A Study of the Relationships of Some Factors to Academic Achievement *

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The study was designed to find out the relationships of different factors: intelligence, socio-economic status, study habits, and attitudes to academic achievement. Students randomly selected from the senior class of the Central Philippine University High School in 1970-1971 were used as samples. This consisted of sixty-three boys and sixty-four girls.

The instruments used to obtain data were the Philippine Self-Administering Mental Ability Test, the Survey of Study Habits and Attitudes (by Holtzman and Brown) and a socio-economic questionnaire designed by the researcher. Achievement tests were constructed, pretested, and validated on five academic subjects namely: Composition, Literature, History, Trigonometry, and Physics.

The statistical procedures used in the analysis of data were the following:

1. Computation of means and standard deviation, and of the significance of the difference of means.
2. Computation of coefficient of correlations, partial correlations, and multiple correlations, and the significance of the difference of correlations.
3. Computation of coefficient of determination.
4. Analysis of variance of variables on the relationship of intelligence to achievement.
5. Regression equation to determine overachievement and underachievement, in each ability group.

FINDINGS

The pertinent results of the study are:

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1. The girls made higher scores in all the tests except in socio-economic status scale. The difference between means, in intelligence and in attitudes was significant in favor of the girls.

2. The boys were significantly higher in socio-economic status than the girls.

3. The highest correlation was found between intelligence and achievement. The correlations were positive and high: .85 ± .25 for the boys, .81 ± .25 for the girls.

4. The correlation between socio-economic status and achievement was positive but low: .35 ± .21 for the boys, and for the girls, .36 ± .21.

5. The correlation between study habits and achievement for the girls was .34 ± .21; that for the boys was .27 ± .24. The difference was not significant. The correlations for both groups were positive but low.

6. The coefficient of correlation between attitudes and achievement for the boys was .26 ± .26 an indication of slight relationship; for the girls it was substantial, .52 ± .18.

7. The coefficient of multiple correlations between the criterion and a combination of two or three variables was stable and significant. A very high R was obtained when the independent variable was the combination of intelligence, socio-economic status, and study habits; .87 for the boys and .83 for the girls.

8. Seventy-one per cent of the boys' achievement was due to the effect of intelligence and twenty-nine per cent were "unexplained" or error variances.

9. Seventy-three per cent of the girls' achievement were explained by intelligence and twenty-seven per cent were "unexplained" or error variances.

10. Seventeen per cent of the total group were overachievers.

11. Twenty per cent of the whole group were underachievers.

12. Overachievers, normal achievers, and underachievers were found in each ability group of the boys.

13. Overachievers, normal achievers, and underachievers were also found in each ability group for the girls.

CONCLUSIONS

The foregoing findings have led to the following conclusions:

1. The girls in the senior year at Central Philippine University in 1970-1971 were found to be superior in achievement and mental ability.

2. The boys in Central Philippine University at same time showed a higher correlation between intelligence and academic achievement.

3. Girls, in this study, had study habits and attitudes more strongly related to their level of academic achievement.

4. Intelligence was the best index of academic achievement.

5. The combination among the three variables which best ensured academic success was that of intelligence, socio-economic status, and study habits.

6. Overachievement and underachievement were not peculiar to any ability group as revealed by the findings.

RECOMMENDATIONS

On the basis of the findings of this study, the following recommendations are given:

1. Since intelligence is the best predictor of academic success it is recommended that screening and placement counseling based on mental ability test be conducted for students entering the freshmen year in the high school and college.

2. Study habits have been found to be positively related to academic achievement. On the basis of the above findings it is possible for the school to hope to help students who are capable mentally but yet achieve poorly because of poor study habits or attitude. Group guidance courses on "How to Study" may be offered to help such students.

3. It is also recommended that guidance units be incorporated in the character education subject in the high school. Such units as "Studying Effectively" and "Developing Better Attitudes Towards School Work" may be good orientation courses for high school students.

4. More researchers or studies should be undertaken in the Philippines along the lines suggested by the present study. Some studies which may be pursued are:

a. Standardization of mental ability tests for high school students.
b. Standardization of achievement tests for different subject areas in the fourth year.
c. A research similar to the present investigation, on a wider scope and using the public schools.

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d. A study concentrating on the overachievement and underachievement of high school students.

e. An experimental study to find out the effectiveness of a course on "How to Study" in the high school.

f. Similar studies in other educational levels– college and elementary to find out the best factors which can determine academic achievement.