

The Relationship Between the ESLCE G.P.A.'s* of Required Subjects and First Semester Freshmen G.P.A.'s of Dismissed Students**

By Melaku Asfaw

Overview

This study attempts to find out the relationship between the Ethiopian School Leaving Certificate Examination (ESLCE) grade point average and the three required subjects' scores as determined by the performances of 308 dismissed students from the Freshman Programme at the end of the first semester of the 1973-74 academic year. The study started off with a total number of 342 dismissed students, the total number of dismissed freshmen students at the end of the first semester. However, a study of the records of the dismissed students shows that some of the students have either not taken the Ethiopian School Leaving Certificate Examination as a whole or they have failed to take an examination in one of the required subjects: Amharic, English or Mathematics. The breakdown of such students is 6 with no Amharic records, 4 with no English records, and 3 with no Mathematics records, a total of 13 students and 21 with no ESLCE records at all.

The thirteen students with no records in one of the aforementioned required subjects have passed in four subjects with G.P.A.s of 2.4 or better and were admitted to the University according to the following rule of the University's Board of Admissions, issued in a mimeographed paper by the Registrar's Office: "Passes in four subjects including two of the following:- Amharic, English, and Mathematics with a minimum G.P.A. of 2.4 plus a satisfactory performance "C" level) in the University Aptitude Test." Their ESLCE scores will not be computed with their university performances to see correlations because they are deficient in one of the required subjects.

The sum of cases deleted is 34. This gives us a total number of (342 - 34) 308 cases to be considered in this study, as previously stated. The breakdown by streams the number of students admitted through special provisions like from the Laboratory School, and the number of deficient students in one or the other of the required subjects is shown in Table I below.

*Grade Point Average

**Dismissed for Academic Reasons only - their individual GAP's were below 1.50.

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TABLE I

Total Number of cases considered

Streams	Number of students dismissed from the University	Students admitted through special provisions	Students with no passes in			Students with five passes including Amh., Eng., and Maths
			Amh.	Eng.	Maths.	
Arts	50	1	0	0	3	46
Physical Science	113	9	1	0	0	103
Life Science	179	11	5	4	0	159
Total	342	21	6	4	3	308

The main purpose of this study is to find out whether the following two assumptions are true or false in regard to the 308 dismissed students at the end of the first semester of 1973-74 academic year.

1. It is assumed that a high grade point average in the ESLCE means success for a student in the University under normal conditions.

2. It is also assumed that high scores in the three required subjects: Amharic, English, and Mathematics mean success for a student in the University under normal conditions.

Various studies have been made and various conclusions reached by different people in the past regarding the validation of ESLCE grade point averages and scores in the three required subjects with performances in HSIU.

Tracy (1965) compared the overall ESLCE grade point average with first year G.P.A. 's for 302 freshmen who entered HSIU in September, 1963. He found a significant relation of ($r = .36$) between the two G.P.A. 's. But analysis of the various faculties' students showed that "ESLCE grade point averages were significantly related to university performances in some faculties and not in others."¹

Mittman (1971) inferred that a higher G.P.A. may be necessary for success in the University after surveying 417 freshmen students with G.P.A.'s of 2.00.

"In terms of the present freshman program which is of the highly prescriptive nature it would appear that the 2.00 student is a poor academic risk."²

In another study, Mittman (1972) revealed the proportion of variance of G.P.A. accounted for in Amharic, English, and Mathematics as shown in Table II, after a study of 2,117 freshmen students covering four years (1961, 1962, 1963, and 1964 E.C.).

TABLE II

Variance of G.P.A. Accounted for By Each Prediction Variable

Year	Amharic	English	Mathematics
1961 (E.C.)	.00	.04	.02
1962 (E.C.)	.00	.05	.01
1963 (E.C.)	.00	.01	.03
1964 (E.C.)	.04	.04	.00

Source: Dr. Mittman's study of 2,117 students of 1972.

As can be seen in Table II, the ESLCE score does not determine significantly first year grade point average for the three variables mentioned. Especially, the correlation of Amharic is nil except for 1964. Dr. Mittman has said of Amharic, "the ESLCE Amharic score contributed negligibly to the predictor of academic success at HSIU."³

King (1969) confirmed the validation of the ESLCE G.P.A. in English language with University performances.

"Although the ESLCE average of five subjects has the highest correlation with university G.P.A. the correlation for the ESLCE English score is not significantly lower and would serve as well in predicting student performances."⁴

Langmuir (1971) has recommended that requiring proficiency in Amharic at admissions to HSIU should not be necessary, in a study entitled, "A problem in University Admissions."

"And data can be cited to show that proficiency in Amharic at admissions is not related to subsequent performance in the University. Amharic cannot be regarded as prerequisite to general studies in the same sense that suitable secondary school mathematics is prerequisite to entering the science streams."⁵

In a second study King (1970) and his wife Joanna have found Amharic relating the least with University performances as compared with ESLCE grade point average and English.

"Total ESLCE scores in an average of five tests, shows the highest correlation with G.P.A. ($r = .452$). The second highest correlation of test scores with G.P.A. is for the ESLCE English test ($r = .420$). The ESLCE Amharic test shows the weakest relation to G.P.A. of any of the ESLCE records ($r = .177$) and is the second weakest correlate among the 12 test scores considered."⁶

In this same study they have also found that mathematics or other "numerical content tests" such as "DAT numerical ability, F-68 number series, and quanti-

tative reasoning" showed a much weaker relation to G.P.A. than did tests of English language.

According to Dr. Lakew Wolde Tekle's (1972) doctoral dissertation Amharic showed a much lower correlation with freshman performances than did English: Amharic ($r=.23$), English ($r=.38$). The variance accounted for was: Amharic ($r=.05$), English ($r=.14$).⁷

Practically all the studies mentioned so far considered a number of Freshman students both failing and passing, and computed their ESLCE and University performances to find correlations between the scores of the two sets of examination. In some cases, ESLCE and English test scores correlated highly with university performances and not so well in other cases. Mathematics was not found as good a predictor as average scores in English. Amharic's correlation with the university performances was found to be negligible.

The present study has one peculiarity; it includes only dismissed students in its survey. Is what has been said of average scores, and scores in Amharic, English, and Mathematics when correlated with university performances true of dismissed students only, or will the survey or study show a different picture? This is the *raison d'être* of this study.

Although the number of cases is limited (308), it is hoped that the study will throw some light on whether or not the two sets of examinations have any relationships. The relationships may be positive, negative, great or small. One is as good as the other since studies of this nature are made to draw conclusions according to which constant cross-validation and reviews will be possible to up-grade university entrance criteria.

Discussion and Analyses of Data

As stated in the overview, the main objective this study was to see if there was any relationship between the ESLCE scores and freshman first semester performances of 308 academically dismissed students. The study included six variables: ESLCE Amharic, ESLCE English, ESLCE Mathematics, ESLCE Composite scores (Amh., Eng., Maths.), ESLCE average scores, and Haile Selassie I University first semester G.P.A.'s (1973-74).

ESLCE Scores

Students received letter grades in the subjects they entered. The values of the letter grades were: A-4, B-3, C-2, D-1, and F-0. The grades of five subjects (English, and Mathematics and two other subjects in which students obtained better grades than other optional subjects) were averaged into grade point averages (G.P.A.'s). Tables III and IV show the distribution of letter grades and frequencies by subjects and categories for the three streams: Arts, Physical Science and Life Science respectively.

TABLE III

Distribution of Letter, Grades by Streams

Streams	No.	Amharic						English				Mathematics				
		A	B	C	D	F	A	B	C	D	F	A	B	C	D	F
Arts	46	1	12	31	2	0	2	16	24	4	0	0	4	34	8	0
Physical Science	103	0	24	66	13	0	1	28	55	19	0	4	43	54	2	0
Life Science	159	5	36	103	14	1	10	69	70	9	1	0	42	109	8	0
Total	308	6	72	200	29	1	13	113	149	32	1	4	89	197	18	0

TABLE IV

Frequencies of ESLCE Grade Point Averages by Categories

G.P.A.'s	Frequencies	Percentages
2.20 - 2.40	198	64.2
2.41 - 2.60	78	25.3
2.61 and above	32	10.4
Total	308	99.9

Close to or over 90% of the students obtained grades "C" or better in Amharic (90%), English (89%), and Mathematics (94%) as can be seen in Table III. Table IV shows that 64% of the students received average scores ranging from 2.20 to 2.40, while 25% and 10% of the students received average scores ranging from 2.41 to 2.60 and 2.61 and above respectively.

University Performance

Students receive letter grades in courses offered in the Freshman Programme at the end of each semester at Haile Sellassie I University. The course grades are averaged into a semester grade point average. If a student's first semester grade point average falls below a G.P.A. of 1.50, he is dismissed from the University. All the students considered in this study had averaged scores below 1.50.

Relations Between ESLCE Scores and University Performances

The relations between ESLCE scores and University first semester performances were examined by computing product - moment correlations between the students' scores in the ESLCE for the variables considered and first semester G.P.A.'s to observe relations between the two. The University G.P.A. was the main criterion variable used in this study.

As can be seen in Table V, the mean of the ESLCE scores was above a "C" average, except for mathematics for Arts Stream which was 1.91. However, the mean of the University G.P.A.'s for all dismissed students was only 1.15. The standard deviation indicated a relatively small dispersion among the ESLCE and University scores.

TABLE V

**Means and Standard Deviations of Freshman First Semester G.P.A.'s
and ESLCE Scores of Dismissed Students (1973 - 74)**

Streams	No.	Freshmen GPA'S		ESLCE GPA'S		ESLCE Amh.		ESLCE Eng.		ESLCE Maths.	
		M	S.D.	M	S.D	M	S.D	M	S.D	M	S.D.
Arts	46	1.20	.26	2.27	.15	2.26	.57	2.35	.70	1.91	.50
Phy. Sci	103	1.15	.25	2.39	.18	2.11	.59	2.11	.70	2.48	.60
Life Sci	159	1.14	.28	2.52	.20	2.19	.66	2.48	.73	2.21	.53
Total	308	1.15	.27	2.44	.21	2.18	.63	2.34	.71	2.26	.58

Intercorrelations among the five variables for all streams were insignificant except for ESLCE average scores shown on column four on the horizontal line in Table VI. Amharic's relationship with University G.P.A.'s was nil. English had an insignificant negative relationship with University G.P.A.'s. This implied that the ESLCE G.P.A.'s had no significant relationship either among themselves or with university G.P.A.'s.

TABLE VI

**Intercorrelations of Five Variables Considered
For All Streams (N = 308) = 1973 - 74**

	Amharic	English	Mathematics	ESLCE G.P.A.'s	University G.P.A.'s
Amharic	1.00	.02	.15	.20	.00
English		1.00	.28	.29	.06
Mathematics			1.00	.15	.05
ESLCE/GPA's				1.00	.10
Univ./GPA's					1.00

The intercorrelations of the variables between the streams when considered separately showed practically the same degree of significance as in Table VI. Except ESLCE grade point averages, the other variables did not reach the .20 level. Only ESLCE grade point averages for the Physical Science Stream related with University G.P.A.'s of the same group at the ($r = .30$) level.

Correlations between ESLCE letter grades and first semester university performances were marginal. ESLCE grade point averages and Maths. showed relatively higher relations with university G.P.A.'s at the ($r = .10$) and ($r = .05$) levels. Amharic was not related at all ($r = .00$). Correlations between the letter grades and university performances are shown in Table VII.

TABLE VII

Correlations Between ESLCE Letter Grades and
Freshmen First Semester GPA'S: 1973 - 74

Streams	No.	ESLCE GPA'S	ESLCE Amharic	ESLCE English	ESLCE Maths-
Arts	46	.10	.05	.13	.00
Physical Science	103	.30	.05	.21	.11
Life Science	159	.11	.05	.06	.06
Streams Combined	308	.10	.00	.06	.05

ESLCE composite letter grades were related to University G.P.A.'s to determine levels of relationships between the letter and composite letter grades with University GPA's. The results showed no significant differences. A further investigation of the correlations between composite letter grades and ESLCE and University averages showed a higher correlation with ESLCE averages and a marginal one with University GPA's for all streams.

Finally, to investigate the degrees of contribution made by the ESLCE scores to the criterion, variable computation of the variance accounted for was necessary. As shown in Table VIII, the variance accounted for in the four variables was negligible. Amharic's relation with University GPA's was nil for all streams.

TABLE VIII

Proportion of Variance Accounted for by Each Variable

Streams	Variables			
	Amharic	English	Maths.	ESLCE GPA's
Arts (N = 46)	.0025	.0169	.0000	.0100
Physical Science (N=103)	.0025	.0441	.0121	.0900
Life Science (N=159)	.0025	.0036	.0036	.0121
Streams Combined (N=308)	.0000	.0036	.0025	.0100

Conclusion:

All the variables considered showed very weak relations either among themselves or with University GPA's. Many studies, as explained in the overview, had revealed that ESLCE average and English scores had relatively high relations with University performances. All the studies cited in the overview had considered both passing and failing students, while the present study considered *only* dismissed students. Could it be concluded, therefore, that the relationship between ESLCE scores and University performances for failing students was marginal? At least, that was the case in the present study. Neither the ESLCE average scores nor the scores in Amharic, English, or Mathematics were indicative enough of university performances for the cases considered.

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