converted from scale of 5.00 to scale of 4.00).

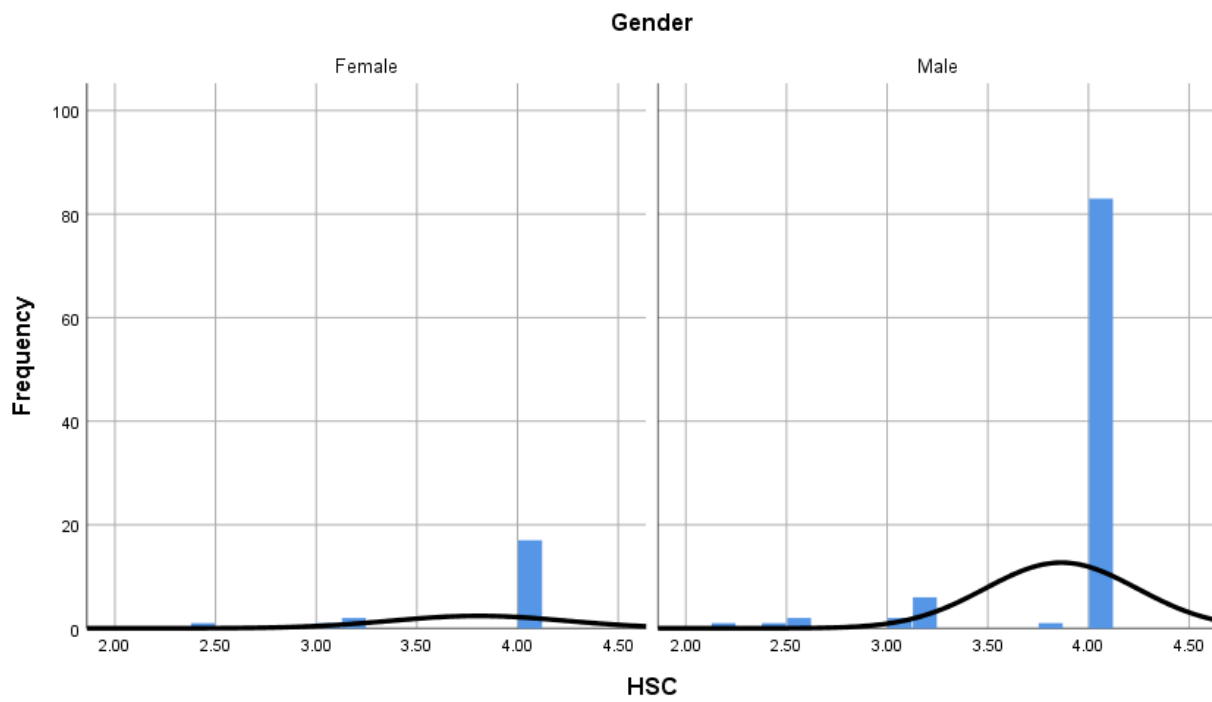
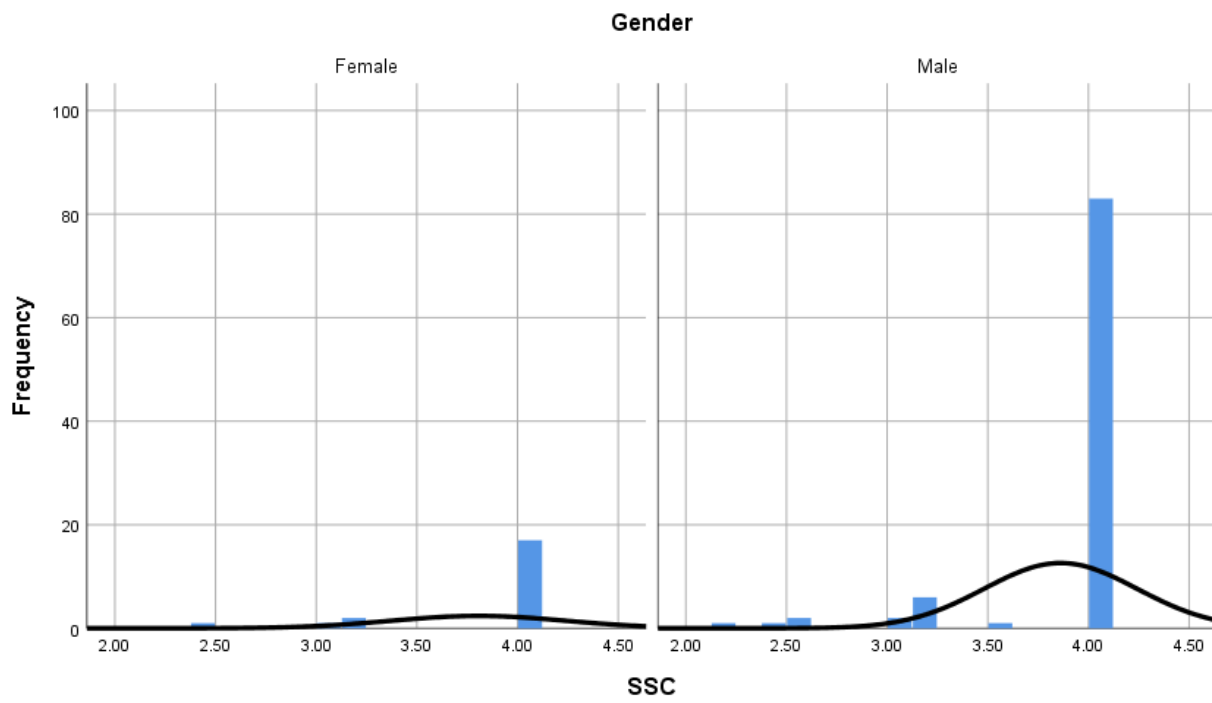


Figure 1 and 2: Histogram showing students background performance by gender in SSC and HSC

4.1.3 Students' university performance

After the admission students are progressively assessed from first semester through their eighth semester. On completion of the eighth semesters the students are awarded bachelor's degree graded based on their cumulative grade point averages (CGPA). For each semester students are graded based on grade point averages (GPA).

Table 14: showing the academic performance of the students in the university

Variables	Gender	N	Mean	Min	Max
Semester 1 GPA	Male	96	3.3185	2.12000	3.99000
	Female	21	3.4567		
Total		117	3.3876		
Semester 2 GPA	Male	96	3.2879	2.03000	4.00000
	Female	21	3.4876		
Total		117	3.3878		
Semester 3 GPA	Male	96	3.1804	2.11000	3.98000
	Female	21	3.4514		
Total		117	3.3159		

From our mimeographic data the average GPA of selected students who enrolled in 2017 for male and female as total mean (3.3876, 3.3878 and 3.3159) in their first, second and third semester respectively that means students' scores are desirably good marks but not excellent as compared to their entry level performance. To this purpose therefor, further analysis is conducted to ascertain the colorations of student's academic performance with their entry level and their background in language of instruction. Furthermore, the significant differences between the students from rural and city areas, gender and country of origin is also ascertained.

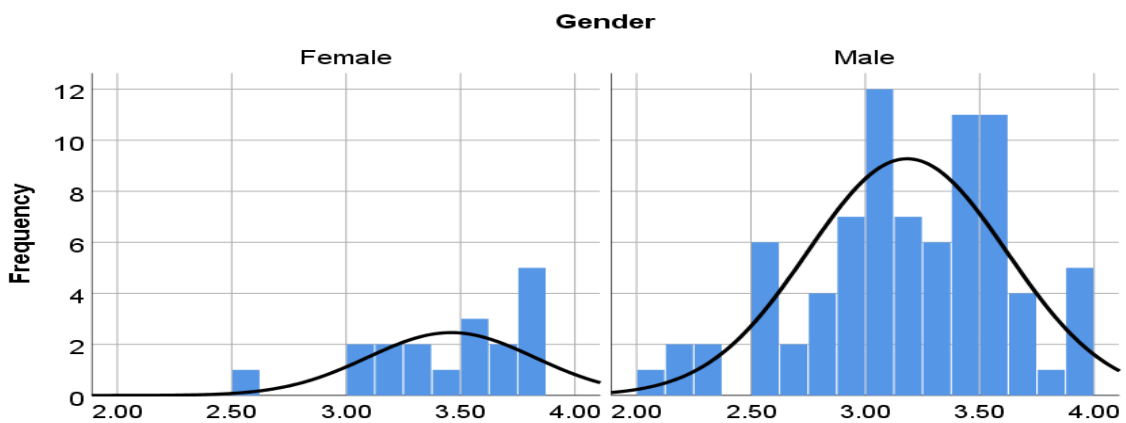
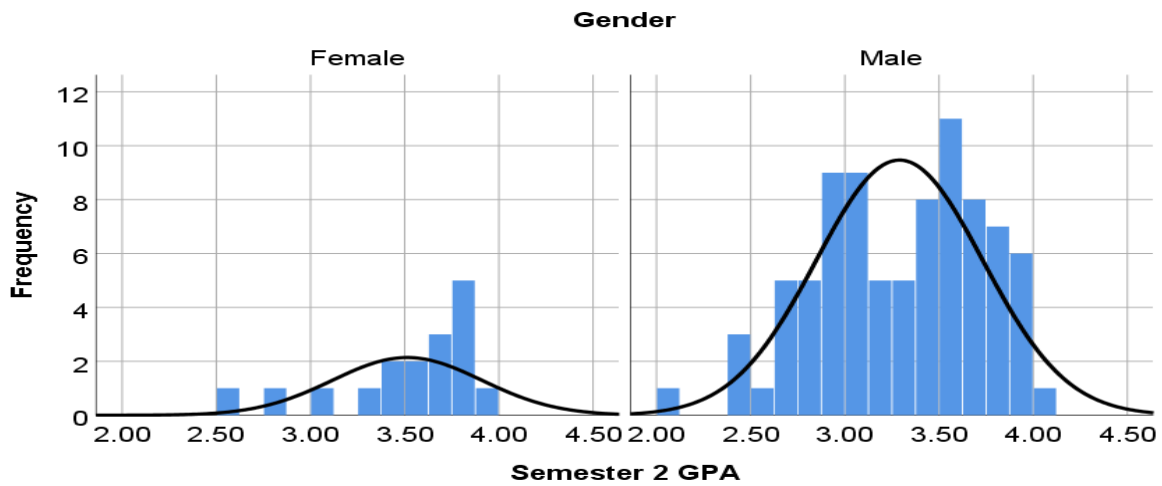
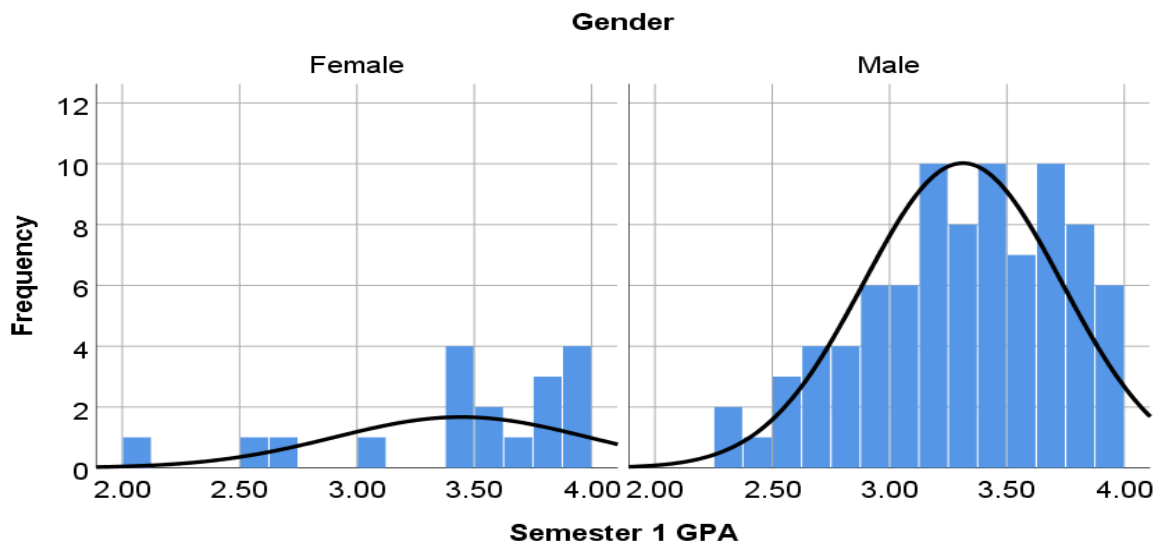


Figure 3 , 4 and 5: Histograms showing the university academic performance

4.2 Findings/ proof of hypothesis

4.2.1 correlation among academic performance of students at SSC and HSC levels and their university academic performance (1st, 2nd and 3rd semesters)

Bivariate correlation was performed to test whether there is a correlation between the students' prior academic performance and their university performance.

The table below show the correlation between the students' marks at SSC and HSC compared to university academic performance

Table 156 correlation between students SSC, HSC entry marks and university performance

		Correlations				
		SSC	HSC	Sem 1 GPA	Sem 2 GPA	Sem 3 GPA
SSC	Pearson Correlation	1	.998**	.444**	0.177	.205*
	Sig. (2-tailed)		0	0	0.056	0.027
	N	117	117	117	117	117
HSC	Pearson Correlation	.998**	1	.440**	0.173	.204*
	Sig. (2-tailed)	0		0	0.062	0.027
	N	117	117	117	117	117
Semester 1 GPA	Pearson Correlation	.444**	.440**	1	.739**	.757**
	Sig. (2-tailed)	0	0		0	0
	N	117	117	117	117	117
Semester 2 GPA	Pearson Correlation	0.177	0.173	.739**	1	.768**
	Sig. (2-tailed)	0.056	0.062	0		0
	N	117	117	117	117	117
Semester 3 GPA	Pearson Correlation	.205*	.204*	.757**	.768**	1
	Sig. (2-tailed)	0.027	0.027	0	0	
	N	117	117	117	117	117

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Table above shows correlation between SSC, HSC and semester 1 GPA, semester 2 GPA and semester 3 GPA. The correlation between SSC, HSC marks and semester 1 GPA, semester 2 GPA and semester 3 GPA are 0.998, 0.444, 0.177, and 0.205 respectively. Their corresponding two tail significance levels are 0.000, 0.000, 0.056, and 0.27. From the data we conclude that there is a significant correlation between the student's entry level and their university academic performance in semester 1 and 3 but there is no correlation in semester 2.

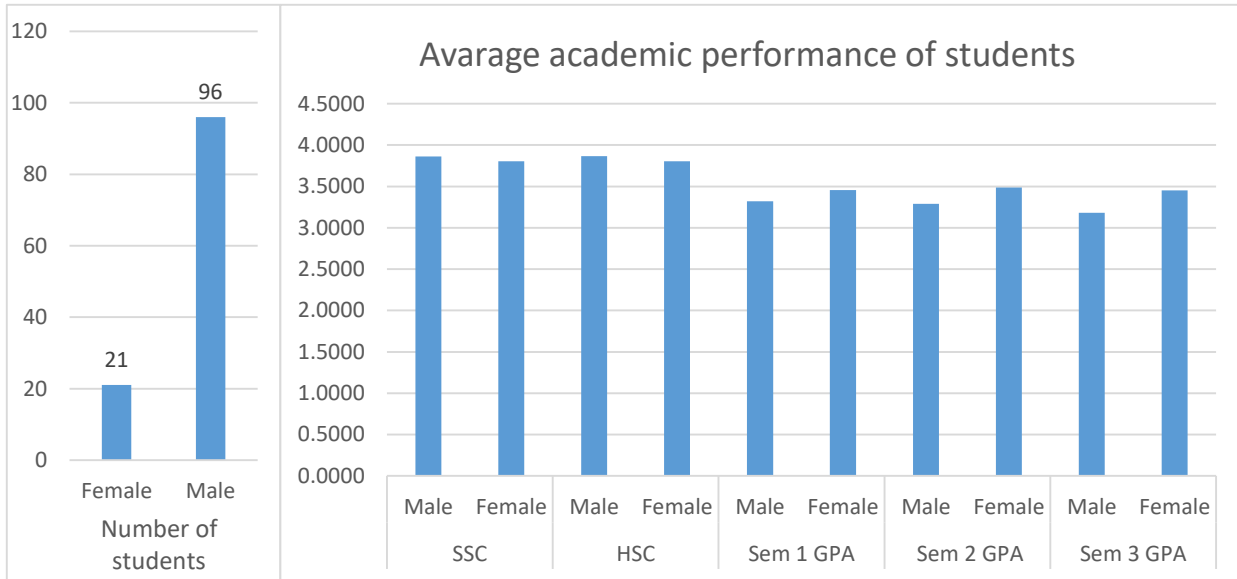


Figure 6: The mean value of academic performance of students

4.2.3 Academic performance of male and female students

The difference in academic performance between male and female was determined using a one-way ANOVA test which compares means of these gender groups. The result of this test is shown in Table 18. In this table we examined the significant difference between male and female ANOVA test.

Table 16: Comparison between mm Mmale and female students academic performance using ANOVA

		N	Mean	Std. Deviation	F	Sig.
SSC	Female	21	3.8057	0.43713	0.351	0.555
	Male	96	3.8614	0.3796		
	Total	117	3.8514	0.38912		
HSC	Female	21	3.8057	0.43713	0.396	0.53
	Male	96	3.8646	0.37724		
	Total	117	3.854	0.3873		
Semester 1 GPA	Female	21	3.4567	0.51673	1.664	0.2
	Male	96	3.3185	0.42779		
	Total	117	3.3433	0.44581		
Semester 2 GPA	Female	21	3.4876	0.4009	3.542	0.062
	Male	96	3.2879	0.44835		
	Total	117	3.3238	0.44526		
Semester 3 GPA	Female	21	3.4514	0.37771	6.66	0.011
	Male	96	3.1804	0.44721		
	Total	117	3.2291	0.44642		

Significance level 0.05

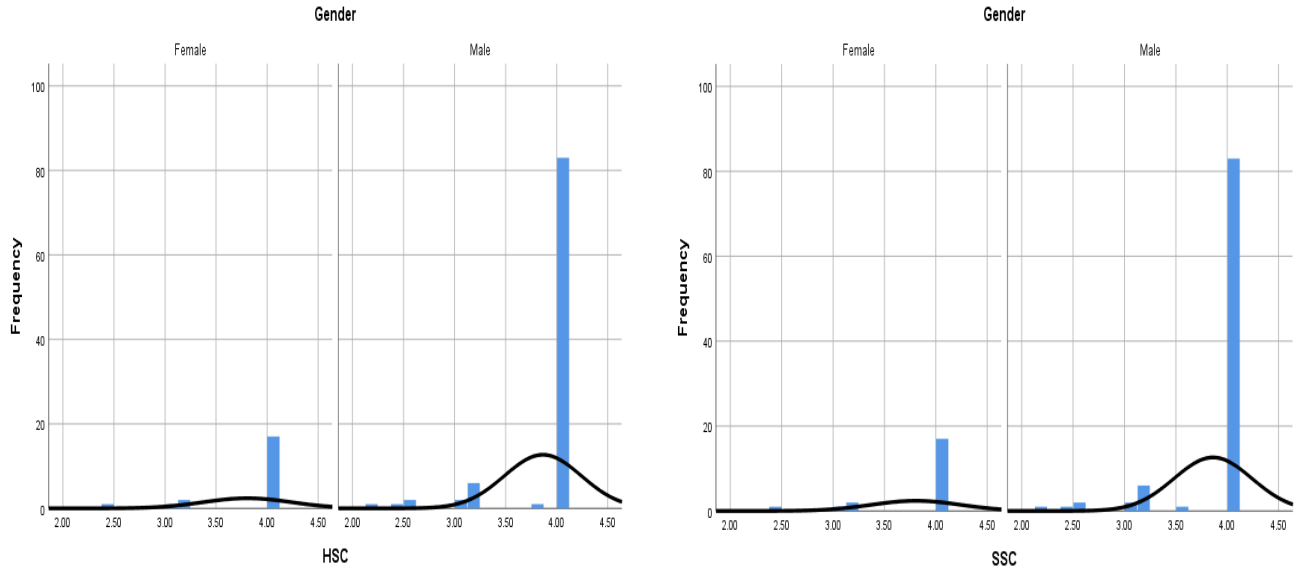
The results from Table 18 shows no significant difference in the academic performance of male and female students in the first year but there is a significant difference in their third semester. We observe the total mean performance between male and female in SSC, HSC, semesters 1, 2 and 3 to be 3.8514, 3.8540, 3.3433, 3.3238, and 3.2291 respectively. The F values for SSC, HSC, semester 1, 2 and 3 are F (0.351), F (0.396), F (1.664), F (3.542) and F (6.660) respectively. Considering the results from the table at confidence interval (CI) of 95% and sig. level of 0.05 there is a significant difference in performance of male and female students in SSC, HSC, semester 1 and 2 there is no significant difference while in semester 3 there is a significant difference, concluding generally there is no significant difference in academic performance of male and female students.

Table 17: showing significant difference between male and female students in academic performance using t-Test

		Levene's Test		t-test for Equality of Means					
		F	Sig.	t	df	Sig.	Mean Difference	95% Confidence Interval of the Difference	
								Lower	Upper
SSC	Equal variances assumed	1.121	0.292	-0.593	115	0.555	-0.0557	-0.24191	0.1305
	Equal variances not assumed			-0.541	26.988	0.593	-0.0557	-0.26696	0.15555
HSC	Equal variances assumed	1.281	0.26	-0.629	115	0.53	-0.05887	-0.24417	0.12643
	Equal variances not assumed			-0.572	26.897	0.572	-0.05887	-0.26997	0.15224
Sem 1 GPA	Equal variances assumed	0.317	0.575	1.29	115	0.2	0.13813	-0.07401	0.35026
	Equal variances not assumed			1.142	26.322	0.264	0.13813	-0.11028	0.38653
Sem 2 GPA	Equal variances assumed	1.083	0.3	1.882	115	0.062	0.1997	-0.01048	0.40989
	Equal variances not assumed			2.023	31.938	0.052	0.1997	-0.00142	0.40082
Sem3 GPA	Equal variances assumed	0.91	0.342	2.581	115	0.011	0.27101	0.063	0.47903
	Equal variances not assumed			2.876	33.484	0.007	0.27101	0.07943	0.46259

“To further verify the results from ANOVA test an independent t-test was done. A total of (N=117) students was associated with the performance of students in SSC, HSC, semester 1, 2, and 3. The associated mean is 3.8336, 3.8351, 3.3876, 3.3878 and 3.3159 by comparison in SSC, the male group (N=96) and the female group (N=21) which is constant all over the variables. To confirm the hypothesis that there is no significance in academic performance between male and female students from table 19 we observe that the homogeneity via F test for SSC, HSC, Sem 1, 2, and 3 are $F(117) = 1.121, P= 0.292$, $F(117) = 1.281, P=0.260$ and $F(117) = 0.317, P=0.575$, $F(117) = 1.083, P= 0.300$, $F(117)=0.910, P= 0.342$ which is satisfies the conditions of t-test. The independent t-test for associated with gender group in SSC, HSC, Semester 1, 2, and 3 $t(117) = -0.593, P =0.555$, $t(117) = -0.629, P=0.530$, $t(117) = 1.290, P=0.200$, $t(117) = 1.882, P=0.062$, $t(117) = 2.581, P=0.011$. There is no significant difference in academic performance of male and female students.

To further ascertain our results a visual exploration based on histograms including their normal curves was done. From figure 1 representing gender difference in SSC, HSC, Semesters 1, 2, and 3 there is no significance difference in the results based on lack of similarity in shape of the normal curve.



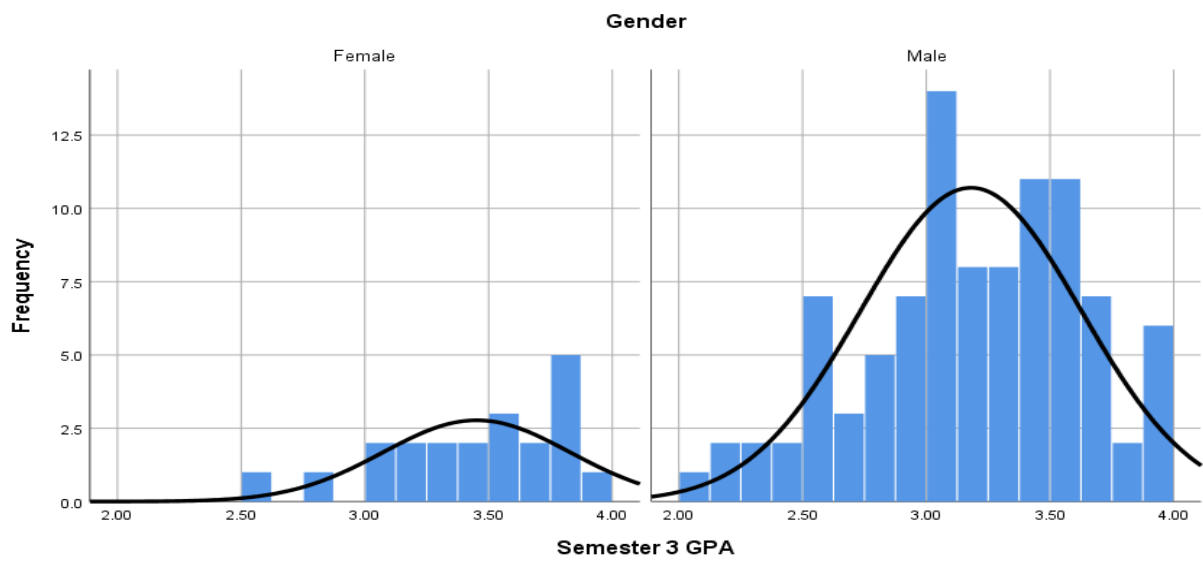
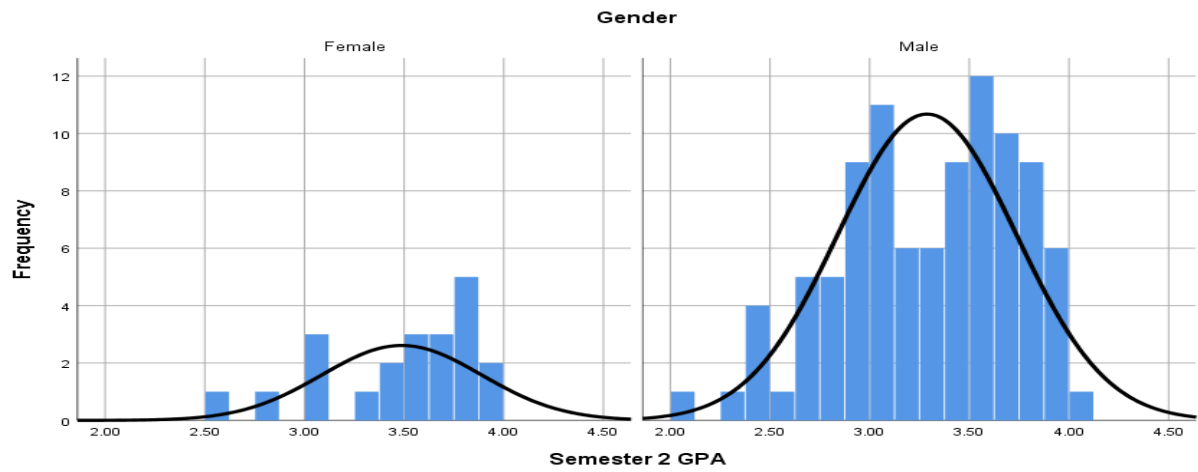
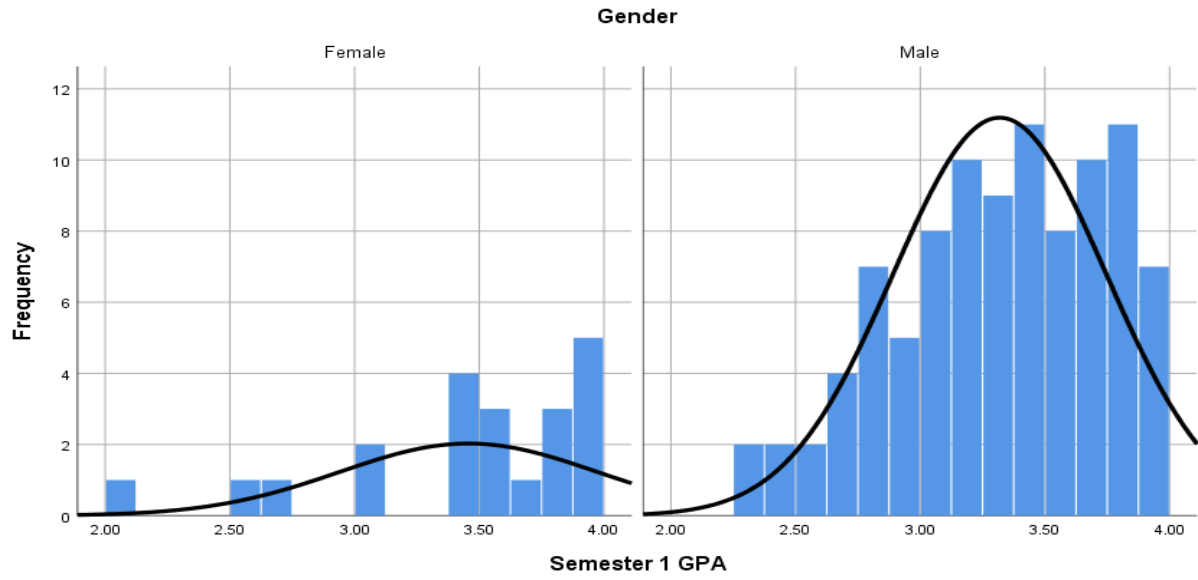


Figure 8, 9, 10, 11 and 12: the five above histograms shows the academic performance SSC, HSC, Sem 1, Sem 2, and Sem 3 between male and female

4.2.4 Significant difference in the performance of Natives and international students

In the table below we test the significant difference between native and international to observe their academic performance

Table 18: Showing significant difference between academic performance of native and international students

		N	Mean	F	Sig.	Levene stat based on mean	Sig.
SSC	Native	94	4.0000	173.231	0.000	134.960	0.000
	International	23	3.2442				
	Total	117	3.8514				
HSC	Native	94	4.0000	162.533	0.000	145.902	0.000
	International	23	3.2574				
	Total	117	3.8540				
Semester 1 GPA	Native	94	3.4678	54.401	0.000	0.366	0.546
	International	23	2.8348				
	Total	117	3.3433				
Semester 2 GPA	Native	94	3.3930	12.723	0.001	1.288	0.259
	International	23	3.0409				
	Total	117	3.3238				
Semester 3 GPA	Native	94	3.3057	15.925	0.000	2.640	0.107
	International	23	2.9157				
	Total	117	3.2291				

Significance level 0.05

“The difference in academic performance between native and international was performed using a one-way ANOVA to compare mean differences in academic performance between the countries of origin groups. The results from Table 20 shows no significant difference in the academic performance of native and international students. We observe the mean performance between native and international in SSC, HSC, semester (1, 2 and 3) respectively, for SSC HSC are 3.8514, 3.8540, and for semester (1, 2 and 3) are 3.3433, 3.3238, 3.2291. The F values for SSC, HSC, semester 1, 2 and 3 are F (173.231, 0.000), F (162.533, 0.000), F (54.401, 0.000), F (12.723, 0.001), F (15.925, .000), respectively. Considering the results from the table at confidence interval (CI) of 95% and sig. level of 0.05 generally there is a significant difference in academic performance of native and international students.

Table 19: Significant difference between native and international students in academic performance using t-Test

		Levene's Test		t-test for Equality of Means				
		F	Sig.	t	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
							Lower	Upper
SSC_4	Equal variances assumed	134.960	0.000	13.162	0.000	0.75583	0.64208	0.86958
	Equal variances not assumed			6.423	0.000	0.75583	0.51176	0.99989
HSC_out_of4	Equal variances assumed	145.902	0.000	12.749	0.000	0.74261	0.62723	0.85799
	Equal variances not assumed			6.221	0.000	0.74261	0.49505	0.99017
Semester 1 GPA	Equal variances assumed	0.366	0.546	7.376	0.000	0.63298	0.46299	0.80298
	Equal variances not assumed			6.795	0.000	0.63298	0.44294	0.82303
Semester 2 GPA	Equal variances assumed	1.288	0.259	3.567	0.001	0.35211	0.15658	0.54764
	Equal variances not assumed			3.132	0.004	0.35211	0.12228	0.58194
Semester 3 GPA	Equal variances assumed	2.640	0.107	3.991	0.000	0.39009	0.19646	0.58372
	Equal variances not assumed			3.652	0.001	0.39009	0.17209	0.60810

“To further verify the results from ANOVA test an independent t-test was done. A total of (N=117) students was associated with the performance of students in SSC, HSC, semester 1, 2, and 3. The total means are 3.6221, 3.6287, 3.1513, 3.2169, and 3.1107. By comparison in SSC, HSC, Semester 1, 2 and 3 the native (N= 94) and international (N=23) which is constant in all the variables. From table 21 we observe that the homogeneity via F test for SSC, HSC, Sem 1, 2, and 3 are $F(117) = 134.960, P= 0.000$, $F(117) = 145.902, P=0.000$, and $F(117) = 0.366, P= 0.546$, $F(117) = 1.288, P= 0.259$ and $F(117) = 2.640, P= 0.107$ which is satisfies the conditions of t-test. The independent t-test for associated with country of origin group in SSC, HSC, Sem 1, 2, and 3 $t(117) = 13.162, P 0.000$, $t(117) = 12.749, P=0.000$ and $t(117) = 7.376, P=0.000$. $t(117) = 3.567, P= 0.001$ and $t(117) = 3.991, p = 0.000$. there is a significant difference in academic performance of native and international students in semesters 1, 2 and 3.”

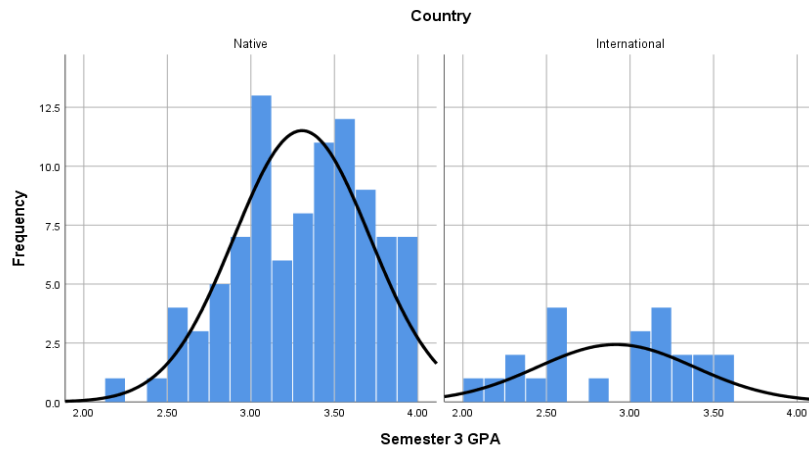
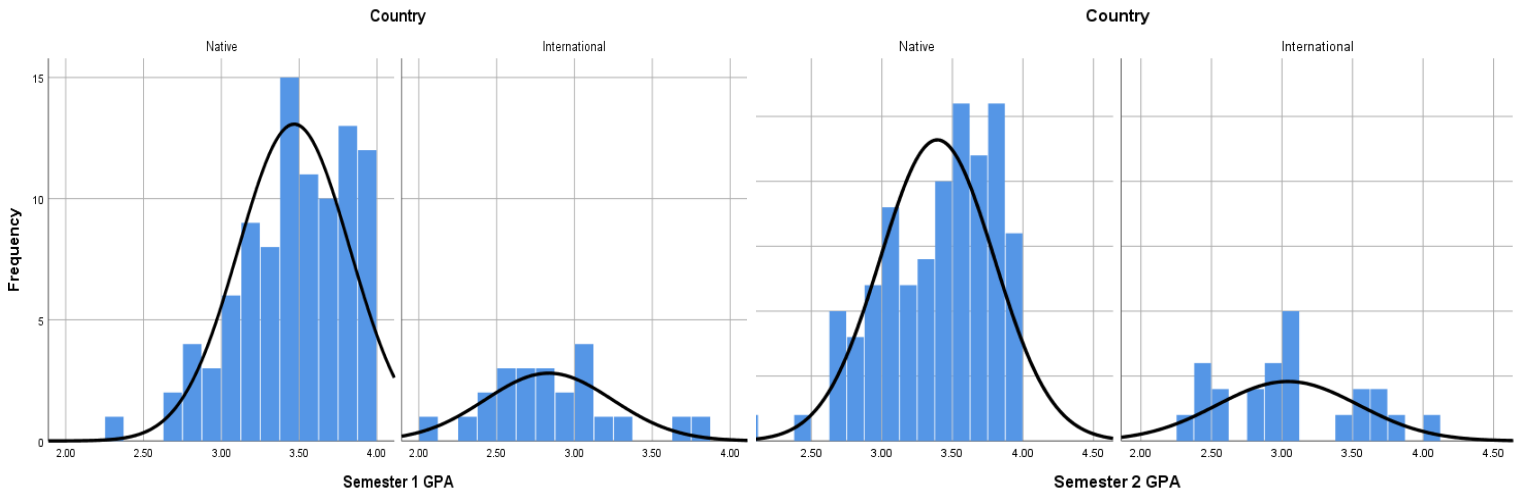
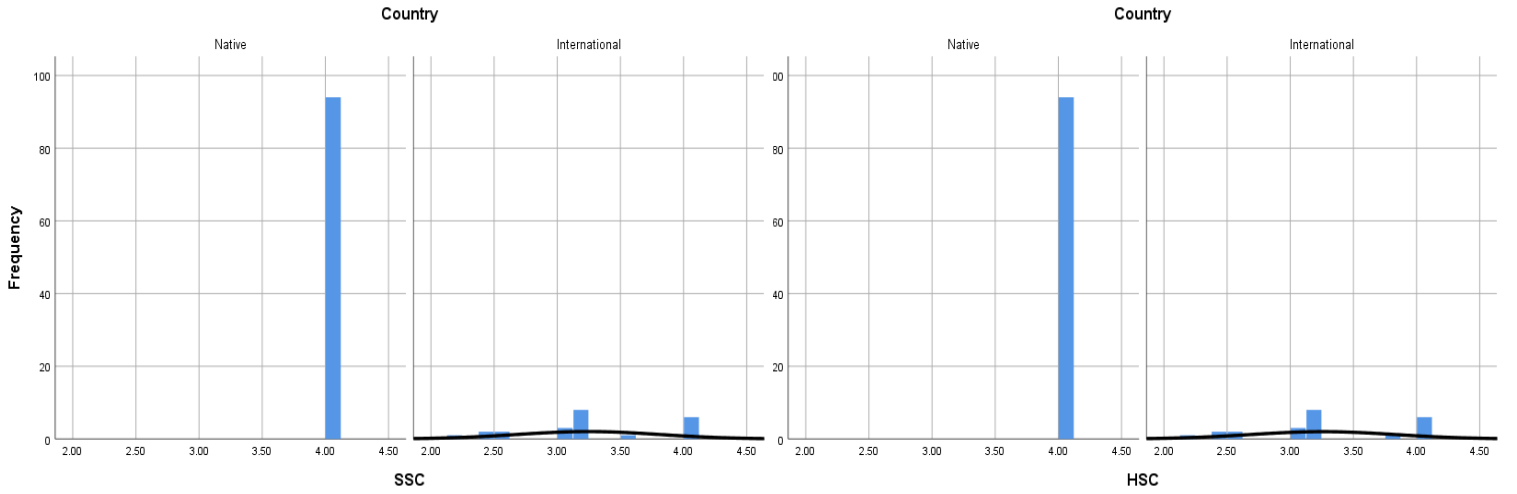


Figure 13, 14, 15, 16 and 17: Histograms shows significant difference between native and international students in academic performance

4.2.5 Significant difference in academic performance of students who comes from City and Town

For finding the significant difference in academic performance we test the results using ANOVA as it is in the table below

Table 20: Significant difference in academic performance between City and Town students using ANOVA

		N	Mean	F	Sig.	Levene Statistic	Sig.
SSC	City	96	3.9208				
	Town	21	3.5341	19.775	0.000	29.160	0.000
	Total	117	3.8514				
HSC	City	96	3.9233				
	Town	21	3.5371	19.927	0.000	29.269	0.000
	Total	117	3.8540				
Semester 1 GPA	City	96	3.3902				
	Town	21	3.1290	6.177	0.014	13.586	0.000
	Total	117	3.3433				
Semester 2 GPA	City	96	3.3441				
	Town	21	3.2310	1.113	0.294	13.518	0.000
	Total	117	3.3238				
Semester 3 GPA	City	96	3.2570				
	Town	21	3.1014	2.112	0.149	0.966	0.328
	Total	117	3.2291				

Significance level 0.05

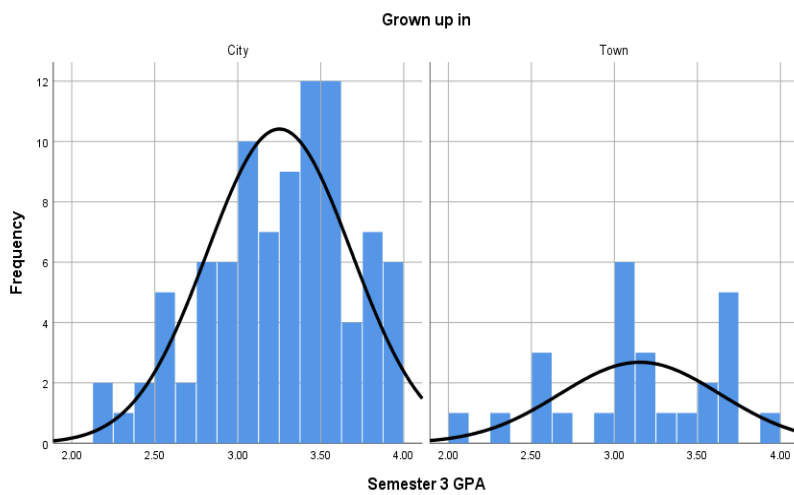
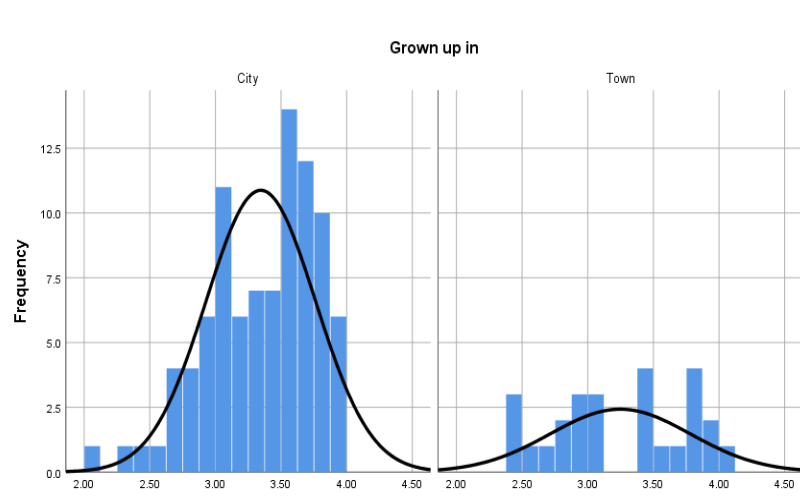
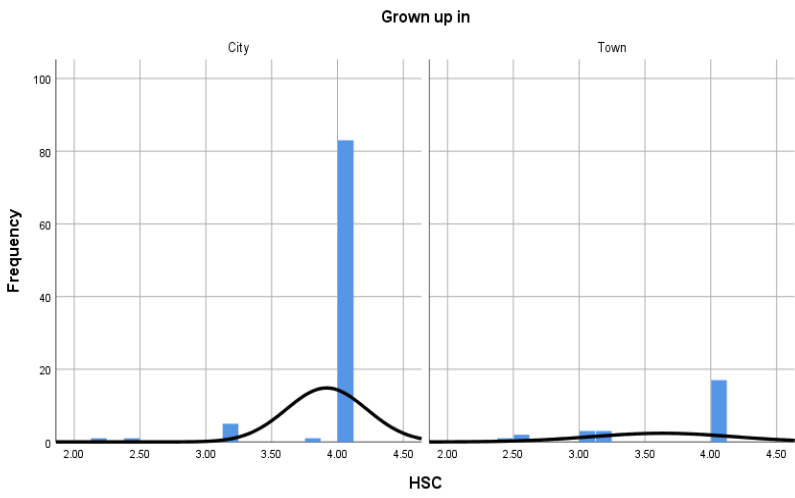
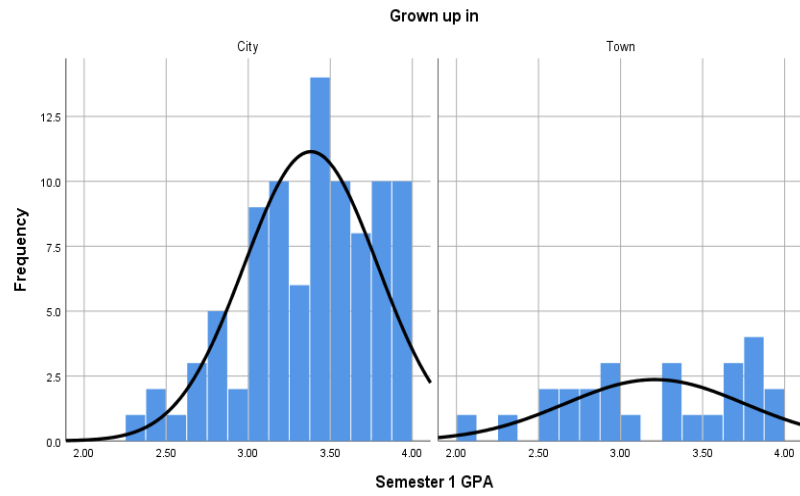
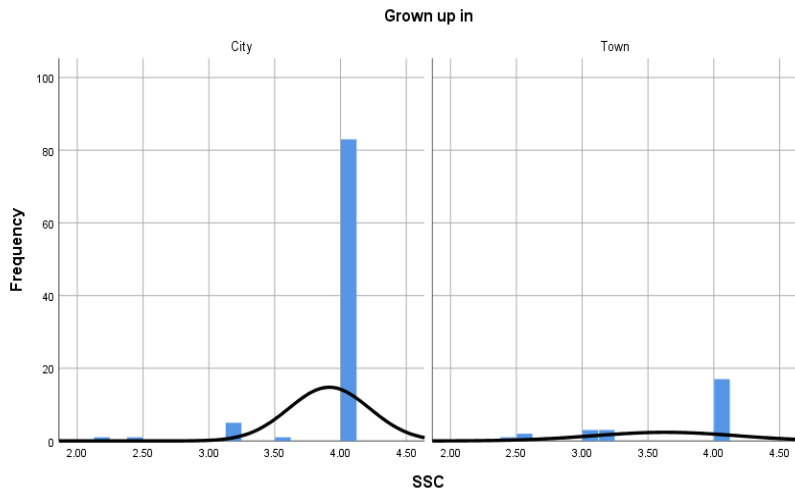
“The difference in academic performance between City and Town was performed using a one-way ANOVA to compare mean differences in academic performance between the college location groups. The results from Table 22 shows significant difference in the academic performance of city and town students. We observe the total mean performance between city and town in SSC, HSC, semester 1, semester 2 and semester 3 are 3.8514, 3.8540, 3.3433, 3.3238, and 3.2291 respectively. The F values for SSC, HSC, semesters 1, 2 and 3 are F (19.775, 0.000), F (19.927, 0.000), F (1.275, 0.014), F (19.775, 0.294) and F (19.775, 0.149) respectively. Considering the results from the table at confidence interval (CI) of 95% and sig. level of 0.05 there is a significant difference in performance of city and town students in SSC, HSC and semester 1 whereas there is none in semester 2 and 3.

Table 21: Shows the Significant difference in academic performance between City and Town students using t-test

		Levene's Test		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
SSC	Equal variances assumed			4.447	115	0.000	0.38674	0.08697	0.21447	0.55900
	Equal variances not assumed			3.190	23.043	0.004	0.38674	0.12125	0.13595	0.63753
HSC	Equal variances assumed	29.269	0.000	4.464	115	0.000	0.38619	0.08651	0.21483	0.55756
	Equal variances not assumed			3.202	23.043	0.004	0.38619	0.12062	0.13670	0.63568
Sem 1 GPA	Equal variances assumed	13.586	0.000	2.485	115	0.014	0.26116	0.10508	0.05302	0.46930
	Equal variances not assumed			1.916	23.952	0.067	0.26116	0.13630	-0.02019	0.54251
Sem 2 GPA	Equal variances assumed	13.518	0.000	1.055	115	0.294	0.11311	0.10721	-0.09926	0.32548
	Equal variances not assumed			0.835	24.325	0.412	0.11311	0.13552	-0.16639	0.39261
Sem 3 GPA	Equal variances assumed	0.966	0.328	1.453	115	0.149	0.15555	0.10703	-0.05646	0.36757
	Equal variances not assumed			1.291	26.379	0.208	0.15555	0.12053	-0.09202	0.40312

“To further verify the results from ANOVA test an independent t-test was done. A total of (N=117) students was associated with the performance of students in SSC, HCS, semesters 1, 2, and 3. The associated total means are 3.7275, 3.7302, 3.2596, 3.2875 and 3.179 by comparison in the SSC, HSC, Semester 1, 2 and 3, the city (N= 96) and town (N=21) which is constant in all the variables. From table 23 we observe that the homogeneity via F test for SSC, HSC, Sem 1, 2, and 3 are $F(117) = 29.160$, $P = 0.000$, $F(117) = 29.269$, $P = 0.000$, $F(117) = 13.586$, $P = 0.000$, $F(117) = 13.518$, $P = 0.000$ and $F(117) = 0.966$, $P = 0.328$ which satisfies the conditions of t-test. The independent t-test for associated with country of origin group in SSC, HSC, Sem 1, 2, and 3 $t(117) = 4.447$,

$P= 0.000$, $t(117) = 4.464$, $P=0.000$, $t(117) = 2.485$, $P= 0.014$, $t(117) = 1.055$, $P= 0.294$ and $t(117) = 1.453$, $P=0.149$. There is a significant difference in performance of native and international students in SSC, HSC, and semester 1 whereas there is none in semester 2 and 3. Hence, in general concluding that there is significant difference in academic performance of students from city and areas.”



Figures 18, 19, 20, 21 and 22: Histograms shows significant difference in academic performance between City and Town students

4.3 FINDINGS RELATED TO STUDENTS' ACADEMIC PERFORMANCE

4.3.1 Impact of study habits on academic performance of students

The table below shows effect of study habits on academic performance of students across the departments. The title columns represent the test parameter, variables (dimension of academic performance), weighted mean and std. deviation respectively. The test parameter consist of three variables which include enjoying to study, study for examinations and having proper notes. These variables are important in determining the habits of students. Students who enjoy study and have organized notes are likely to have better academic progress. In addition, Students who study for examinations are likely to have better results.

Table 22: Impact of study habits on academic performance

Test parameter	Variables	Mean	Std. Deviation
Study habits	Enjoys studying everyday	2.5690	1.07318
	Studies only for examinations	3.5214	1.15668
	Have proper class notes	3.5517	1.08223
Weighted mean		3.214	1.104

The average weighted mean and standard deviation of each variable and overall mean were computed and then tested against the interpretation stated in chapter 3, table 11.

The overall weighted mean and standard deviation is 3.214 ± 1.104 , this means the data measuring opinion of the respondent towards study habits is concentrated along the mean value. The value obtained herein indicates that students' exhibit excellent study habits which a characteristics of good academic performance. From this result it is likely that most of the students perform well in class.

4.3.2 Impact of learning skills on academic performance

The table below shows impact of learning skills on academic performance of students across the three departments. The title row represent the test parameter, variables (learning skill dimension in academic performance), weighted mean and std. deviation respectively. The test parameter consist of four variables which include writing the answers in English, reading and understanding notes without help of dictionary, teacher ability to understand what the students write and speaking English. These variables are important in determining the learning skills. Students who can write, read and understand English language very well are likely to have better academic performance.

This is because instruction language is in English. Students who have less command of English are likely to perform less than academic expectation.

Table 23: Impact of learning skills on academic performance

Test parameter	Variables	Mean	Std. Deviation
Learning skills	Teachers incapability to understand students hand writing	4.1453	0.82279
	Students can speak English very well	4.1379	0.89342
	Who Can read and understand notes without help of dictionary	2.6293	1.15367
	Who Can answers in English very well	3.7043	0.90780
Weighted mean		3.6542	0.9444

The overall weighted mean and standard Deviation is (3.654±0.944), this means the data measuring opinion of the respondent towards learning skills is concentrated along the mean value. The value obtained herein indicates that students' exhibit high learning skills which is a characteristic of good academic performance. From this result it is likely that most of the students perform well.

4.3.3 Impact of hard work on academic performance

The table below shows impact of student's hard work on their academic performance. The title row represent the test parameter, variables (dimension of hardworking impact on academic performance), weighted mean and std. deviation respectively. The test parameter consist of four variables which include ability of students to work hard, focus, participation in class activities and class attendance. These variables are important in determining the hardworking ability of the students. Students who Work hard, force during the classes, participate in all class activities and attained all the classes are expected to have better academic performance.

Table 24: impact of hard work on students' academic performance

Test parameter	Variable	Mean	Std. Deviation
Hard working	Students participation in class activities	3.3621	1.06646
	Students are hardworking	3.6638	0.76833
	Students focus during study	3.2500	1.03735
	Students attendance	4.1795	0.86717
Average mean		3.614	0.935

The average weighted mean of each variable and overall mean were computed and then tested against the interpretation stated

The overall weighted mean and standard deviation is 3.614 ± 0.935 , this means the data measuring hard work of the students towards better academic performance is concentrated along the mean value. The value obtained herein indicates that students' are hardworking. From this result it is likely that most of the students soundly perform well.

4.3.4 Impact of academic interaction on students' performance

The table below shows impact of academic interaction on the students' academic performance. The title row represent the test parameter, variables (dimension of academic interaction on academic performance), weighted mean and std. deviation respectively. The test parameter consist of four variables which include Students having friends from other countries, meeting lecturers outside of the class for academic purposes, interaction with professors and discussion of studies with class fellows. These variables are important in determining academic interaction among the students. Students' who interact with friend, professors and other collages tempt to solicit for support in areas of difficulties more than others. Students who show more academic interaction have less stress and can concentrate on their academic activities in this way they can have better academic performance.

Table 25: Impact of academic interaction on students' performance

Test parameter	Variable	Mean	Std. Deviation
Academic interaction	Students interaction with professors	3.3621	1.18979
	Students can meet lecturers outside class for academic purposes	3.1304	1.07215
	Students have friends from other countries	2.7217	0.96015
	Students discussion of studies with class fellows	3.7130	1.15292
	weighted mean	3.232	1.094

The overall weighted mean and Standard Deviation is (3.232 ± 1.094) , this means that data measuring the academic interaction of the students in the direction of better academic performance is concentrated along the mean value. The value obtained herein indicates that the academic interaction of the students with their professors, lecturers, colleagues etc. can improve their academic performance ion a positive way. From here we can conclude that students who have good interactions with their professors, lecturers, colleagues seemingly perform better than the other students.

4.3.5 Effectiveness of Students' academic performance

The effectiveness of students' academic performance as shown in the table below, the title columns represent the test parameter, variables (dimension of Students' academic performance), weighted mean and std. deviation respectively. The test parameter consist of six variables which include Academic performance satisfaction, Students performance reflection on their abilities, Academic performance experience, Professors knowledgability, Students confidence level, Internet contribution effect on students' academic performance. These variables are important in determining Effectiveness of Students' academic performance. The professor's knowledgability, Students confidence level experience and Internet contribution effect on students' academic performance are the major factors effecting the Students' academic performance.

Table 26: Effectiveness of Students' academic performance

Test parameter	Variable	Mean	Std. Deviation
Academic performance	Academic performance satisfaction	2.6239	1.27797
	Academic performance experience	2.6348	1.25188
	Students' performance reflection on their abilities	2.6293	1.09171
	Professors knowledgability	3.3879	1.10942
	Students confidence level	3.8966	1.06632
	Internet contribution effect on students' academic performance	4.1379	0.88363
Average mean		3.212	1.114

The overall weighted mean and Standard Deviation is 3.212 ± 1.114 , this means that data measuring the Students' academic performance in the direction of good academic performance is concentrated along the mean value. The obtained values specifies that the Students' academic performance is highly effected by Internet contribution, Students confidence level and Professors knowledgability.

4.3.6 Influence of instruction facilities and social media on students' academic performance

The table below shows influence of academic instruction facilities and social media on the students' academic performance. The title columns represent the test parameter, variables (dimension of instruction facilities and social media on academic performance), weighted mean and std. deviation respectively. The test parameter consist of eight variables which include class environment condition, Internet facility adequacy, the use of social media groups, library facility adequacy, hostel, and medical facilities adequacy. These variables are important in determining

academic performance. Availability of sufficient instructional, health and technological facilities tend to encourage students to learn on their own, progress faster and have better health.

Table 27: Influence of instruction facilities and social media

Test parameter	Variable	Mean	Std. Deviation
Instruction facilities and Social media	Hostel facilities adequacy	3.6810	1.02660
	Medical facilities adequacy	2.9828	1.25097
	Internet facility adequacy	3.7672	1.26737
	library facility adequacy	3.0862	1.25503
	Class environment condition	4.3017	0.89656
	Have class whatsApp group	4.3391	0.88741
	Have class Facebook group	2.7179	1.28550
	Uses YouTube for study	2.8103	1.19356
Average mean		3.461	1.133

The overall weighted mean and Standard Deviation is (3.461 ± 1.133) , this means that data measuring the instruction facilities and the use of social media impacts on enhancement academic performance in a good way. The obtained values specifies that the Students' academic performance is improved and motivated by the availability of the instructional facilities, medical facilities and the Internet.

CHAPTER 5

DISCUSSION OF MAJOR FINDINGS, IMPLICATIONS, CONCLUSION AND RECOMENDATION

5.1 Discussion and implications

Five questions were posed at the outset of this study (1) is there any correlation between the students in their entry level and academic performance? (2) Is there any significant difference in academic performance of students in IUT having come from rural area and urban area? (3) Is there any significant difference in the academic performance of female students and male students? (4) Is there any significant difference in performance between international and native students? (5) Is there a difference in results during entry and their study time in the university? Mean while this research also attempts to list the factors that affect academic performance in IUT by examining study habits, learning skills, hardworking ability, academic interactions, individual reflections on academic performance, instruction and technological facilities. Finally this research addresses problems that affect the students. The questions are addressed below in light of the results of data analyzed previously in chapter four.

5.1.1 Correlation among academic performance of students at SSC and HSC levels and their university academic performance

The results in table 16 suggest that there is significant correlation between the students' SSC, HSC and their first semester and third semesters marks at correlation level of ($P < 0.01$) and ($P < 0.05$) respectively. This result suggests that when students join the university their results in the previous level determines how well they perform in the university. However their second semester results did not correlate with their prior academic performance.

The reason for the correlation is that the courses students take at SSC and HSC levels are quite similar to those taken in the first, second, and third semester in the university level. It is consistent with curriculum design strategies in that students are taught courses in an incremental strategy of difficulty, this explains the variation between the students' HSC marks and second semester. The significant correlation relationship between third semester and HSC entry marks is explained by the fact that students have adapted to the course as well as the environment of education at the university. They have mastered the initial introductory course in their main stream domain.

5.1.3 The academic performance of female students and male students

The results in ANOVA test in table 18 shows reveal that there is no significant difference between the academic performance of male and female students in the first and second semester but there is a significant difference in their third semester. this result is in line with the previous studies according to Dayioğlu et al. (Dayioğlu & Türüt-Aşık, 2007) and Barth et al. (Barth et al., 2004) which show that female students performance in their previous level is affected by the gender differences in the activities they do at home. As the female students progress in the university educational level their performance becomes better and better. This explains our results that as female students progress from the first semester they outperforms their male fellows in the third semester thus explaining the significance difference in their initial academic performance but there comes a significant difference in their third semester where female continue with 3.4 but male has dropped from 3.32 to 3.1.

5.1.4 Performance between international and native students

The results in table 20 shows that there is significant difference in the performance of native and international students. Based upon our research this significance difference is due to the difference in adaptation to the environment. This explains our result that shows the difference in performance as result of slow adaptation to the environment.

5.1.5 Academic performance of students in IUT having come from town areas and city areas

Results in table 22 show no significant difference between the performance of students who come from town and city areas. Our result show that that there is a significant difference in the results of their second semester. This can be explained by the fact that in second semester students are familiar to the environment and to the university system there by neglecting activities leading to their studies and are involved in other activities which take most of their time. In third semester the students season back to academic activities.

5.2 Factors affecting academic performance at IUT

The most important and significant factors that impact on students' academic performance range from how student behave, study, interact amongst themselves and their professors to the use of material and technology in facilitating their learning process towards achieving better academic performance. According to Mahmood et Al. (2018) factors that affect student performance broadly fall in four domains namely: (i) use of technology (TU), (ii) the interaction process (IP), (iii) the

characteristics of the student (SC) and (iv) the characteristics of the class (CC) (Ismail, Mahmood et al. 2018). In this section we solicit students' opinions about factors that affect their academic achievement in IUT based on variable suggested by Mahmood et al. (2018) which include study habits, learning skills, hardworking, academic interaction, individuation refection, instruction and technological facilities.

5.2.1 Study habits

The way students behave has an impact in the outcome of their academic achievement more specifically the behavior in terms of concentration in studying. When students enjoy to study on daily basis they tend to retain a lot of information that aid them to remember material that enable them to pass examinations. Secondly students who study for examinations only may pass the examinations and whereas students who have proper organized material tend to like studying every day. Based on these variables in our study to determine study habits, we found that most students don't enjoy studying on a daily basis scoring mean of 2.57 which means their opinion on studying every day is low. Meanwhile on studying for examination and having proper notes, their opinions rank is high with a mean of 3.52 and 3.55.

5.2.2 Learning skills

Students learning skills is an important factor that determine students achievements in that they are able to master skills that enable them to effectively capture important parts of knowledge that gives them advantage to pass exams. To poses excellent learning skills a students must have a command of language of instruction (reading, writing and speaking). From our study students opinion on writing, reading and speaking English is very high. Therefor in no way that students in IUT lack learning skills.

5.2.3 Hard working abilities

Students who work hard perform better in class and they can have good academic performance because they are focused, participates in class activities and attend classes regularly. From our study we found that IUT students are generally hard working and that mean their academic performance is not afflicted by the lack of hard working.

5.2.4 Academic ineractions

The students' interaction among themselves, with their friends, lecturers and professors can affect students' academic performance. On the basis of our study the results show that students' academic interaction can be considered as an influential factor on their academic performance.

5.2.5 Individual reflections on academic performance

Students who have good academic performance are considered to have good academic experience, knowledgeable instructors, self-confidence and easy access to internet. Considering our study; examining the above mentioned variables can have a moderate effect on students' academic performance. From our study the students are not satisfied with their academic performance, learning experiences, and their ability to reflect with means of 2.623, 2.634, and 2.629. These factors are those that need to be addressed.

5.2.6 Instruction and technological facilities

Technological facilities, good environment, hostel and medical facilities adequacy are the factors that can highly affect the students' academic performance and also can be very effective towards improving the students' academic performance. After the estimation of the results regarding to the above mentioned variables we found that, students are not satisfied with medical facilities and social media activities (Facebook and YouTube) but they are having good experience of hostel, library, internet facilities and class environment. Generally concluding technological and residential facilities adequacy and environment can have a great impact on students' academic performance.

5.2.7 Insight into major problems facing IUT students

From analysis of open ended questions in the questionnaire, the most occurring problems are the which include small reading rooms, poor air conditioning and fewer places of convenience.

The second category of occurring problems at IUT include lack of students administrative body and unsatisfactory quality of teaching methods and teacher conducts, curriculum that emphasizes more on theory than practice and stable electricity, poor interaction between the students and teachers.

The third category of the problems include discrimination against the ladies, sexism, low pocket allowance, dress code for ladies, the sunset law, lack of counseling and guidance, ragging, burnout, lack of orientation to new students.

To a lesser end students complain about lack of motivation, research and innovation, no resting place during short breaks specially for non-residence, poor quality of services in central departmental shop, lack of enough residential accommodation, difficulty in smart card recharging, water and transport to and fro IUT to places of residence to non-residence students.

5.3 Limitations

The sample space was drawn from the students' prior-academic performance and their university performance only from three departments and three subsections therefore the study cannot be generalized though it gives insight in the factors that affect students' academic performance in relation to their university performance. In addition, the study was done in one university therefore a comparative study may be needed to ascertain if the same conditions are met in other universities.

5.4 Recommendation

From this study we lay the following recommendations

- i. There must be deliberate efforts to increase the student's classroom ratio, students' library ratio, students' lab ratio.
- ii. The heads of departments of human resource and establishment should through the department of technical and vocational education establish pedagogy training for teaching staff, costumer care for the rest.
- iii. The university administration should consider creating a counseling center and students government through which students can channel their challenges.
- iv. Related to the difference in performance of native and international students a bridge program should be initiated so as to improve the international students' capacity in reading, writing, and speaking English, and competences in other subjects.
- v. Departments should consider creating rubrics across all the courses taught in each department.
- vi. The university should improve on its quality of food and cafeteria services so as to create a better nutrition care.

5.5 Conclusion

This study has identified the different factors that affect the students' academic performance during their university level from semester 1 to semester 3 in a comparison to their prior academic performance and background information.

In this study we conclude that there is no correlation in students' prior academic performance and their university also no correlation in performance of students with different language background of instruction. Furthermore, there is no significant difference in academic performance of male and female whereas there is a significant difference in academic performance of native and international students as well as students who come from city and town areas. In addition, the factors that affect the academic performance of students in the university are but limited to, environment factors which include inadequate classrooms, internet, medical care, library, hygiene in the halls of residence. Moreover the way teachers behave, huge course load, High tuition fees, packed learning schedule and pressure of assignment, labs and quizzes has a share of their contribution to the academic performance of students.

In the future we hope to conduct studies to ascertain the relationships among variables that affect students' academic performance in general cutting across all departments. Studies that represents academic performance of students in the university and their post university performances at place of work is interesting future study sense it can shape the curriculums developed in the university.

References

- Adeyemi, S. B. (2014). Comparative study of pupils' academic performance between private and public primary schools.
- Alexandros G Sahinidis, D. K., Anthoula Markantonatou, Labros Sdrolias. (2016). Emotional Intelligence Effects on Academic Performance. An Empirical Study of University Students. *toaris research institute*, 151-162.
- Barth, J. M., Dunlap, S. T., Dane, H., Lochman, J. E., & Wells, K. C. (2004). Classroom environment influences on aggression, peer relations, and academic focus. *Journal of School Psychology*, 42(2), 115-133.
- Binar, P. (1993). The development of an instrument to measure student attitudes towards television course. *The American Journal of Distance Education*, 7(1), 62-73.
- Bray, M. (2009). Confronting the shadow education system: What government policies for what private tutoring?
- Brock, L. L., Nishida, T. K., Chiong, C., Grimm, K. J., & Rimm-Kaufman, S. E. (2008). Children's perceptions of the classroom environment and social and academic performance: A longitudinal analysis of the contribution of the Responsive Classroom approach. *Journal of School Psychology*, 46(2), 129-149.
- Chemers, M. M. a. H., Li-tze and Garcia, Ben F. (2001). Academic self-efficacy and first year college student performance and adjustment. *Journal of Educational psychology*, 93, 55.
- Christie, H. a. M., Moira and Fisher, Tania. (2004). Leaving university early: Exploring the differences between continuing and non-continuing students. *Studies in Higher Education*, 617-636.
- Dayioğlu, M., & Türüt-Aşık, S. (2007). Gender differences in academic performance in a large public university in Turkey. *Higher Education*, 53(2), 255-277.
- Díaz, A. L. (2003). Personal, family, and academic factors affecting low achievement in secondary school. *Electronic Journal of Research in Educational Psychology and Psychopedagogy*, 1(1), 43-66.
- Etzkowitz, H., Webster, A., Gebhardt, C., & Terra, B. R. C. (2000). The future of the university and the university of the future: evolution of ivory tower to entrepreneurial paradigm. *Research policy*, 29(2), 313-330.
- Faruque A. Haolader, W. H., Hamisi Ramadhan Mubarak. (2017). A Comparative Study on the Academic Performance of Students in Bachelor's Degree of Information Technology Having Arts and Science Background in Uganda. *World Journal of Educational Research*.
- Gbollie, C. a. K., Harriett Pearl. (2017). Student academic performance: The role of motivation, strategies, and perceived factors hindering Liberian junior and senior high school students learning. *Education Research International*.
- Gorman, M. E., Johnson, V. S., Ben-Arieh, D., Bhattacharyya, S., Eberhart, S., Glower, J., . . . Lim, T. W. (2001). Transforming the engineering curriculum: Lessons learned from a summer at Boeing. *Journal of Engineering Education*, 90(1), 143-149.
- Haolader, F. A., Hakim, W., Kassim, K., & Mubarak, H. R. (2017). A Comparative Study on the Academic Performance of Students in Bachelor's Degree of Information Technology Having Arts and Science Background in Uganda. *World*, 4(2).
- IUT. (2019). Islamic University of Technology IUT, Admission 2019-20. Retrieved 01/10/2019, 2019, from http://admission.iutoic-dhaka.edu/admission_information/general-information
- Johnson, B., & Christensen, L. (2008). *Educational research: Quantitative, qualitative, and mixed approaches*: Sage.
- Kurdek, L. A., & Sinclair, R. J. (1988). Relation of eighth graders' family structure, gender, and family environment with academic performance and school behavior. *Journal of Educational Psychology*, 80(1), 90.
- Lins, L. J. (1960). Methodology of Enrollment Projections for Colleges and Universities.
- Martirosyan, N. M., Hwang, E., & Wanjohi, R. (2015). Impact of English proficiency on academic performance of international students. *Journal of International Students*, 5(1), 60-71.

- Masrom, M. (2015). Use of Online Social Networking and Academic Performance of Students *Encyclopedia of Information Science and Technology* (pp. 8). USA: IGI Global
- Monem, M., & Muhammad, H. (2010). Higher Education in Bangladesh: Status, Issues and Prospects. *Pakistan Journal of Social Sciences (PJSS)*, 30(2).
- Mushtaq, I., & Khan, S. N. (2012). Factors Affecting Students' Academic Performance. *Global journal of management and business research*, 12(9).
- Njeuma, D. L., Endeley, H. N., Mbuntum, F. F., Lyonga, N., Nkweteyim, D., Musenja, S., & Elizabeth, E. (1999). Reforming a national system of higher education: The case of Cameroon. *A Report of the ADEA Working Group on Higher Education*.
- Psacharopoulos, G. (1988). Education and development: a review. *The World Bank Research Observer*, 99-116.
- Roberts, T. G., Irani, T. A., Telg, R. W., & Lundy, L. K. (2005). The development of an instrument to evaluate distance education courses using student attitudes. *The American Journal of Distance Education*, 19(1), 51-64.
- Sadler-Smith, E. (1996). Approaches to studying: Age, gender and academic performance. *Educational Studies*, 22(3), 367-379.
- Sánchez, M. V., & Sbrana, G. (2009). Determinants of education attainment and development goals in Yemen. *Prepared for the Project Assessing Development Strategies to achieve the Millennium Development Goals in the Arab Region, UNDP-RBAS, UN-DESA and World Bank [downloadable from: <http://www.un.org/en/development/desa/policy/capacity/yemen.shtml>]*.
- Sansgiry, S., & Sail, K. (2006). Effect of Students' Perceptions of Course Load on Test Anxiety. *American journal of pharmaceutical education*, 70, 26. doi: 10.5688/aj700226
- Teichler, U. (1988). *Changing Patterns of the Higher Education System. The Experience of Three Decades. Higher Education Policy Series, 5: ERIC*.
- Trudell, B. (2006). Language development and social uses of literacy: A study of literacy practices in Cameroonian minority language communities. *International Journal of Bilingual Education and Bilingualism*, 9(5), 625-642.
- valentine kassaring, E. M., andreas Bjerre-nielsen, Piotr sapiezynski, david dreyers lassen and sune lehman. (2018). Academic Performance and Behaviour Pattern. *EJP data science* 1-16.
- Yang, H.-J. (2004). Factors affecting student burnout and academic achievement in multiple enrollment programs in Taiwan's technical-vocational colleges. *International Journal of Educational Development*, 24(3), 283-301.
- Yousif, A. A. (2011). *Adult Literacy and Adult Education in the Arab States: Baharin, Egypt, Oman, Saudi Arabia, Sudan, Syria and Yemen: Citeseer*.

Appendix
QUESTIONNAIRE

Student No: _____

Year of Entry: _____

Gender: () Female () Male

Country: _____

To the respondents:

Please consider each item carefully. Your answer to the questions will help and provide awareness

Students' academic performance compared with their entry level results: A case of Islamic university of technology (IUT) Rest assured that your answers would be kept highly confidential.

RESEARCHER

Directions: Kindly fill up the following and put a check mark (✓) on the following information which suggests to you.

SA: Strongly Agree, **A:** Agree, **N:** Neutral, **D:** Disagree and **SD:** Strongly Disagree

SN	ITEMS					
•	Grown up place till SSC school	City	Town	village		
•	Location of collage and residence	City	Town	village		
•	Instruction Language used in the school	local	English	French	Arabic	
•	Secondary school certificate (SSC) GPA					
•	High secondary school, collage (HSC) GPA					
•	GPA Over the three semesters at IUT	1 st Sem	2 nd Sem	3 rd Sem		
•	Study Habits	SA	A	N	D	SD
1	I enjoy studying everyday					
2	I only study for examinations					
3	I have proper notes that allows me to study well					
•	Learning Skills	SA	A	N	D	SD
1	I can write answers in English very well					
2	I can read and understand my notes without a dictionary					
3	I feel my teachers do not understand what I write					

4	I can speak English very well					
	• Hardworking	SA	A	N	D	SD
1	I am hard working person					
2	I focus on my work during study					
3	I always participate class activities					
4	I attend all the classes					
	• Academic Interaction	SA	A	N	D	SD
1	I have many friends in my class from other countries					
2	I meet my lectures easily when I am stuck with my studies					
3	I interact with my professors outside class					
	I discuss my studies with my friends					
	• Academic Performance	SA	A	N	D	SD
1	I am satisfied with my academic performance at IUT					
2	my performance reflects my ability					
3	I am satisfied with academic experience					
4	my professors are very knowledgeable					
5	I have faith in myself					
6	internet contributes allot in my performance in class					
	• instruction	SA	A	N	D	SD
1	My class environment is very good					
2	Internet facility is adequate					
3	We have whatsApp class group					
4	Library facility is adequate					
5	We have Facebook group					
6	I use YouTube for studies					
7	Hotel facility is adequate					
8	Medical facility is adequate					

Mention three problems you face in IUT