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Analysis of the effect of elementary schools and high schools score on the academic performance of the student of Debre Birhan University, Ethiopia

Worku Girma Shibiru

Abstract

Education gives us knowledge of the world around us and knowledge is most important asset for the economic and social development of a country. The students' academic performance plays a vital role in creating the finest quality alumnae who will become leader and manpower of a particular country, consequently responsible for the country's social and economic development, but now a day students' academic performance face many problems. This study assesses the effect of elementary and high schools academic performance of student on their University result in Debre Birhan University. Statistical method which used for this study is Ordinal logistic regression. 365 students from different fields were studied. The result reveal that ministry result, grade 10 total score, grade 10 English score, field, mission, monthly income, place of residence had significant effect on academic performance of student, but factor such as sex, age1, age2, grade 12 total score, Grade 12 English score, Grade 12 mathematics score, Grade10 mathematics score, Grade 8 English score, Grade 8 mathematics score were not significant. The study recommends enhancing quality of education at elementary level and high school level is very important, and empowers students and teacher to increase the skill of English language at each level.

Keywords: Academic performance, score ,ordinal logistic regression, Ethiopia.

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Introduction

For any educational institute students are most important asset. Universities and colleges have no value without students. Economic and social development of a country is directly associated with academic performance of students. The students' academic performance plays a vital role in creating the finest quality alumnae who will become leader and manpower of a particular country, consequently responsible for the country's social and economic development (Ali, N., et al., 2009). Performance of students is affected by psychological, economic, social, personal and environmental factors. Though these factors strongly influence the performance of the students, but these factors differ from country to country and person to person. Determinants of students' performance have been the subject of ongoing debate among educators, academics, and policy makers. There have been many studies that sought to examine this issue and their findings point out to hard work, previous schooling, parents' education, family income and self-motivation as factors that have a significant effect on the students GPA. Most of those studies have focused on students' performance in the U.S. and Europe. However, since cultural differences may play a role in shaping the factors that affect students' performance, it is very important to examine those relevant factors to different country.

Statement of problem

In this era of globalization and technological revolution, education is considered as a first step for every human activity. It plays a vital role in the development of human capital and is linked with an individual's well-being and opportunities for better living (Battle,T., & Lewis, M., 2002). It ensures the acquisition of knowledge and skills that enable individuals to increase their productivity and improve their quality of life. This increase in productivity also leads towards new sources of earning which enhances the economic growth of a country (Saxtaon, J., 2000). The quality of students' performance remains at top priority for educators. It is meant for making a difference locally, regionally, nationally and globally. The differential students' performance in university has existed and is still a source of great concern and research interest to the higher education managements, government, parents and other stakeholders because of the importance of education to the national development. Many students attend university education without goal where they are going to be and without interested to satisfy only their family need and straggle with English and mathematics course because of lack of knowledge of these two courses. Sometimes students who have low score at elementary school and high school, which may passed these level by chance or with a little knowledge follow their university education and this is also a problem of university student. So those things highly affect performance of students at university level.

This study tries to evaluate factors that determine the performance of students at university level and answer the following questions.

1. Does the knowledge of English and mathematics course affect the performance of student at university level?
2. How the score of elementary and high school related with the performance of student at university level?

Objectives of the study
General objectives

To assess the effect of elementary and high schools academic performance of student on their University result in Debre Birhan University.

Specific objectives

1. To analysis how English and mathematics capacity of students affects the academic performance at university level.
2. To determine major factor that affect academic performance of students in university.

Literature Review

Academic performance or achievements can be defined in terms of the performance of examinations and test (Martha, K., 2009). As the students' academic performance is an important thing for both Universities and the countries of the world. Determination and identifying of the factors that influence on student's academic performance, is an essential as well. The determinant factors could be Admission points; Socio-Demographic Status, Socio-economic status and other extraneous factors (Martha, K., 2009). Many researches have been conducted to identify the key factors that affect academic performance of college students. Cheewaprakobkit, P., (2013) analyzed English Proficiency as factor associated with the academic performance and (Benford, R. and J. Gess-Newsome., 2006) inspected student achievement in computer science, interpret the significance factors such as demographic, gender, and ethnicity then reported them as good predictors of academic achievement.

Yahya .M, et al., (2016) revealed the most significant and influencing factors to the academic performance of college students are age, gender, exams-worry, smoking, daily-sleep hours, English-level, Major, Sitting-Preference in-the-class, follow Study-Schedule, father education-level, Mother-education-level and transportation type and life-style. Mushtaq, S. N. K., (2012) explain students' endeavors, education background, families' education level and income (Devadoss, S., & Foltz, J., 1996) age, motivation, learning preferences (Aripin, R., et al., (2003), attendance in courses (Sakineh nabizadeh., et al ., 2019), and entry qualifications as determinants having a vital influence on the students' academic success in diverse settings

Admission points and academic performance

Accepted wisdom suggests that applicants with higher results in their entry qualifications should perform better at degree level. Geiser, S., & Studley, R., (2002) they cite who sampled 80,000 students admitted to the University of California and tracked 4 year college outcomes including cumulative grade point average and graduation in order to examine the relative contribution of high school record in predicting longer term college performance, and their key findings were that high school grades were the strongest in predicting four year college outcomes for all academic disciplines. Waller, D.M and Foy, J. M., (1987) Carried out an investigative study of British school examinations as a predictor of university performance in pharmacy and stated that pre-university performance is significantly correlated with undergraduate performance

Socio-Demographic Status and Academic Performance

Another form of entry to university is through diploma and mature age entry, surprisingly for a subject of such importance, few studies have been reported linking other forms of entry to academic performance. Galiher, Sean (2006) Carried out a study on the differences between students from 55 rural students and 65 urban students, in their study, differences in academic performance were observed with the urban students doing better on almost every measure investigated. They reveal that urban students enjoy greater success than rural students.

A similar view is held by (Kolcic I, O, P., 2006) in his study on academic performance and scientific involvement of final year medical students coming from urban and rural backgrounds; concludes that students from urban backgrounds had significantly better academic and research indicators than those from rural and remote backgrounds.

Socio-economic status and academic performance
Social economic status is most commonly determined by combining parents' educational level, occupational status and income level (Jeynes, William H., 2002) & (King, E.M & Bellow, R., 1989). They believed that low social economic status negatively affects academic achievement because low social economic status prevents access to vital resources and creates additional stress at home. Graetz, B., (1995) & Jeynes, William H. (2002) carried out a study on social economic status in education research and policy found that social economic background remains one of the major sources of educational inequality and adds that one's educational success depends very strongly on the social economic status of one's parents. Graetz, B., (1995) in his study on the influence of social and economic disadvantage in the academic performance of school students in Australia found that families where the parents are advantaged socially, educationally and economically foster a higher level of achievement in their children. They also found that these parents provide higher levels of psychological support for their children through environments that encourage the development of skills necessary for success at school.

Combs, H. P (1985) argued that in virtually all nations, children of parents high on the educational, occupation and social scale have far better chance of getting into good secondary schools and from there into the best colleges and universities than equally bright children of ordinary workers or farmers. Family income, according to (Escarce, J. J., 2003) has a profound influence on the educational opportunities available to adolescents and on their chances of educational success and also suggest that due to residential stratification and segregation, low-income students usually attend schools with lower funding levels, have reduced achievement motivation and much higher risk of educational failure.

Methodology and Data
This study conducted in Debre Birhan University, which is located in the north Shewa zone of the Amhara region about 130 kilometers north east of Addis Ababa. Debre Berhan University, which is a 10 year young university, has been established in the 600 years old historical town- Debre Berhan, a town situated in Amhara Region, North Shoa zone. The most powerful explanation of the establishment of the University is the government`s commitment towards the expansion of quality higher education as well as ensuring a reasonable distribution of higher education in the country. The target population of this study senior(second year and above) Debre Birhan university students in 2011 Ec. Totally there are around 6700 senior student in all college of Debre Birhan university. The data was collected by using primary data collection method which was collected by using self-structured questionnaire. The questionnaire distribute to sampled students in Debre Berhan University.

For this study we use simple random sampling (SRS) method to select the representatives from target population (frame). A random sample n=365 students were taken from 6700 students of all college in Debre Birhan University. The dependent variable of this study is academic performance of students (CGAP). Independent variables which is considered under this research are Age of student current time (age1), Age of student when they start

education (age2), Total, Mathematics, English score of grade 8, 10, and 12, Monthly income of student, Sex of student, Place of residence, Mission (having mission), Interest on field of study (field), Mother education level, Father education level, Have interest to join university(Interest), Expect to join university (Expect), Religion. The methods of Data Analysis which is used for this study were chi-square and ordinal logistic regression. Chi-square test of association was carried out to test the of two categorical independent variables and ordinal logistic regression used analysis the relation between CGPA and independent variables considered in this study. The maximum likely hood estimation method would be used to estimate the parameters in logistic regression model. The likelihood ratio test, Pearson and Deviance Goodness-of-Fit used Test of the overall goodness of fit and Wald test to test significance of individual parameter in the model.

Result and discussion
The function of this chapter is to objectively present key results, interpret and describe the significance of study findings in light of what was already known about the research problem being investigated and to explain any new understanding that emerged as a result of the study problem. In this chapter descriptive and inferential statistics are employed to measure determinant factors that affect students' academic performance using SPSS.

Descriptive statistics
Table 1 Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Monthly income	364	250	1500	639.42	448.019
age1	365	18	42	21.41	1.957
age2	364	3	27	7.15	1.962
Ministry result	365	25	95	69.55	15.290
Grade 12 total score	364	250	550	429.26	49.783
Grade 8 mathematics score	363	50	95	70.67	12.090
Grade 8 English score	362	50	95	71.46	12.491
Grade 12 mathematics score	365	50	95	60.47	9.532
Grade 12 English score	363	50	95	61.38	10.474
Valid N (listwise)	356				

Source: Primary data, SPSS output

From Table 1, 365 students from different fields were studied. The average monthly income of students was 639.42 birr and minimum monthly income of students was 250 birr with maximum monthly income 1500 birr. The average variation between monthly incomes of was 448.019. The average age1 of students was 21.41 and minimum age of student at this time was 18 with maximum age of student at this time 42. The average variation between ages of student at this time was 1.957. The average age of student when they start education was 7.15 and minimum age of student when they start education was 3 with maximum age of student when they start education 27. The average variation between ages of student when they start education of was 1.962.

Table 2 Cross Tabulation of CGPA vs Categorical Variable

		CGPA(cumulative grade point average)					
		1	2	3	4	5	total
Sex of student	Male(1)	29(11.8%)	47(19.2%)	46(18.8%)	85(34.7%)	38(15.5%)	245
	Female(0)	26(21.8%)	16(13.4%)	35(29.4%)	26(21.8%)	16(13.4%)	119
Place of residence	Urban(1)	30(14%)	40(18.6%)	47(21.9%)	60(27.9%)	38(17.7%)	215
	Rural (0)	36(14.8%)	44(18.0%)	56(23.0%)	68(27.9%)	40(16.4%)	149
field	0(have no interest)	16(26.2%)	15(24.6%)	11(18%)	15(24.6%)	4(6.6%)	61
	1(Have interest)	39(12.8%)	48(15.8%)	70(23.0%)	97(31.9%)	50(16.4%)	304
Mission	0(have no mission)	13(22.4%)	15(25.9%)	9(15.5%)	16(27.6%)	5(8.6%)	58
	1(have mission)	42(13.7%)	48(15.6%)	72(23.5%)	96(31.3%)	49(16.0%)	307

Source: Primary data, SPSS output

From Table 2 shows that among total sampled students male student score good grade compared to female student ; 50.2% of male score 3and above, 35.2% of female score 3 and above. Among total student 149 were from rural place and 215 student from urban, around 44.3% of student from rural place score grade 3 and above and around 45.6% from urban score 3 and above. Of 365 total students enrolled in this study, 304 were interest with their field of study and 61 students were not interest with their field of study. Student those who have interest of the filed the studied score good mark than who did not, 48.3% of student score 3 and above. Among total student 58 did not have mission and 207 students had mission, student who had mission score well than who did not have mission. From the students who enrolled in this study and had mission 47.3% of them score 3 and above, from who had not mission 36.2 score 3 and above.
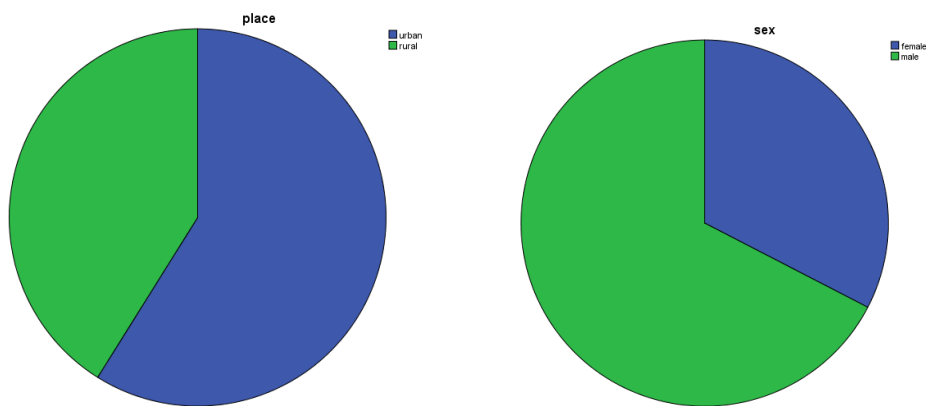

Figure 1 & 2 : Pie Chart for place of living and Sex of the students
Source: Primary data, SPSS output

From Figure 1&2 , It may observe that, the pie chart with a sample of most of the students enrolled in this study were male and they came from urban are more.

Chi-Square test of association
For categorical independent variables a test of association was carried out using the Pearson Chi-Square. The bivariate association between performance of student and categorical variables is shown in Table 3

Table 3 chis-square test of association

Variable	Chi-square value	Df	Sig-value
Sex of student	15.473a	4	.004
Place of residence	5.908a	4	.206*
religion	3.728a	8	.888*
Flied	13.151a	4	.011
Expect	2.370a	4	.668*
Interest	1.993a	4	.737*
mission	8.802a	4	.066*
Mother education level	12.405a	12	.414*
Father education level	8.187a	12	.770*

Source: Primary data, SPSS output

*P>0.05

The value of Pearson correlation coefficients in Table 3 indicate that place of residence, religion, expect, interest, mission, Mother education level, and Father education level were not significant because sig value(P-value) is greater than 0.05. The result reveals sex and field were significant, which had p-value less than 0.05 and these two variables should be included in multivariate analysis (Ordinal logistic regression). The insignificant variables not include in the multivariate analysis, but Hosmer-Lemeshow advice to include covariate in the multivariate analyses which had p-value less than 25% in a bivariate analysis (place of residence and mission).

Ordinal Logistic Regression

Ordinal logistic regression is used to predict an ordinal dependent variable given one or more independent variables and able to determine how well your ordinal regression model predicts the dependent variable.

Model summary

Before a model is relied upon to draw conclusions or predict future outcomes, we should check, as far as possible, that the model we have assumed is correctly specified or we need to determine whether the model improves our ability to predict the outcome. That is, that the data do not conflict with assumptions made by the model.

Likelihood ratio goodness of test

Table 4 Model summary

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	1106.788			
Final	1010.882	95.905	16	.000

Source: Primary data, SPSS output

P>0.05

From Table 4, the null hypothesis of likelihood ratio test of model coefficient states that all parameter coefficients equal to zero or model not fit data well. Therefore we went to be state, this chi-squared value is significant because the value of p=0.000 is less than values of $\alpha=0.05$,

thus all parameter in the model were not zero at least one was different from zero. In this case the chi-square is significant and we interpret as the model is good fit to the data.

Pearson and deviance goodness-of-fit test
Table 5 Pearson and Deviance goodness-of-fit

	Chi-Square	df	Sig.
Pearson	1417.064	1388	.288*
Deviance	1010.882	1388	1.000

Source: Primary data, SPSS output

*P>0.05

To test the Pearson and deviance goodness-of-fit tests to determine whether the predicted probabilities deviate from the observed probabilities in a way that the model does not predict. If the p-value for the goodness-of-fit test is lower than your chosen significance level, the predicted probabilities deviate from the observed probabilities in a way that the model does not predict. Hence, from Table 5, the p-value for both Pearson and deviance were not less than 5%, we do not reject the null hypothesis that is the predicted and observed values are closed, so that we can conclude that the model is adequate.

Test of parallel lines
The test of parallel lines can help you assess whether the assumption that the parameters are the same for all categories is reasonable. This test compares the estimated model with one set of coefficients for all categories to a model with a separate set of coefficients for each category. If we fail to reject the null hypothesis, the proportional odds assumption appears to have held.

Table 6 Test of Parallel Lines

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Null Hypothesis	1010.882			
General	953.511[b]	57.372[c]	48	.167*

Source: Primary data, SPSS output

*P>0.05

Since the P-value (0.167) in Table 6 was greater than 0.05, means location parameters (slop coefficient) were the same across response categories.

Ordinal Logistic Regression Parameter Estimation
The Estimation of parameters of a logistic regression model can be done by using maximum likelihood estimation.

Test of individual parameter
The Wald test is used to test whether the parameter associated with an explanatory variable is zero or not. That is The Wald statistics is used to test the hypothesis
H_0: $\beta_i = 0$ vs H_1: $\beta_i \neq 0$, $i = 1 \ldots k$

Table 7 Logistic Regression Parameter Estimation

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[CGAP = 1]	3.234	1.838	3.095	1	.079	-.369	6.837
	[CGAP = 2]	4.402	1.844	5.702	1	.017	.789	8.015
	[CGAP = 3]	5.504	1.851	8.838	1	.003	1.876	9.133
	[CGAP = 4]	7.331	1.867	15.418	1	.000	3.672	10.991
Location	maths10	.122	.159	.590	1	.442*	-.189	.433
	engl10	.391	.170	5.271	1	.022	.057	.725
	maths12	.001	.012	.013	1	.909*	-.023	.026
	engl12	-.007	.012	.283	1	.594*	-.031	.018
	YTSG10	.798	.179	19.919	1	.000	.448	1.148
	YTSG12	.000	.002	.052	1	.820*	-.004	.004
	maths8	.016	.011	2.288	1	.130*	-.005	.037
	engl8	-.011	.011	1.068	1	.301*	-.032	.010
	age1	.017	.058	.082	1	.775*	-.096	.129
	age2	-.028	.061	.210	1	.647*	-.149	.092
	Mresult	.018	.007	5.884	1	.015	.003	.032
	Mincome	.001	.000	4.535	1	.033	4.136E-005	.001
	[mission=0]	-.600	.271	4.902	1	.027	-1.130	-.069
	[mission=1]	0ᵃ	.	.	0	.	.	.
	[field=0]	-.867	.268	10.460	1	.001	-1.392	-.342
	[field=1]	0ᵃ	.	.	0	.	.	.
	[place=0]	-.501	.223	5.054	1	.025	-.938	-.064
	[place=1]	0ᵃ	.	.	0	.	.	.
	[sex=0]	-.080	.223	.130	1	.719*	-.518	.357
	[sex=1]	0ᵃ	.	.	0	.	.	.

Source: Primary data, SPSS output
*P>0.05

   In the above parameter estimate Table 7, factors or variable such as ministry result, grade 10 total score, grade 10 English score, field, mission, field, monthly income, place of residence, had p-value less than the pre-selected level of significance or 5% level of significance, this suggest these variables had significant effect on academic performance of student. And other factors such as sex, age1, age2, grade 12 total score, Grade 12 English score, Grade 12 mathematics score, Grade10 mathematics score, Grade 8 English score, Grade 8 mathematics score had no significant effect academic performance of student, because p-value for those variable were greater than the pre-selected level of significance (5% level of significance).

Discussion
This sub-title discusses the findings of the study corresponding with finding of other researches, regarding to the objective of this study. The main objective of this study is to analysis the effect of elementary and high schools academic performance of student on their University result in Debre Birhan University.

The result of this study shows that among total students male student score good grade compared to female student; 50.2% of male score 3and above, 35.2% of female score 3 and above, around 44.3% of student from rural place score grade 3 and above and around 45.6%

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from urban score 3 and above, implies that male students perform well than female and student from urban perform well than student from rural. Student those who have interest of the filed the studied score good mark than who did not, 48.3% of student score 3 and above. From the students who enrolled in this study and had mission 47.3% of them score 3 and above, from who had not mission 36.2 score 3 and above, which means those who have mission are good in their performance. The result of Ordinal logistic regression shows that ministry result, grade 10 total score and grade 10 English score have significant effect on academic performance of university student, which is the same with the finding of (Waller, D.M and Foy, J. M., 1987). The result of Ordinal logistic regression reveal ministry result, grade 10 total score and grade 10 English score have positive effect on academic performance of university student, which suggest that student score good at elementary and high school level with good grade 10 English score perform better when they attend university. Waller, D.M and Foy, J. M., (1987) Stated that pre-university performance is significantly correlated with undergraduate performance.

The result of this study also revealed Monthly income of student affect the performance of student. Monthly income of student positively affect the performance of university student, means that student who earn more money perform well than who did not. The result was confirmed by (Graetz, B. (1995) & Combs, H. P (1985) they revealed that low social economic status negatively affects academic achievement because low social economic status prevents access to vital resources and creates additional stress at home. Place of residence is also the other variable which affect performance of student, the result of this study indicate student from urban area are good in their performance than student from rural area. This result was similar with the result of other authors. Galiher, Sean (2006) Carried out a study on the differences between students from 55 rural students and 65 urban students, in their study, differences in academic performance were observed with the urban students doing better on almost every measure investigated. They concluded that urban students enjoy greater success than rural students. Kolcic I, O, P (2006) found that students from urban backgrounds had significantly better academic and research indicators than those from rural and remote backgrounds. The variables that explored by this study and not affect student performance in university are sex, grade 12 total score. Grade 12 total score is not significantly affect the Academic performance of university student, this may be happen because high performed at grade 12 student in Ethiopia enrolled in specific or select University such s Addis Ababa science and technology university and Adama science and technology university. Variables Grade 12 English score, Grade 12 mathematics score, Grade10 mathematics score, Grade 8 English score, Grade 8 mathematics score, are not particular affect Academic performance university student. Yahya. M., et al., (2016) revealed sex of students affects the academic performance of faculty of computers and information technology students, which is different from the result of this study. Age of student this time (age1), age of student when they start education (age2), also have no significant effect on academic performance of university student and this is not similar with some authors. Yahya. M., et al., (2016) suggested age of students affect the academic performance of faculty of computers and information technology students.

And study also revealed Interest on field of study (field) and Mission (have mission) affect the performance of student. A student who have mission and interest in field they study perform well than student who have no mission and have interest on their field of study. This is similar with in some contest (Sakineh nabizadeh, et., 2019) suggests that students, in addition

to having an interest in academic education, had a great incentive to enter their field of study; however, only motivation cannot predict the proper academic performance. Thus, it can be said that students who have a high motivation to obtain a better score demonstrate more effort, better organize their information, have better time management, and show better performance.

Conclusion

In this study, ordinal logistic regression was applied to assess the effect of elementary and high schools academic performance of student on their University result. The results of this study show that elementary academic performance (ministry result) and grade-10 academic performance had positive effect on university performance of students. The result show academic performance university student not related with grade-12 academic performance of students, implies grade-12 performance of student not determine the academic achievement university students. Specifically score of grade 10 English have positive effect on academic performance of university student, which suggest that student score good grade 10 English score perform well when they attend university. The study also shows monthly income of student, place of residence, Interest on field of study (field), Mission (have mission), affect the performance of student. A student who had mission and interest in field they study perform well at university level. The finding of the study indicate student from urban area are good in their performance than student from rural area and monthly income of student positively affect the performance of university student, that is richest student clearly superior in their academic performance.

Recommendation

Based on the results obtained, the study recommends concerned body and government on the following points.

To enlarge academic performance of university students enhancing quality of education at elementary level and high school level is very important. English language also one determinant of academic performance, so government and concerned body have to empower students and teacher to increase the skill of English language at each level. The interest of the field the study and having mission made difference on academic performance, therefore family of student and concerned body should to motivate students (their child) to have mission and interest for education, government enrolled the students to the field they select to learn, enrollment of department (field) should be depend on student interest. The other determinant factors of academic performance were place of residence and monthly income of students. On these increasing monthly income of students (improving the problem which related with income) is one way to enlarge academic performance of students. Students from rural was not good in academic performance this may be due to economic status, that is rural students (family) are not at good economic status in Ethiopia, so improving income (economy) is not an option to enlarge academic performance, it is must.

Reference

1. Ali, N., Jusof, K., Ali, S., Mokhtar, N., & Salamat, A.S.A. (2009). THE FAC-TORS Influencing Students' Performance at University Teknologimara Kedah, Malaysia. *Management Science and Engineering,*3(4),P 81-90
2. Aripin, R., Mahmood, Z., Rohaizad, R., Yeop, U., & Anuar, M. (2003). Students' learning styles and academic performance. 22nd Annual SAS Malaysia Forum, 15th July 2008, Kuala Lumpur Convention Center, Kuala Lumpur, Malaysia.
3. Barnsley , S. (1999) Exploring psychosocial factors that place DET Science students at risk. Science faculty, University of Natal, Pietermaritzburg: S.A and Billiton Science Foundation
4. Battle,T., & Lewis, M. (2002). The increasing significance of class, the relative effect of race and socioeconomic status on academic achievement. *Journal of poverty*, 6(2), 12-35.
5. Benford, R. and J. Gess-Newsome, Factors Affecting Student Academic Success in Gateway Courses at Northern Arizona University. Online Submission, 2006.
6. *Cheewaprakobkit, P. Study of Factors Analysis Affecting Academic Achievement of Undergraduate Students in International Program. In the International Multi-Conference of Engineers and Computer Scientists. 2013. Hong Kong.*
7. Combs, H. P (1985). The world crisis in education: the view from the eighties. New York: Oxford press
8. Devadoss, S., & Foltz, J. (1996). Evaluation of factors influencing students attendance and performance*. American Journal of Agricultural Economics*, 78(3), 499 – 507.
9. Escarce, J. J (2003). Socioeconomic status and the fates of adolescents.
10. Galiher, Sean (2006). Understanding the effect of extracurricular involvement. A Research Project Report Presented to the School of Education Indiana University South Bend In Partial Fulfillment of the Requirements for the Degree Master of Education.
11. Geiser, S., & Studley, R. (2002). UC and the SAT: Predictive validity and differential impact of the SAT I and SAT II at the University of California. Educational Assessment, 8(1), 1-26.
12. Graetz, B. (1995). Socioeconomic Status in Education Research and Policy.
13. Jeynes, William H. (2002). Examining the effects of parental absence on the academic achievement of adolescents: the challenge of controlling for family income. *Journal of family and Economic Issues* 23(2)
14. King, E.M & Bellow, R. (1989). Gains in the Education of Peruvian women, 1940-1980. Policy research working paper. World Bank, Washington D.C.
15. Kolcic I, O, P (2006). Academic performance and scientific involvement of final year medical students coming from urban and rural backgrounds. Andrija Stampar School of Public Health, Medical School, University of Zagreb, Croatia.
16. Martha, K. 2009. Factors affecting academic performance of undergraduate students at Uganda Christian University. Makerere University.
17. Mushtaq, S. N. K. 2012. Factors affecting students' academic performance*. Global Journal of Management and Business Research* 12 (9).
18. Sakineh nabizadeh, et(2019) Prediction of academic achievement based on learning strategies and outcome expectations among medical students. BMC Medical Education.
19. saxtaon, J. (2000). Investment in education: Private and public returns.
20. Stephen,s Larry J. and Schaben, Laura A. (2002). The Effect of interscholastic sports participation on academic achievement of middle level school students. NASSP Bulletin 86 34-41.

21. Waller, D.M and Foy, J. M.(1987). Using British school examinations as a predictor of university performance in pharmacy course: A correlative study. Higher Education, Vol 16, No.6,

22. Yahya .M, et al. (2016). Factors Influencing Academic Achievement of Undergraduate Computing Students. *International Journal of Computer Applications* (0975 – 8887) Volume 146 – No.3, July 2016

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