
TRENDS OF ACADEMIC COMPETENCY AND RELATED DETERMINANTS AMONG DIRE DAWA UNIVERSITY STUDENTS

Gizaw Tesfaye Yifru (M.Sc., in Applied Statistics) **Asrat Demeke Wendimu**
(M.Sc., in Applied Statistics), **Asamenew Endaweke Wale**
(M.Sc., in Bio-Statistics)

Dire Dawa University, College of Natural and Computational Sciences, Department of Statistics,
Dire Dawa, Ethiopia, P.O.Box: 1362

ABSTRACT: *Background: Higher education plays a critical role in developing educated human capital. The higher educational institutions use to build the knowledge and skills of the students which can possibly increase productivity and growth of a nation, it's also vital in raising a living standards of the surrounding community. Graduates entering the Ethiopian work market each year are expected to make a significant contribution to the growth and transformation of Ethiopian economy. To satisfy these demands the graduated students need to have desired level of academic competency and skill during their stay in the Higher Institutions. Objectives: To identify the trend of graduated and graduating class students' academic achievement, to investigate the relationship between independent variables and the academic achievement of graduating class of DDU students. Method: Multi-stage stratified simple random sampling technique was employed to draw a sample of Dire Dawa University graduating class students. All Students who have graduated and graduating class students were considered as the parent population of the study. The data were collected from both secondary and primary sources. Primary data were collected via interviewee administered structured questionnaires. All the data were analyzed by SPSS 20 version. Descriptive statistics, Pearson correlation analysis, multiple linear regression models were fitted to the generated data. Results: Firstly, the study was identified determinants of academic competency of Dire Dawa University Graduating class students by the year 2010E.C.: study time, mother's education, religion, motivation, gender, efforts, and first year cumulative grade point average were found out to have significant effect on the academic competency of the graduating class students in Dire Dawa university at the time of data collection Secondly, the study identified the variation observed in the trends of graduating and first year cumulative grade point in Dire Dawa University. Thirdly, the study was identified the variation observed in the trends of graduation cumulative grade point average in Dire Dawa University. Fourthly, the study was distinguished the mean of graduating and graduation year academic competency of students in DDU. Conclusions: Firstly, based on the study finding we conclude that the mean of graduating year academic competency of students in DDU was 3.03. Secondly, Based on the results obtained from multiple linear regression models we conclude that study time, mother's education, motivation, efforts, gender, religion and first year CGPA were significantly correlated with the academic competency of graduating class students.*

KEY WORDS: Graduating Class students, Graduated students, Eastern Ethiopia, Dire Dawa University, Academic Competency, and Multiple Linear Regression Model.

INTRODUCTION

Education is one of the most important factors in producing human resource that is necessary for economic development of a country. Education, in a broad sense, is any act or experience that has a formative effect on mind, character or physical ability of an individual. The role of education plays and contributes to intellectual growth and development of society which becomes the common concern in both developed and developing countries (Hanushek, 2006). Schools, colleges and universities have no worth without students. Students are most essential asset for any educational institute. The social and economic development of a country is directly linked with student academic performance. Student academic performance measurement has received considerable attention in previous research, it is challenging aspects of academic literature, and science student performance are affected due to social, psychological, economic, environmental and personal factors. These factors strongly influence on the student performance, but these factors vary from person to person and country to country. Indeed, academic performance can be influenced by so many factors these variables are inside and outside school that affect students' quality of academic achievement. These factors may be termed as student factors, family factors, school factors and peer factors (Crosnoe, Johnson & Elder, 2004).

It is assumed that the number of determinants or factors other than university entrance result may significantly affect the academic performance of students in universities. The factors might be the type and location of secondary school attended, type of admission, quality of teaching, life in university, study habit, economic and educational background of parents, references and textbook availability in a university, students placement by their first choice etc. CGPA of students can measure student academic performance. This idea supported by (Hijaz & Naqvi, 2006) stated that GPA in university is commonly used indicator of student academic performance. Furthermore, higher education plays a critical role in developing human capital. The higher educational institutions use to build the knowledge and skills of the students which can possibly increase productivity and growth of a nation, it's also vital in raising living standards of the surrounding community. Currently, Graduates entering the Ethiopian work market are expected to make a significant contribution to the growth and transformation of Ethiopian economy. Thus, one way of measuring the competence of Graduates that join the work market is via their cumulative grade point average. There are potentially many factors that may have either negative or positive effect on academic achievement of students. Some of these factors: a student's age, gender, race and financial status may be easier to measure than others, such as a student's level of motivation for studying, the level of academic integration and the type of living conditions that exist at the university where they want to study (Rohana et al., 2016). Intelligence is not the only determinant of academic achievement of a student. Academic

achievement of a student is always associated with the many components of learning environment. Learning and teaching environment ought to implement six functions: inform, communicate, collaborate, produce, scaffold, and manage. Additionally, students' academic gain and learning performance is affected by numerous factor including gender, age, teaching faculty, students schooling, father/guardian social economic status, residential area of students, medium of instructions in schools, tuition trend, daily study hour and accommodation as hostelrys or day scholar (Shoukat et. al., 2013). Parent's income or social status positively affects the student test score in examination (Considine and Zappala, 2002). According to Minnesota (2007) "the higher education performance is depending upon the academic performance of graduate students.

Their finding identify students' effort, previous schooling, parent's educational background, family income, self-motivation of students, age of student, learning preferences and entry qualification of students as important factors that have effect on student's academic performance. On the other hand the study done on social and educational background pointed out those students who mostly come from deprived socio-economic and educational background performed relatively better than others coming from higher socio-economic and educational area (Pedrosa et al., 2006). Understanding the effects of various background characteristics on academic performance in Higher Education (HE) has prompted a much debate with socio-demographic (McNabb et al., 2005). This factor is also implicated in the associations between other background characteristics and degree outcome. A student's age, for instance, has been found to be associated with degree performance. The average 'good' degree rate of female students over the period reviewed was found to be superior to the corresponding male rate. There was greater dispersion in male performance compared to females. In addition, females were less likely to fail or secure third/pass degrees than males. Further analysis indicated that if males were subjected to a female treatment, the male dispersion in performance would be dramatically reduced (Michael et al., 2009). The other important variable in determining student's college academic performance is studying hours. The number of hours students use to study per day significantly and positively related to academic performance of students with, $r = 0.758$. The regression result for the variable HS shows that studying hours is significant at 1% level of significant level (Moges et al., 2017).

This study was designed specifically to assess the trend of CGPA for graduated students in the past few years from Dire Dawa Universities as well as to study the determinants of academic achievement of 2018 graduating class students in the universities.

Statement of the Problem

In Ethiopia most of the universities are not fully fulfill the desired level of services for their students due to various observable and none observable reasons. As DD university is one part of the Ethiopian tertiary level educational institutions we have been observing that they have been facing different challenges in providing effective services and produce competent graduates as per the need of the nation's labor market. In addition, there have been unanswered assignments of the universities in producing graduates that can create job rather than with attitudes of job seeking. There are a lots of problems in the universities that have a direct impact on the academic competence of their students which lead the students to be incapable graduates that cannot be confident with their CGPA, satisfied with the knowledge and skill they want to have as well as possibly fail to meet the demand of the labor market and it also unmotivated to be an entrepreneur. Thus, the universities have to transform their students' perceptions and attitudes from the expectation to job creation because without solving these problems how the universities can be able to meet the strategic goal and mission they are working for to be able to the accredited higher educational institutions in the world. Teaching-learning process could have both positive and negative impact on the academic achievements of university students (Rohana et al., 2016). On the other side, the estimated odds ratio 2.00 indicates that those students who arrange study outside class are 2.00 times more likely to perform better compared to their counterparts controlling for other variables in the model. Regarding father's education level the estimated odds ratio 2.51 indicates that those student whose father's level of education certificate and above level are 2.51 more likely to perform better compared to those counterparts controlling for other variables in the model. From the logistic regression analysis it was also concluded that the odds of securing first choice of department, peer influence, father's education level, study time, arranging study outside class and amount of money received from family are significant predictor variables seems to indicate better academic achievement of students in ok status as compared to their counterparts in college of natural and computational science of Wolaita Sodo University situation (Bereket et al., 2016). The majority of problems female students encounter and those factors that affect female students' academic performance are personal and the other problems are caused by the university environment (Yeshimebrata *et al.*, 2013). Thus, studying the trend of graduated students CGPA & factors affecting academic achievements of graduating class students in Dire Dawa University plays a crucial role in assessing: the past, the existing circumstances & for designing or predicting the future of the Eastern Ethiopian public higher educational institution. Additionally, it's important to consider the students academic competence after joining the university not only their high school performance. That was, starting from the first semester of their stay in the university.

The main Objectives of the study were to identify trend of graduated and graduating class students' academic achievement & to investigate the relationship between independent variables and the academic achievement of graduating class students in DDU.

Significance of the Study

The study has the following significance for the following stakeholders in DDU:

The DDU can see back and identify the trend of graduation CGPA of their graduated students and create its own corrective measure if there was decline in the trend of CGPA of graduated from the University in the past ten years teaching-learning process. The university can observe the progress of the academic achievement of its graduating class students from the first years first to the last year first semester duration in the university as well as identify the variation in academic achievement pattern of the graduating students in the university. It can also be able to identify the determinant factors that affect the academic achievement of graduating class students, and the trend of academic achievement of the graduating class students. The university can be able to create their own strategy to alleviate the difficulties facing the institution in producing a competent graduate. Furthermore, the policy makers can take it as an input the finding of the study as well as any interested body can take it as an input for further study to be done in the area.

LITERATURE REVIEW

This Section Presents Both theoretical and empirical literature reviews of related studies.

Theoretical Literature Review

Undergraduate programs are offered for three, four or more years after completing secondary education. Completion of this program is certified by awarding a bachelor's degree. Undergraduate graduates are those who completed their study at the higher education institutions, and were awarded a bachelor's or first degree.

Empirical Literature Review

This section presents determinants of academic performance of University students explained by previous researchers. Martha (2005) found that high school grade point average is consistently the best predictor of college grade of students. And also the same study held by Anderson, Benjamin and fuss (1994) carried out a study on the determinants of success in university and found out that students performed better in high school also performs better in college and the researcher suggested that high school grades were predictors of academic performance at college without doubt. Grealz (1995) carried out a study on socio economic status in education research and policy found that socio economic background of students remains one of the major sources of educational inequality and the researcher adds that one's educational success depends on the socio economic status of one's parent. Considire and zapala (2002) agree with the result of graelz (1995), in their study on the influence of social and economic disadvantage in the academic performance of school students in Australia found that families where parents are advantaged socially, economically and educationally foster a higher a higher level of achievement in their children. They also found that parents provide higher level of psychological support for their children through environments that encourage the development of skill necessary for success at school. And they pointed out that low social economic status of families negatively affect academic achievement of children's because of low socio economic status prevents access to

vital resources and creates additional stress at home. Koyoshaba(2005) conducted a study on determinant of academic performance and he test significant relationship between former school back ground and academic performance of undergraduate students. The regression result of the study shows that significant relationship between former school background and academic performance of undergraduate students. The Pearson product moment correlation coefficient index (r) a significant correlation or p-value prevails 0.000 which is less than alpha (0.01) hence this indicates that there is a significant relationship between former school background of students and academic performance at undergraduate level. (Hoskinsetal, 1997) carried out a study on performance of students at university of Plymouth, he identified the key variables that affect academic performance of students to be age, gender, prior qualification and discipline studied. Figueroa, cited by (cheesman et al, 2006) conducted a study using primary research and analyzing data for secondary and tertiary level institutions asserted that male students generally under achievement than female students with the gap widening out at the higher levels. They further explains that research conducted in Zimbabwe analysis that variables such as gender, age, environment and access to internet explained or determine the academic performance of undergraduate students. Gender gaps in favor of male students' better performance than females' students in academic achievement (Ever taderara, elinahmandimaka, 2011). A study conducted by (Nayebzadeh, addinandheirany, 2011) indicates that the significant relationship between priori educational success of students and their academic performance at undergraduate level and also the analysis proofs the direct relationship between parents socio economic background and impacts of friend on academic achievement (Sakho, 2003) carried out a study on the determinant of academic performance hec- lausane graduates using tobit model and he analysis econometrically the relationship between different variables related with personal and family backgrounds and average mark of students and he conclude that socio economic background of family and good personal background of students contribute to better academic achievement. (Cheesman, et al., 2006), carried out a study on determinates of student performance at university reflections from the Caribbean analyze their study on 900 samples students and the econometric result shows that gender gap in favor of male students is only related with university entrance exam scores. But in undergraduate level female students score high grade or perform better than males. The researcher pointed out the reason that female students perform or score low grade in entrance exam result and they joined in less competitive departments and this situations makes female students perform better or score high CGPA in undergraduate level than male students. (Park andM.Kerr, 2005), conducted a study on determinants of academic performance of students by using multi-logit method of analysis on money and banking courses and use a sample of 97 students. The regression result indicates that college entrance exam and student's attendance determines academic performance. A student who attends attentively in class performs better in academic achievement (Farooq , chaudnry, shafiy, berhanu, 2011), addressed their research on effect of socio economic status of parents and students former education back ground specially for English and mathematics courses on academic performance

on undergraduate level and they conclude that socio economic status of parents are significant indicators for students achievement. Students from high socio economic status family perform better than those not. And students' previous proficiency on mathematics and English subjects play vital role on academic performance of students at college level.

A study conducted by (Florence, 2012) on undergraduate students of economics in Osun state indicates that family structure have great influence on academic performance of undergraduate students. According to this study family income and educational levels of parents as well as entrance exam of students determine student's achievement in education. Students from illiterate parents perform less than students from literate. This infers socio-economic background of parents is an impetus to academic growth and performance of students. (TsehayeWeldegiorgis and Yesuf Mohammednur Awel, 2010/11) they conducted a study on the Determinants of Student Attrition at College of Business and Economics, Mekelle University: Econometric model investigation indicates that student's gender, national entrance examination overall results and mother education level significantly correlate with student performance. Female students found to perform lower than male students. Student's national entrance examination overall result is positively correlated with the student performance which was in line with their expectation. Those Students who do not drink alcohol found to have better academic performance than others. Student's mother educational background significantly affects student CGPA, i.e. the higher the level of mother education in years the better the student to perform keeping other things the same. (Yeshimebret, alemayehu and firew, 2013), carried out their research on factors affecting female students academic achievement at Bahirdar university. They have taken a sample of 600 students on second year and above undergraduate female students and the result that they obtained shows that academic achievement of female students affected by students personal related factors such as less ability to competent, tension, failing in love easily, being addicted to drinking , smoking , disco houses etc. university related factors such as , influence of male students , lack of proper guidance, lack of proper reading place where students use freely, influence from male teachers and youth from surrounding environment.

DATA AND METHODOLOGY

Description of Study Area and Population

The study was conducted in Dire Dawa and University. Dire-Dawa University is a public university located in Dire-Dawa, Ethiopia. It is established and started its teaching and learning activities in 2006/07 academic year. Dire-Dawa University is located in the industrial and commercial city called Dire-Dawa located about 500Km east of Addis Ababa, the capital city of Ethiopia. The existing academic units in the University comprise College of Business and Economics, College of Health and Medical Sciences, College of Social Science and Humanities,

College of Law, College of Natural and Computational Science, Dire Dawa Institute of Technology. The source population of the study was all DDU graduating class students by the year 2018. Dire Dawa University has graduated 2176 regular under graduate students in different fields of studies by first degree which comprises the Target population (Dire Dawa University Registrar, 2018)

Data source and study Population

The parent populations of the study were all Dire Dawa University graduating class students in the year 2018.

Study Design:

A cross- sectional study design was conducted from June, 2018 - to- July, 2018 for graduating class students of Dire Dawa University and retrospective study design was held for graduated students.

Sample size determination

The sample of 324 graduating class students was drawn from Dire Dawa University graduating class students.

Variables of the Study

Response variable: CGPA graduating class students of Dire Dawa University .

Independent variables

Demographic Variables: Age, Religion.

Socio-Economic and personal Variables: income, interest to learn in DDU, housing fee, distance from the university, access to: clean water & light, time to get in and out, sound pollution, self-confidence, adequate effort, Homesickness, Being addicted to drinking, smoking, disco houses, Tension, Falling in love easily, Inability to become well planned and organized Enrolment, Language, Adjustment to the university life, internal locus of control Where the problem is lies, Autonomy or independence, Peer pressure, Students' and lecturers' attitudes towards each other, Help-seeking, Academic motivation of students, Self-esteem, High Grades, Stress, Capabilities, students' effort, previous schooling, parent's educational background, family income, learning preferences and entry qualification of students.

University related (Institutional) Variables: College admission criteria, proper reading place where they can use freely, proper guidance, Academic advising problem, University Library, course nature, Number of days students missed from class: own dorm, number of students in a dormitory, own chair, place to put documents, availability of working latrine, on time and

sufficient library service, suitability to sit and read at library, air conditioned library, availability of clean water to drink or to wash hands after class, café around your class and dormitory, how do you rate a cafeteria service, method of assessment, habit of visit to the DDU library either via web or direct, availability of references and text book for the courses you want to learn or conduct a research, ease access to the books, access to comfortable reading places that reserved for students, access to the internet, salience of the library, rate of the library service of DDU, Availability of sufficient teaching class, class size, sufficient chairs, class setup to use projector, board setup and ease to write on it, the student staff-ratio, availability of working windows and door, salience of the class area, availability of sufficient computers that loaded with desirable software's, availability of lab chairs and tables, availability of lab equipment and chemicals, measurement tools and others that can facilitate an effective teaching and learning process in DDU.

Method of Data Analysis

Descriptive statistics and Inferential Statistics were used for data analysis.

Descriptive statistics: Pearson correlation, Frequencies, percentages, averages, Standard deviations were used. The results presented via: tables, graphs and figures. **Inferential Statistics:** Uni-variate Analysis and Multiple Linear Regression model was used to study the linear relationship between dependent and independent variables.

RESULT AND INTERPRETATIONS

The response variable was study CGPA of Dire Dawa University Students those graduated in 2018E.C. Additionally simple and multiple linear regression models was used to examine the relationship between the explanatory variables and the response variable. The data analysis started by providing descriptive statistics, then proceeds to the univariate analysis and the final model in multivariable analysis.

Descriptive Statistics for Categorical Variables

Table 4.1: Descriptive Statistics for Categorical Variables for DDU

Variables	Categories	Frequency (Percent)
Sex of student	Male	181 (71.5)
	Female	72 (28.5)
Religion	Muslim	44 (17.4)
	Orthodox	136 (53.8)
	Protestant	67 (26.5)
	Catholic	2 (0.8)

	Other	4 (1.6)
Cleanness of dormitory	Not clean	73 (28.9)
	Clean	180 (71.1)
Comfort of dormitory	Not comfortable	144 (56.9)
	Comfortable	109 (43.1)
Motivation	Not motivated	28 (11.1)
	Less motivated	54 (21.3)
	Moderately motivated	115 (45.5)
	Highly motivated	42 (16.6)
	Very Highly motivated	14 (5.5)
First Choice University	DDU	75 (29.6)
	HU	45 (17.8)
	Other	133 (52.6)
Expectation	Never expect	53 (20.9)
	Less	23 (9.1)
	Moderate	58 (22.9)
	High	76 (30.0)
	Very high	43 (17.0)
Got as You expected	No	188 (74.3)
	Yes	65 (25.7)
Rate of Your Univ	Worst	43 (17.0)
	Bad	64 (25.3)
	Moderate	77 (30.4)
	Good	56 (22.1)
	Very good	7 (2.8)
	Best	6 (2.4)
Confident	No	70 (27.7)
	Yes	183 (72.3)
Effort	No	67 (26.5)
	Yes	186 (73.5)
Drink	No	204 (80.6)
	Yes	49 (19.4)
Smoke	No	239 (94.5)
	Yes	14 (5.5)
Level of Stress	Very Low	16 (6.3)
	Low	39 (15.4)
	Medium	128 (50.6)
	High	49 (19.4)

	Very High	21 (8.3)
Planned	No	72 (28.5)
	Yes	181 (71.5)
Language barriers	No	125 (49.4)
	Yes	128 (50.6)
Get difficulties	No	82 (32.4)
	Yes	171 (67.6)
Peer pressure	No	116 (45.8)
	Yes	137 (54.2)
Problem with instructor	No	125 (49.4)
	Yes	128 (50.6)
Father Education	No formal education	63 (24.9)
	Primary	52 (20.6)
	Secondary	51 (20.2)
	Above secondary	87 (34.4)
Mother Education	No formal education	74 (29.2)
	Primary	69 (27.3)
	Secondary	55 (21.7)
	Above secondary	55 (21.7)
Department Choice	Third choice	33 (13)
	Second choice	40 (15.8)
	First choice	159 (62.8)
	Other	21 (8.3)
Effects of surrounding community	Very Low	24 (9.5)
	Low	30 (11.9)
	Medium	122 (48.2)
	High	55 (21.7)
	Very High	22 (8.7)
Effect of the environmental weather	Very Low	9 (3.6)
	Low	20 (7.9)
	Medium	58 (22.9)
	High	82 (32.4)
	Very High	84 (33.2)
Reference book	Not available	45 (17.8)
	Less available	118 (46.6)
	Moderately available	76 (30.0)
	Highly available	11 (4.3)
	Very highly available	3 (1.2)

From Table 4.1., we can observe that out of the total sample taken from DDU, 71.5 percent are male students while the remaining 28.5 percent are female students.

Based on religion of students, from the total samples, about 17.4 percent are followers of Muslim religion, 53.8 percent are followers of orthodox religion, 26.5 percent are followers of protestant religion, 0.8 percent is followers of catholic religion and the remaining 1.6 percent is others. With regards to Cleanness of students' dormitory most of the student said that their dormitory is clean, about 28.9 percent of the students replied that their dormitories are no clean while the remaining 71.1 percent of the student said their dormitory is clean. With regards to comfort of dormitory, out of the total sample 56.9 percent of the students are not comfortable while the remaining 43.1 percent were comfortable.

The motivation of students to wards learning in DDU is one of the explanatory variables which are assumed to be affect students competency. About 11.1 percent of the students were not motivated, 21.3 percent were less motivated, 45.5 percent were moderately motivated, 16.6 percent were highly motivated and the left 5.5 percent were very highly motivated to wards learning in DDU. Regarding to students' first choice university, about 29.6 percent of students in DDU replied that DDU were their first choice, 17.8 percent of students in DDU replied that HU were their first choice and the remaining 52.6 percent of students were other universities. With regards to rate of expectation of students before joining DDU, about the total number of students, 20.9 percent were never expect, 9.1 percent were less, 22.9 percent were moderate, 30.0 percent were high and the remaining 17.0 percent were very high.

With regards to get as students' have been expected, about 74.3 percent were not got while the remaining 25.7 percent of the students were got as they have been expected. About, 27.7 percent of students were not confident regarding their educational activities while the remaining 72.3 percent were confident regarding their educational activities.

Student used their adequate effort to succeed was another important variable with regard to students competency, about 26.5 percent were not used their adequate effort and the left 73.5 percent of students were used their adequate effort to succeed.

Regarding to the habit of drinking alcoholic beverages, about the total students 80.6 percent were not drink alcohol and the left 19.4 percent were drink alcoholic beverages. In addition, about 94.5 percent were not smoke cigarettes and the left 5.5 percent of the students in DDU were smoke cigarettes.

With regards to the level of stress regarding their education, about 6.3 percent were very low,

15.4 percent were low, 50.6 percent were medium, 19.4 percent were high and the left 8.3 percent of the students were very highly stressed regarding their education. Students having well planned activities is also contribute its effect on academic competency; about 28.5 percent were not planned while the left 71.5 percent of students have well planned activities.

With regard to experience any language barriers, about the total students 49.4 percent were not experienced any language barriers and the left 50.6 percent were experienced any language barriers. In addition, from the students who experienced any language barriers most of them get communication problem. With regard to students ever get difficulties, about 32.4 percent were not get difficulties and the remaining 67.6 percent were get difficulties. With regard to students experienced any peer pressures, about 45.8 percent were not experienced any peer pressure and the left 54.2 percent experienced any peer pressure. With regard to problem with instructor, about 49.4 percent of them have no problem with instructor and the left 50.6 percent of them have problem with your instructor.

Father and mother educational status are also another important variables which are affect students' academic competency. For instance, about 24.9 percent of students whose father has no formal education, 20.6 percent of students whose father was primary education, 20.2 percent of students whose father was secondary education and the remaining 34.4 percent of students was above secondary. Whereas, students whose mother has no education were about 29.2 percent, students whose mother has primary education were about 27.3 percent, students whose mother has secondary education were about 21.7 percent and students whose mother education level was above secondary were about 21.7 percent.

With regard to the effects of the surrounding community on students CGPA, about 9.5 percent were very low, 11.9 percent were low, 48.2 percent were medium, 21.7 percent were high and the left 8.7 percent were very high effect on students' graduation CGPA. Whereas, with regard to effect of the environmental weather condition on students' graduation CGPA, 3.6 percent were very low, 7.9 percent were low, 22.9 percent were medium, 32.4 percent were high and very high effect of the environmental weather condition on students graduation CGPA were about 33.2 percent. The availability of reference book also have its own effect on students' academic competency, about 17.8 percent were not available, 46.6 percent were less available, 30.0 percent were moderately available, 4.3 percent were highly available and only 1.2 percent of students in DDU were reported that very highly reference books are available.

Table 4.3: Descriptive Statistics for Continuous Variables for DDU

	Mean	Max	Mini	Std. Deviation
First Year CGPA	2.9798	3.96	1.80	0.50204
Graduation CGPA	3.0312	3.91	2.00	0.42698

Age	22.91	30	20	1.583
Income (in month)	633.34	2500	50	412.955
Study time per day	4.46	18	1	3.293
Number of students	54.44	104	15	15.260
Number of missing from class	3.32	30	0	4.083
Number of semester	7.83	11	6	1.925
Time spent on attending class	4.58	8	2	1.305

Table 4.3 presents the descriptive statistics for continuous variables, it can be seen from the table the maximum and minimum age of students graduated from DDU in the 2010 academic year were 30 and 20 respectively. The average graduation CGPA of the students was 3.0312 and the minimum was 2.00 and the maximum was 3.91. The maximum and the minimum number of students in the class were 104 and 15 and the average monthly income of students was 633.34.

Table 4.4 Pearson Correlation Test for DDU

		Graduation CGPA
First Year CGPA	Pearson Correlation	0.764**
	Sig. (2-tailed)	0.000
Students' monthly income (in Birr)	Pearson Correlation	-0.158*
	Sig. (2-tailed)	0.012
Number of Days the dormitory cleaned (per week)	Pearson Correlation	-0.149*
	Sig. (2-tailed)	0.018
Number of Semesters you have stayed	Pearson Correlation	-0.128*
	Sig. (2-tailed)	0.042

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

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

From Table: 4.4. One can observe four continuous explanatory variables were found out to have significant correlation with the response variable at the time of study.

4.2 Trend Analysis for Dire Dawa University Graduating Class Students CGPA against their respective first year CGPA

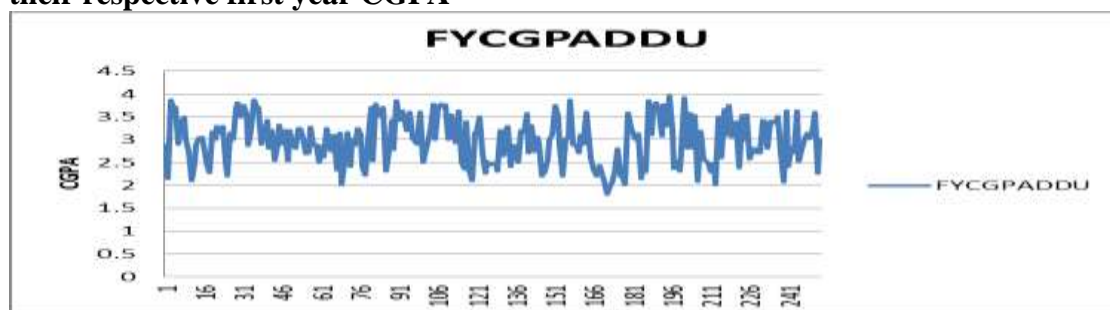


Figure 4.1: Plot of FYCGPA for DDU Students, shows that the variation observed in first year cumulative grade point average was moderately variable among students.

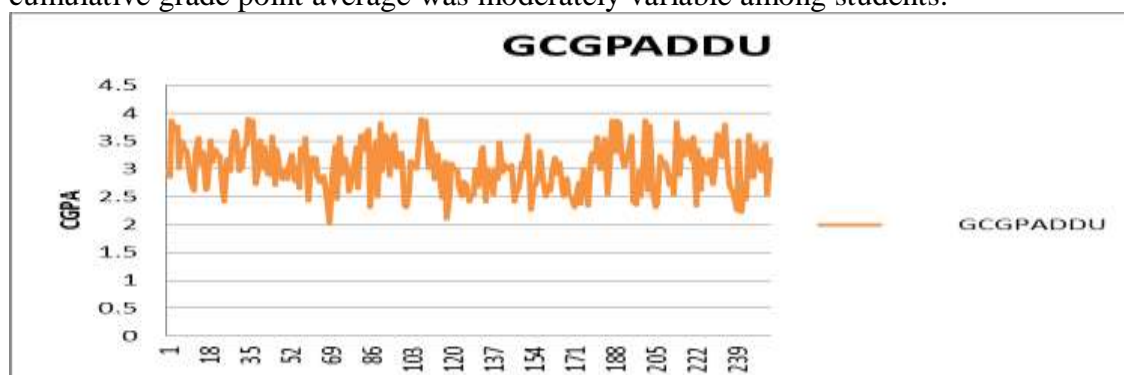
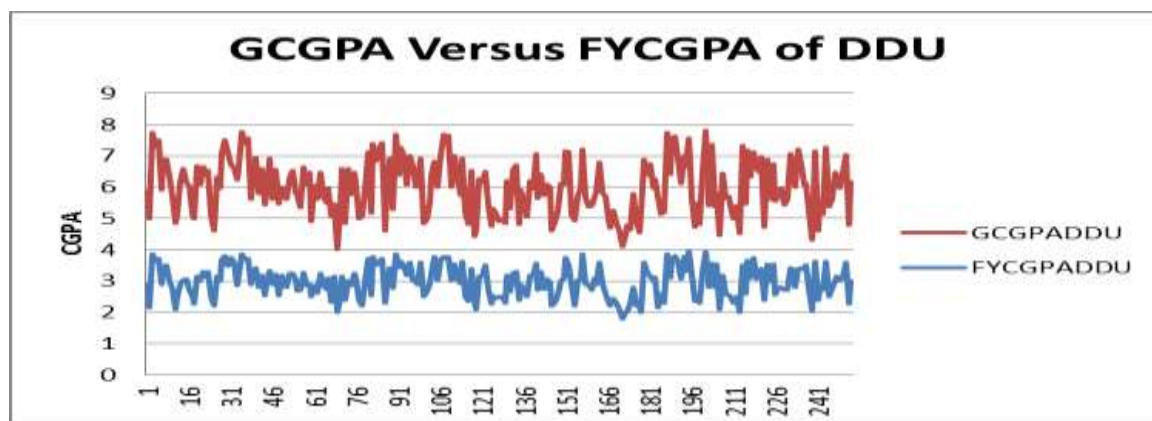


Figure 4.2 Plot of GCGPA for DDU Students, shows that the variation observed in graduating class cumulative grade point average was moderately variable among students.



4.3: Plot of Graduating Class Students CGPA against their respective first year CGPA and, it shows that the variation in first year cumulative grade point average was higher than the variation observed in graduating cumulative grade point average of the students.

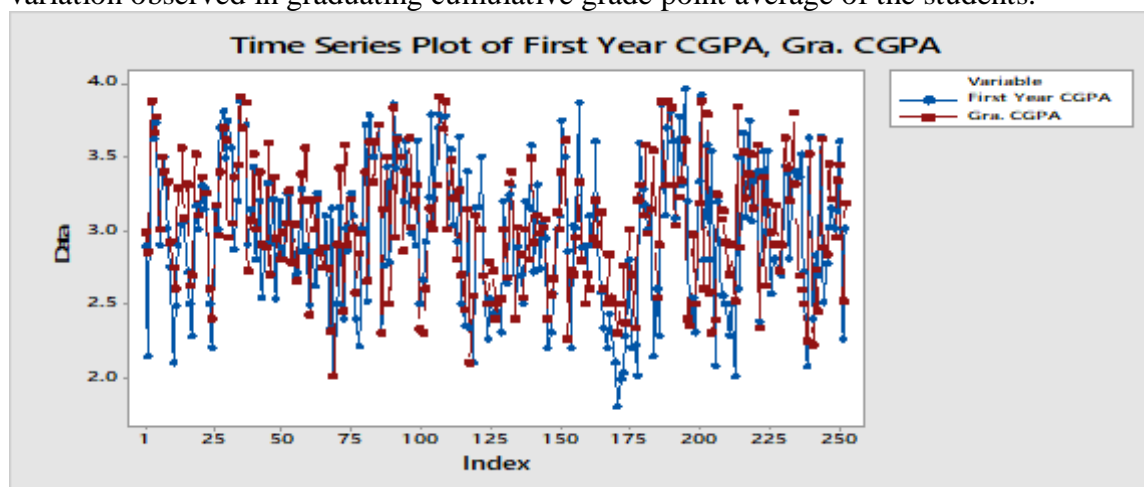


Figure 4.4: Plot of Graduating Class Students CGPA against their respective first year CGPA and, it shows that the variation in first year cumulative grade point average was higher than the variation observed in graduating cumulative grade point average of the students.

Inferential Statistics

Univariate Analysis

In any data analysis it is always a great idea to do some uni-variate analysis before proceeding to more complicated models. Simple linear regression model analysis is an appropriate procedure that is used to screen out potentially important variables before directly included in the multivariate model. The relationship between each regressors and graduation commutative grade point average of students are presented in Table 4.5 academic competency is significantly related

with sex of students, monthly income of the students, language barriers, effort of the students, facing problems with instructor, motivation to attend at Dire Dawa University, getting difficulties of the graduating class students and first year commutative grade point average of the respective students. However; the explanatory variables like age, study time per day, number of missing from class and number of students in the class are not statistically significant at 5% significant level. Furthermore, Age, study time per day and number of missing from class also included in the multiple linear regression model for further investigation using a modest level of significance 25%.

Table 4.5: Simple linear regression analysis of graduation CGPA on each explanatory variable for DDU

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Explanatory Variables	B	Std. Error	Beta		
Sex of Student	-0.187	0.058	-0.198	-3.202**	0.002
Age of student	-0.009	0.011	-0.032	-1.597*	0.111
Income	0.000	0.000	-0.138	-2.206*	0.028
Study time per day	0.012	0.008	0.092	1.469*	0.143
Number of Students in the class	-0.001	0.002	-0.030	-0.469	0.639
Number of missing from class	-0.011	0.007	-0.103	-1.648*	0.101
Time spent on attending class	0.025	0.021	0.077	1.221*	0.223
Time spent on other activities	0.020	0.012	0.100	1.598*	0.111
MotivationD1	-0.088	0.065	-0.085	-1.344	0.180
MotivationD2	-0.079	0.054	-0.093	-1.474*	0.142
MotivationD3	0.118	0.072	0.103	1.636*	0.103
MotivationD4	0.435	0.114	0.233	3.803**	0.000
Muslim	0.024	0.071	0.022	0.344	0.731
Orthodox	0.070	0.054	0.082	1.301*	0.194
Protestant	-0.115	0.061	-0.119	-1.895*	0.059
Catholic	0.161	0.215	0.047	0.749	0.454
Adequate Effort	0.221	0.059	0.229	3.730**	0.000
Drink	-0.090	0.068	-0.084	-1.334*	0.183
Smoke	-0.081	0.118	-0.043	-0.686	0.493
Planned	0.084	0.059	0.089	1.411*	0.159

Language Barriers	-0.123	0.053	-0.145	-2.317*	0.021
Difficulties	-0.115	0.057	-0.126	-2.013*	0.045
Problem with instructor	-0.158	0.054	-0.068	-2.579**	0.001
Father Education primary	-0.006	0.067	-0.006	-0.098	0.922
Father Education Sec	-0.008	0.067	-0.008	-0.121	0.904
Father Education Above sec	-0.076	0.056	-0.085	-1.346*	0.180
Mother Education primary	-0.096	0.060	-0.100	-1.593*	0.112
Mother Education sec	-0.010	-0.065	-0.010	0.152	0.879
Mother Education sec	-0.053	0.065	-0.052	-0.819	0.413
FYCGPA	0.621	0.034	0.730	18.127**	0.000

Multiple Regression Analysis

One problem of simple linear regression analysis is that it ignores the possibility that a collection of variables, each of which is weakly associated with the study variable, can become an important predictor of the outcome when taken together. It is for this reason that we used p-value of 0.25 for selection of variables that are candidates for the multiple linear regression analysis from simple linear regression analysis. Then Stepwise variable selection method was used to select the important variables to be included in the multiple linear regression models. In order to decide whether or not a variable is significant, the p-value associated with each parameter has been estimated and variables that have p-value less than 0.05 are considered as important variables and hence, are included in the study.

Table 4.6. Model Summary for DDU

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.806	0.650	0.631	0.25940

From the above model summary table 4.6, the value of $R^2 = 0.65$ and $R^2_{adj.} = 63.1\%$ which signals that the variation (change) in graduation academic competency explained by explanatory variables in the model.

Table 4.7: ANOVA for Multiple Linear Regression Model for DDU

Model		Sum of Squares	D.F.	Mean Square	F	Sig.
1	Regression	29.860	13	2.297	34.136	0.000**
	Residual	16.082	239	0.067		
	Total	45.942	252			

$H_0: \beta_j=0$ or $H_a: \beta_j \neq 0, j=1,2,3,\dots,k$

Based on the result displayed in Table 4:7, we reject the null hypothesis and conclude that there is at least one pair that has a significant linear relationship with academic competency.

Table 4.8: The parameter Estimates of Multiple Linear Regression Model for DDU

Explanatory variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
(Constant)	1.010	0.121		8.321*	0.000	0.771	1.249		
First Year CGPA	0.614	0.034	0.722	17.99*	0.000	0.547	0.681	0.909	1.100
Study T.	0.012	0.005	0.091	2.222*	0.027	0.001	0.022	0.877	1.140
Motivation D1	-0.028	0.048	-0.027	-0.575	0.566	-0.122	0.067	0.688	1.454
Motivation D2	-0.084	0.040	-0.099	-2.090*	0.038	-0.164	-0.005	0.659	1.518
Motivation D4	0.092	0.078	0.049	1.169	0.243	-0.063	0.246	0.830	1.205
ReligionD1	0.018	0.053	0.016	0.352	0.726	-0.085	0.122	0.670	1.492
ReligionD2	0.089	0.040	0.104	2.212*	0.028	0.010	0.168	0.662	1.510
ReligionD4	0.026	0.139	0.008	0.185	0.853	-0.249	0.300	0.880	1.136
Mother E primary	0.020	0.047	0.021	0.437	0.663	-0.071	0.112	0.617	1.620
Mother E secondary	0.065	0.049	0.062	1.322	0.187	-0.032	0.161	0.656	1.524
Mother EDU. AS.	0.102	0.050	0.098	2.021*	0.044	0.003	0.201	0.618	1.619

Female	-0.127	0.038	-0.135	-3.334*	0.001	-0.203	-0.052	0.895	1.118
Effort[yes]	0.164	0.038	0.170	4.299*	0.000	0.089	0.239	0.936	1.068

$$\hat{Y}_i = \hat{\beta}_0 + \hat{\beta}_1 X_{i1} + \hat{\beta}_2 X_{i2} + \hat{\beta}_3 X_{i3} + \hat{\beta}_4 X_{i4} + \hat{\beta}_5 X_{i5} + \hat{\beta}_6 X_{i6} + \hat{\beta}_7 X_{i7} \quad \text{---1}$$

DDU.

$$\hat{Y}_i = 1.010 + 0.614 X_{i1} + 0.012 X_{i2} - 0.084 X_{i3} + 0.089 X_{i4} + 0.102 X_{i5} - 0.127 X_{i6} + 0.164 X_{i7} \quad \text{---2}$$

DDU.

From the fitted multiple linear regression model DDU, one can see that the average grade point average is 1.010 when all the predictor variables in the model are zero. GCGPA increases by 0.614 as the First year CGPA of the students' increases by a unit keeping constant the rest of independent variables in the multiple regression models. The academic competency of graduating class students' increase' by 0.012 as a study time increase by one unit keeping constant the rest of the independent variables in the model. The academic competency of graduating class students' decrease' by 0.084 for students who responded as moderately motivated to learn in Dire Dawa University compared to the students who responded as highly motivate to study in Dire Dawa University keeping constant the rest of the independent variables in the model. The academic competency of graduating class students' increase' by 0.102 for students who responded as their mother education was secondary compared to the students who responded as their mother have no formal education keeping constant the rest of the independent variables in the model. The academic competency of graduating class students' decrease' by 0.127 for female students compared to male keeping constant the rest of the independent variables in the model. The academic competency of graduating class students' increase' by 0.164 for students who responded that they have used their adequate effort compared to the students who responded that they have not used their adequate effort keeping constant the rest of the independent variables in the model.

Model Diagnostic Checking

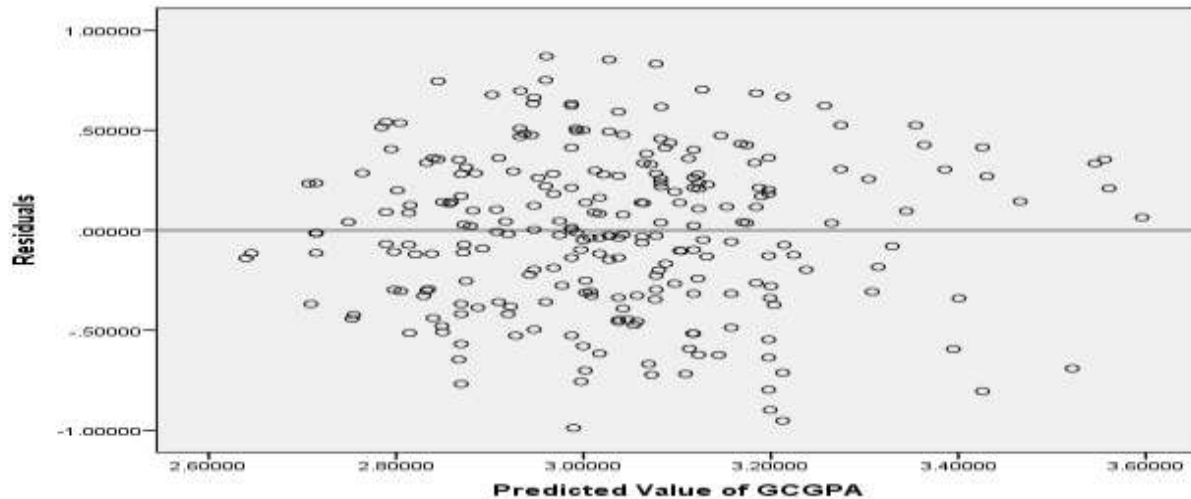


Figure 4.4 Scatter plots of residuals against the predicted value of the dependent variable

It can clearly be seen that the scatter of the residual (i.e. the variance of the residuals) is evenly distributed to the line of residual equal to zero. This is an indication of the residuals were homoscedastic. Hence the assumption of multiple linear regression of error terms have constant variance and zero mean is satisfied and therefore the model is adequate.

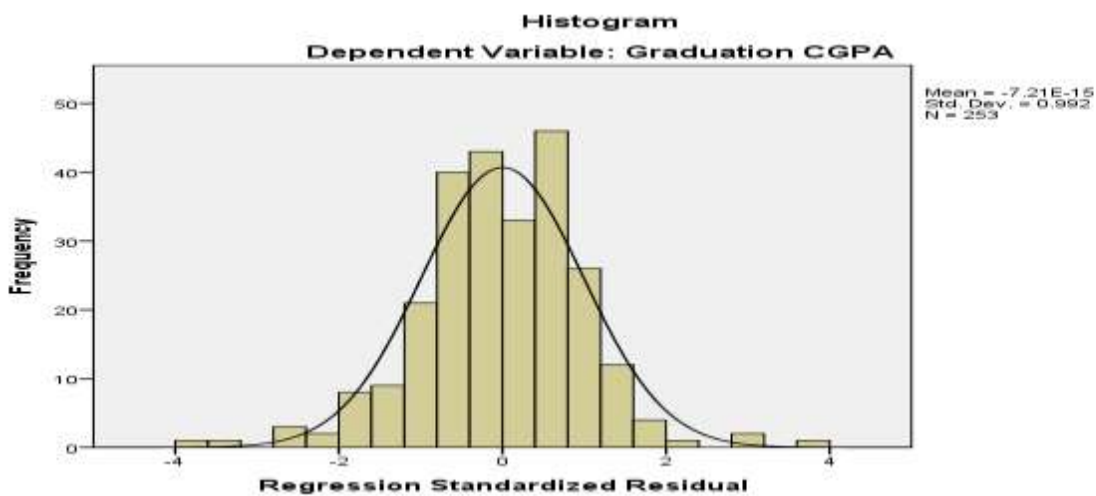


Figure 4.5: Histogram with normal probability plot for dependent variable. Figure 4.5 revealed that the histogram with normal probability plot for graduation CGPA is approximately bell

shaped and this is an indication of the assumption of the multiple linear regression of the dependent variable is normally distributed is not violated.

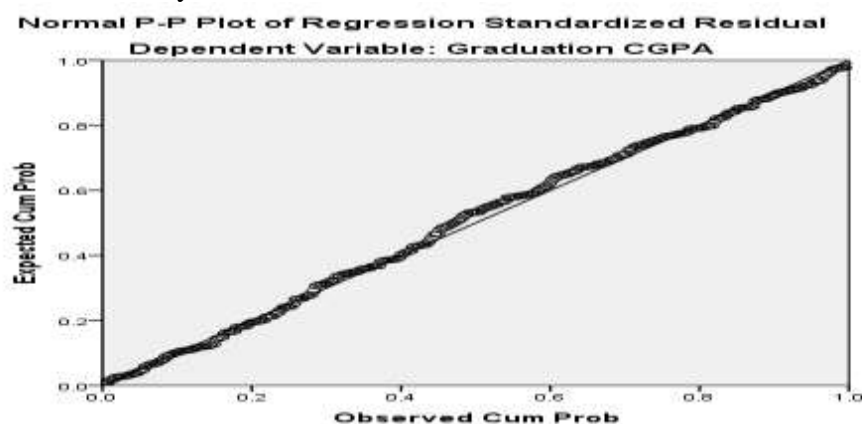


Figure 4.6: Normal P-P plot shows the normal probability plot was straight line which reveals that the normality assumption was guaranteed that we can make statistical inferences.

Table 4.9 Residuals Statistics for DDU

	Mini.	Max.	Mean	Std. Deviation
Predicted Value	2.2902	4.0299	3.0312	0.34423
Std. Predicted Value	-2.153	2.901	0.000	1.000
Standard Error of Predicted Value	0.040	0.144	0.059	0.014
Adjusted Predicted Value	2.2896	4.0958	3.0312	0.34352
Residual	-0.925	0.8790	.00000	0.25262
Std. Residual	-3.567	3.389	0.000	0.974
Stud. Residual	-3.674	3.479	0.000	1.003
Deleted Residual	-0.982	0.926	-0.001	.26817
Stud. Deleted Residual	-3.775	3.563	-0.001	1.010
Mahal. Distance	5.085	76.479	12.949	9.079
Cook's Distance	0.000	0.095	0.004	0.010
Centered Leverage Value	0.020	0.303	0.051	0.036

Descriptive Statistics for DDU Graduated Students

Graduated Student CGPA	Mean		Std. Deviation	Variance
	Statistic	Std. Error	Statistic	Statistic
CGPA2012/13	2.6173	0.0197	0.48510	0.235
CGPA2014	2.6871	0.01602	0.64220	0.412
CGPA2017	2.7770	0.01399	0.49306	0.243
CGPA2015	2.7908	0.0118	0.43840	0.192

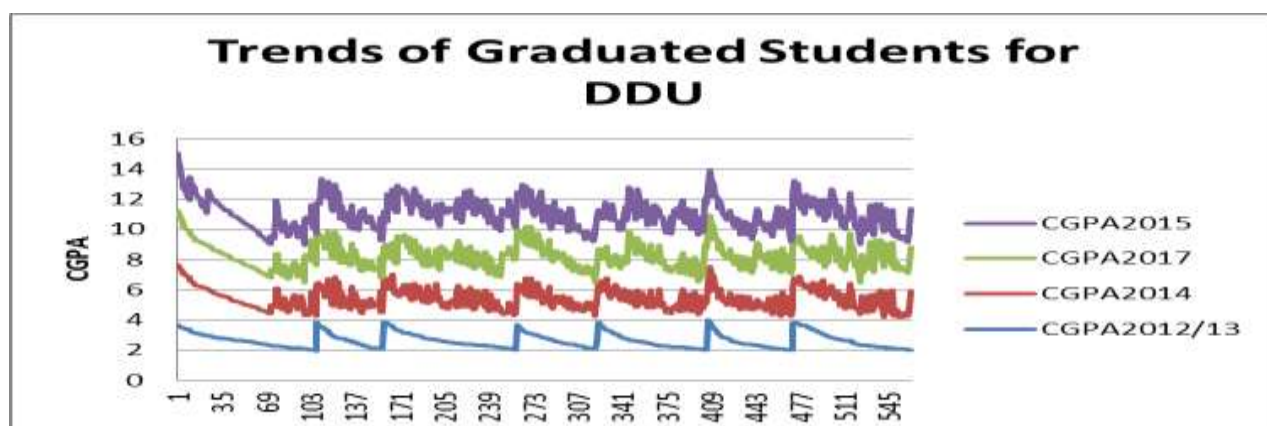


Figure29DDU: shows the trends: From the figure one can observe that there was a high variation in cumulative grade point average of the students who graduated by the year 2006 or 2016 than the variation realized in rest of the graduation cumulative grade point of the students.

CONCLUSIONS AND RECOMMENDATIONS**Conclusions**

The study was intended to identify and investigate the determinants of academic competency for Dire Dawa University students. Accordingly, descriptive analysis and multiple regression analysis were used. Student academic performance measurement has received considerable attention in previous research, it is challenging aspects of academic literature, and science student performance are affected due to social, psychological, economic, environmental and personal factors. These factors strongly influence on the student performance, but these factors vary from person to person and country to country. Indeed, academic performance can be influenced by so many factors these variables are inside and outside school that affect students'

quality of academic achievement. These factors may be termed as student factors, family factors, school factors and peer factors (Crosnoe, Johnson & Elder, 2004). The obtained results were discussed as follows. Table 4.3 presents the descriptive statistics for continuous variables in DDU, it can be seen from the table the maximum and minimum age of students graduated from DDU in the 2010 academic year were 30 and 20 respectively. The average graduation CGPA of the students was 3.0312 and the minimum was 2.00 and the maximum was 3.91. The multiple regression models were fitted forward variable selection method and found seven variables that jointly determine students' graduating class academic competency at the time of data collection in Dire Dawa University. These variables were motivation, gender, religion, mother education, study time, adequate effort, and first year commutative grade point average.

From the multiple linear regression model summary the value of $R^2 = 0.65$ and $R^2_{adj} = 63.1\%$ which signals that the variation (change) in graduation academic competency explained by explanatory variables in the model. To start our discussion with gender as it was indicated in the multiple linear regression models holding the other variables constant, male students achieve better in their graduation CGPA than female students. This result was in accordance with the study done by Ever, et al (2011), but this result was in contrast to other studies of Wint, et al (2006) which indicated that male students generally under achievement than female students. Our study was in a line with study conducted in Arba Minch Ethiopia by (Moges, et. al., 2017) that proved the existence of significant relationship between gender difference, students former academic back ground, studying hours and academic performance. Our finding was also in line with (Hijaz & Naqvi, 2006) which identified that study habit of the student, educational background of parents, students placement by their first choice were have significant effect on academic competency of the students. This idea was additionally supported by students' academic gain and learning performance is affected by numerous factors including gender, teaching faculty, students schooling, daily study hour and accommodation as hostels or day scholar (Shoukat et. al., 2013). According to Minnesota (2007) "the higher education performance was depending upon the academic performance of graduate students. Their finding identify students' effort, previous schooling, parent's educational background, family income, self-motivation of students, age of student, learning preferences and entry qualification of students as important factors that have effect on student's academic performance, this result also agree with our study finding. However our study finding was in contrast to the result (McNabb et al., 2005) which was implied that after understanding the effects of various background characteristics on academic performance in Higher Education has prompted a much debate with socio-demographic. The average 'good' degree rate of female students over the period reviewed was found to be superior to the corresponding male rate. There was greater dispersion in male performance compared to females. In addition, females were less likely to fail or secure third/pass degrees than males. Further analysis indicated that if males were subjected to a female treatment, the male dispersion in performance would be dramatically reduced (Michael et al.,

2009). On the other hand Gender gaps in favor of male students' better performance than females' students in academic achievement (Ever, et al, 2011) which produce similar result with our study finding. The other important variable in determining student's college academic performance is studying hours. The number of hour's students use to study per day significantly and positively related to academic performance of students with (Moges et al., 2017). This finding was quite agreed with our study finding which was study hour was significantly and positively correlated with academic competency of the graduating class students.

Based on our study finding we conclude that the following variables were found out to have an important significant effect on the academic competency of the graduating class students in Dire Dawa University. Those were motivation, study time or study hours, religion, efforts of the student, first year commutative grade point average, religion, and mother educational level factors were found to have a significant relationship with academic competency of graduating class students of Dire Dawa University at the time of study were the important factor that have been identified as a determinants of academic competency of the. Our finding was produced a similar result with a study done by Yeshimebret, alemayehu and firew(2013), in Bahirdar university the result that they obtained shows that academic achievement of female students affected by students personal related factors such as less ability to competent, tension, failing in love easily. In regard to the Instructors Quality to the academic competency of the students the study done by (Analiza G., 2018) reveals that Instructors should stimulate students towards positive response on the discovery, analysis and synthesis of their daily experiences in University. Educational researchers have investigated many factors considered to affect student learning. Research demonstrates that among all educational resources teachers' abilities are especially crucial contributors to students' learning. Studies indicate that students want lecturers to be knowledgeable, enthusiastic, approachable and friendly, humorous, fair, and positive; effective communicator; flexible and open-minded; and encourages student participation Voss, R, and Gruber,T (2006) and Salfi, N. A., & Saeed, M. (2007). According to the study done by Chetty, R., Friedman, J.N. & Rockoff, J.E. (2011) the teacher factors that significantly contributed to low academic achievement was incidences of lateness, incidences of absenteeism. Underlying the above descriptions of the qualities of a teacher, the important role teachers' play in supporting students' performance is emphasized. Researchers have noted that the interaction which occurs between teachers and students in the classroom is remarkable. Teacher's emotional support can help students become more self-reliant, motivated to learn, and willing to take risks. Pianta RC, Hamre BK. (2009), also suggested that Teachers have meaningful causal effects on both test scores and the non-cognitive factor, the findings were in agreement with our finding that Instructors qualities have found to have a significant contribution to the academic competency of the students.

Recommendations:

Based on the result we have found from descriptive and inferential statistics we recommend the following action plans to be taken by the concerned stake holders:

- ❖ The students have to be motivated to learn in the university they have already placed, since it has undeniable positive influence on their academic competency compared to the none motivated students to study in the University.
- ❖ The students have study taking a sufficient amount of time, this because study time of the graduating class students has a positive relationship with their academic competency.
- ❖ Female students have to get a considerable attention for the betterment of their academic competency, since the academic competency of female students was decreasing compared to the male counterparts.
- ❖ Students have to get the appropriate guidance and counseling or need to be given a remarkable amount of mentor during their stay in the university regarding their sexual activities, since students who have responded as they have the experience of falling in love were negatively related with their academic competency.
- ❖ Students are advised to utilize their maximum effort to achieve the desired level of competency; this is because students who have responded that they have used their adequate effort were positively related with their academic competency at the time of data collection.
- ❖ The course instructors have to be punctual, that is the punctuality of the instructor was positively related with academic competency of the graduating class students compared to none punctual instructors.
- ❖ Students have to score the desire level of first year cumulative grade point average, since it was highly correlated with their graduating cumulative grade point average.
- ❖ The university has to create and facilitate a suitable condition to motivate its students' for achieving a desired level of academic competency during their stay in their respective campuses.

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