

College Entrance Test and Academic Performance of Freshmen Students of Basilan State College

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Abstract: A descriptive method using the documentary analysis from existing data was used. A sample of 295 freshmen students were taken from the population of 1,118 freshmen students who took college entrance test (CET) at Basilan State College for the school year 2014-2015. The study reveals that the CET ratings are significantly correlated with the academic performance of the freshmen students of Basilan State College. In terms of demographic profile, two out of seven profiles that are significantly correlated to the CET ratings and these are type of residence and ethnicity. The other five profiles that are not significantly correlated to the CET ratings are parent's occupation, parent's educational attainment, number of siblings, parent's income, and type of school graduated.

Keywords: Academic Performance, Basilan State College, College Entrance Test, Correlation.

I. INTRODUCTION

In the last 100 years, both admissions criteria and the methods of assessing whether a candidate meets those criteria have changed dramatically. The innovations reflect the impact of changes in the role and scope of higher education, changes in the configuration and demographics of secondary education, and the radical rethinking of concepts of measurement and assessment. According to Morante [4], assessment focuses on student learning outcomes but also includes a process that seeks ongoing improvement, demonstrates and improves student learning and student success, and facilities accreditation, accountability, and institutional effectiveness. One key indicator of assessing students' performance is through the use of the Scholastic Aptitude Test (SAT) or American College Test (ACT) as a tool for predicting and as a means to differentiate students from different backgrounds. Nettles, Millet and Einerson [5] also stated that college admission tests, such as SAT and ACT are vitally important for higher educational institutions as they seek to identify prospective students and make admissions decisions based at least on predicted achievement. Interpreting standardized test scores is one of the main concerns that admission officers and educators were facing due to increasing misperception, misinterpretation, and misapplication of the test scores [9,12].

In many prospective universities, students apply for admission during their last year of high school, summer, or before the opening of classes in the tertiary level. This is also practice in Basilan State College which has been mandated to develop and validate tests specifically on the college entrance test in support of the college's admission policies and other evaluation needs. The admission test has been in use since summer 1998 and all have undergone revisions at least thrice. After a short time of its operation, the office improved its performance by providing useful, potent, and reliable information on test results. And for almost nine years of giving college entrance test (CET) to the different high schools of the province and cities, it has been observed that based on statistical data of the college, the results or ratings of the freshmen students are decreasing.

Research has been somewhat ambiguous in determining how well standardized tests predict college success. House & Xiao [3] studied over 6,000 students from three freshmen cohorts at a large Midwestern State School and found out that standardized test score and high school percentile rank were significantly correlated with college grades and student retention. A similar result in a larger national study also affirm the prediction [10]. Some demographic profile did not predict the academic performance of students such as athletic involvement [11], gender and ethnicity [2,7], and high school grouping [2].

The main objective of this study was to assess and explore the correlation between CET and academic performance of freshmen students of Basilan State College for the school year 2014-2015. Moreover, to determine the relationship of the CET ratings to some demographic profile such as ethnicity, type of residence, parent's occupation, parent's educational attainment, number of siblings, parent's income, and type of school graduated.

Employing a descriptive research design using existing data and a sample of 295 freshmen students were randomly selected from the population of 1,118 freshmen students in Basilan State College for the school year 2014-2015.

II. FINDINGS

Majority of the respondents' parents (62.7%) are either farmer or fisherman and 75% among them are high school level. The number of respondents' siblings is 1-2 (55.4%), 70.6% reside in urban area, 62.5% has 1,000 to 3,000 pesos monthly income of their parents, mostly (97%) graduated from public schools, and one third belongs to Yakan tribe and another one third belongs to Tausug tribe and the other one third belongs to Samal, Chavacano and Bisayan Tribes.

In terms of number of passers for the CET, Table I below shows the number of passes according to specific course.

TABLE I: Total Number passers according to courses with 1,118 number of takers

| Course | Number of Passers | Mean Score | Verbal Description |
|---|-------------------|--------------|--------------------|
| Bachelor of Arts in Political Science (AB PS) | 239 | 32.30 | Qualifier |
| Bachelor of Science in Nutrition and Dietetics (BSND) | 13 | 29.75 | Qualifier |
| Bachelor of Science in Nursing (BSN) | 33 | 47.13 | Qualifier |
| Bachelor of Science in Computer Science (BSCS) | 21 | 40.97 | Qualifier |
| Bachelor in Agricultural Technology (BAT) | 32 | 29.99 | Qualifier |
| Bachelor of Science in Criminology (BSCrim) | 33 | 36.00 | Qualifier |
| Bachelor of Secondary Education (BSED) | 19 | 40.00 | Qualifier |
| Bachelor of Elementary Education (BEED) | 33 | 40.54 | Qualifier |
| Associate in Computer Technology (ACOT) | 141 | 29.60 | Qualifier |
| Associate in Computer Science (ACOS) | 54 | 32.04 | Qualifier |
| Associate in Computer Management (ACOM) | 118 | 27.26 | Qualifier |
| Two-Year Nursing Assistant (NA) | 291 | 31.40 | Qualifier |
| Two-Year Trade Technology (Trade Tech) | 91 | 27.96 | Qualifier |
| Total | 1,118 | 34.23 | Qualifier |

The BSN Students got the highest mean of 47.13, described as qualifiers, and BSCS is second in the row with a mean of 40.97 followed by the BEED with a mean of 40.54 and the BSED with a mean of 40.00, were described as qualifiers. This data implies that all freshmen students who took the CET were qualifiers to their chosen courses based on the set CET cut-off scores for the different programs.

In terms of students' academic performance, the table below shows the distribution of the mean high school grades of freshmen students.

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TABLE II: Distribution of Academic Performance of the Freshmen Student

| Course | Mean | Verbal Description |
|---|--------------|--------------------|
| Bachelor of Arts in Political Science (AB PS) | 82.35 | Fair |
| Bachelor of Science in Nutrition and Dietetics (BSND) | 79.00 | Poor |
| Bachelor of Science in Nursing (BSN) | 85.00 | Satisfactory |
| Bachelor of Science in Computer Science (BSCS) | 84.33 | Fair |
| Bachelor in Agricultural Technology (BAT) | 78.88 | Poor |
| Bachelor of Science in Criminology (BSCrim) | 82.10 | Fair |
| Bachelor of Secondary Education (BSED) | 84.80 | Satisfactory |
| Bachelor of Elementary Education (BEED) | 84.78 | Satisfactory |
| Associate in Computer Technology (ACOT) | 80.08 | Fair |
| Associate in Computer Science (ACOS) | 81.14 | Fair |
| Associate in Computer Management (ACOM) | 80.38 | Fair |
| Two-Year Nursing Assistant (NA) | 81.68 | Fair |
| Two-Year Trade Technology (Trade Tech) | 81.04 | Fair |
| Total | 81.90 | Fair |

Freshmen students who are enrolled in BSN got the highest general average of 85%, described as satisfactory in the academic subjects, followed by the BSED and BEED with general average grades of 84.80% and 84.78% respectively, described as satisfactory and BSCS with general average grade of 84.33%, described as fair. This implies that majority of those students who got the bachelor's degree were able to maintain a satisfactory and fair grade category except for the two bachelors' courses such as the BSND and BAT. Furthermore, students with associate and two-year courses were able to have fair grade category. This means that almost all the students were passed their academic subjects.

Using Pearson r to determine the correlation between the CET and academic performance of the students, table below shows the distribution of computed r -value.

TABLE III: Distribution of Computed r -value and corresponding critical value

| Variable | Academic Performance | | | | Decision |
|-----------------------|----------------------|---------------------------------|---------------|-------------------------|-------------|
| | r -value | description | t-test of r | t critical value @ 0.05 | |
| College Entrance Test | 0.536 | Moderately Positive Correlation | 10.86 | 1.980 | Significant |

The CET ratings are significantly correlated with the academic performance during the first semester sy 2014-2015 at 0.05 level of significance. It is evidently shown through the t-test of r -value of 10.86 which is higher than the t-test critical value which is 1.980. This means that the CET has a relationship with the academic performance of the freshmen students of Basilan State College.

At the University of Utah, Baumann and Henschen [1] studied the relationship between American College Test (ACT) scores and College Grade Point Average (GPA) for 753 male and female student athletes. When combined with High School Grade Point Average, ACT score was the best predictor of actual College Grade Point Average for the overall group. ACT did not enhance the predictability of academic success for non-White Student-athletes but did so for the White student-athletes. When High School Grade Point Average was used alone, the college academic performance of minority students predicted better.

Saka [8] studied the relationship among Freshmen Grade Point Average (GPA), Scholastic Aptitude Test (SAT) scores, and High School Grade Point Average for freshmen attending the University of Hawaii at Manoa in 1988-1989. It was found out Freshmen GPA and SAT scores were better predictors of Freshmen GPA for students attending mainland or foreign high schools than for students attending Hawaiian public or private schools.

The next table shows the F-value on the CET when data classified according to courses.

TABLE IV: Distribution of One-Way ANOVA on the CET as the Freshmen Students are Classified According to Courses

| Course | Overall Mean | F-Value | Probability | Decision |
|---|--------------|---------|-------------|-------------|
| Bachelor of Arts in Political Science (AB PS) | 32.30 | | | |
| Bachelor of Science in Nutrition and Dietetics (BSND) | 29.75 | | | |
| Bachelor of Science in Nursing (BSN) | 47.13 | | | |
| Bachelor of Science in Computer Science (BSCS) | 40.97 | | | |
| Bachelor in Agricultural Technology (BAT) | 29.99 | | | |
| Bachelor of Science in Criminology (BSCrim) | 36.00 | | | |
| Bachelor of Secondary Education (BSED) | 40.00 | 9.971 | 0.000 | Significant |
| Bachelor of Elementary Education (BEED) | 40.54 | | | |
| Associate in Computer Technology (ACOT) | 29.60 | | | |
| Associate in Computer Science (ACOS) | 32.04 | | | |
| Associate in Computer Management (ACOM) | 27.26 | | | |
| Two-Year Nursing Assistant (NA) | 31.40 | | | |
| Two-Year Trade Technology (Trade Tech) | 27.96 | | | |

The F-value of 9.971 with probability value of 0.000 indicates that there is a significant difference in the CET ratings of the freshmen students at 0.05 level of significance. This implies that those freshmen students who are enrolled in the various four-year degree courses have obtained high ratings.

Employing multiple regression analysis with 0.05 level of confidence, the next table shows the different variables compared to the CET rating of the students.

TABLE V: Result of Multiple Regression Analysis of Freshmen Students' Profile on CET

| Coefficient | Estimate | Std. Error | t-Value | Probability | Decision |
|---------------------------------|----------|------------|---------|-------------|-----------------|
| Parents' Occupation | 0.321 | 0.206 | 1.555 | 0.121 | Not Significant |
| Parents' Educational Attainment | 1.181 | 0.874 | 1.352 | 0.178 | Not Significant |
| Number of Siblings | -0.385 | 0.527 | -0.731 | 0.465 | Not Significant |
| Type of Residence | -3.387 | 0.914 | -3.707 | 0.000 | Significant |
| Parents' Income | 0.966 | 0.551 | 1.754 | 0.081 | Not Significant |
| Ethnicity | 1.035 | 0.313 | 3.304 | 0.001 | Significant |
| Type of School Graduated | -3.102 | 2.594 | -1.196 | 0.233 | Not Significant |

It is pointed out based from the results that the regression revealed that two out of seven of the identified profiles influence significantly to the CET. The most important profile is type of residence, which is a significant predictor of influencing the CET. Those freshmen students who are in the urban areas have high CET ratings compared to those who are in the rural areas. Ethnicity came next as a significant predictor of influencing the CET. Parents' occupation, parents' educational attainment, number of siblings, parents' income, and type of school graduated shown weak and marginal influence on CET.

In another study, conducted at the University of Maryland, Pfeifer & Sedlacek [6] initially assessed the validities of SAT scores independent of high school GPA's, then as part of the regression equation that combined the predictor variables of race and sex by high school GPA. The results showed very little difference between using the SAT as a predictor and the multiple regression equation, which combined predictors. The squared multiple correlation coefficients for all the groups (white male and female, Black male and female) were similar, ranging from 0.61 to 0.67. The regression equations derived in the University of Maryland study also over predicted. That is when, Black males and females were reviewed for actual performance at the end of the freshman year, and the predicted mean was significantly higher than actual academic performance. Thus, when the prediction weights came from White female samples, Black females was over predicted. For white males and females, the degree of over predicted was insignificant.

To determine the magnitude of influence of the significant predictors on CET, the following Analysis of Variance table was obtained:

TABLE VI: ANOVA TABLE

| Source of Variance | Sum of Squares | df | Mean of Squares | F-Value | Probability |
|--------------------|----------------|-----|-----------------|---------|-------------|
| Regression | 2642.213 | 7 | 377.459 | | |
| Residual | 14195.876 | 287 | 4.463 | 7.631 | 0.000 |
| Total | 16838.089 | 294 | | | |

The ANOVA table results above revealed that taken jointly, the two variables formed a very significant set of predictors for CET (F=7.631). Moreover, 39.6% of the variance in the observed ratings of the freshmen students in the CET is explained by the joint effects of the seven variables considered with most of the variance explained by the two significant profiles of the freshmen students.

III. CONCLUSION

The occupation of the respondents’ parents was mostly farming and fishing for their residential areas are good for agriculture. Most of the educational attainment of the parents of the subjects was classified as high school level for most of them were not able to finish their secondary level. The respondents’ number of siblings was categorized in the 1-2 siblings because majority have only 1 to 2 brothers and sisters in the family. Most of the subjects lived in the urban areas due to their source of income. Parents’ income of the respondents was classified in the 1,000 to 3,000 pesos bracket. Majority of the respondents were Tausug as randomly selected and majority of the respondents graduated from public schools because they can not afford to study in private schools.

All freshmen students who took the CET were qualifiers to their chosen course based on the set CET cut-off scores for the different programs. Those students who got the bachelors’ degree were able to maintain a satisfactory and fair grade category except for the two bachelor’s courses such as the BSND and BAT. Furthermore, students with associate and two-year courses were able to have a fair grade category. Therefore, most of the students were able to pass their academic subjects.

The CET ratings were significantly correlated with the academic performance and there is significant difference on the CET when categorized according to courses. Two out of seven of the identified profiles influence significantly to the CET. The most important profile is the type of residence, which is a significant predictor of influencing the CET. Those freshmen students who are in the urban areas have high access to the different learning materials and facilities like books, computers, etc. that influence their learning than those freshmen students living in the barrios. Ethnicity came next as a significant predictor of influencing the CET. This shows that there are ethnic groups such as the Bisayan tribe who have put more importance and value to education as the only means to improve their standard way of living and this is shown in their academic performance and CET results.

REFERENCES

- [1] S. Baumann & K. Henschen, “A Cross-Validation Study of Selected Performance Measures in Predicting Academic Success among Collegiate Athletes.” *Sociology of Sport Journal*, Vol. 3, pp. 366-371, 1986.
- [2] T. Chou & C.J. Huberty, “A freshman Admissions Prediction Equation: An Evaluation and Recommendation”. Athens, GA: University of Georgia (ERIC Document Reproduction Service No. ED 333081), 1990.
- [3] J. D. House & B. Xiao, “The Efficiency of High School Class Percentile Rank and Admissions Test Scores for the Prediction of Achievement Outcomes.” Paper presented at the Association for Institutional Research Annual Forum, Long Beach, CA, 2001.
- [4] E. Morante, “Assessing Student Services and Academic Support Services.” *iJournal*, Vol. 4, 2003.
- [5] M. T. Nettles, C. M. Millett & M. K. Einarson, “Improving Minority Students’ Performance on College Admission Tests.” *College Board Review*, Vol. 192, pp. 32-41, 2001.

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- [6] C. M. Pfeifer & W. E. Sedlacek, "The Validity of Academic Predictors for Black and White Students at a Predominantly White University". *Journal of Educational Measurement*, Vol. 8, No. 4, pp. 253-261, 1984.
- [7] K. M. Powell, "Access and Opportunity: Race and Gender Variations in the Predictive Validity of the Admissions Index." Unpublished Doctoral Dissertation, North Carolina State University, 2003.
- [8] T. T. Saka, "High School Grade Point Average, Scholastic Aptitude Test Scores and College Academic Achievement for University of Hawaii Freshmen." *Pacific Educational Research Journal*, Vol. 7, pp. 19-32, 1991.
- [9] W. E. Sedlacek, "Noncognitive Indicators of Student Success." *Journal of College Admissions*, Vol. 225, No. 1, pp. 2-10, 1989.
- [10] G. Temp, "Validity of the SAT for Blacks and Whites in Thirteen Integrated Institutions." *Journal of Educational Measurement*, Vol. 8, No. 4, pp. 245-251, 1971.
- [11] W. Willingham & H. Breland, "Personal Qualities and College Admissions." New York: College Entrance Examination Board, 1982.
- [12] R. Zwick, "Eliminating Standardized Tests in College Admissions." *Phi Delta Kappan*, Vol. 81, No. 4, pp. 320-324, 1999.