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English, Math, and Science Competencies of Basilan State College Freshman Education Students: A Correlational Analysis

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***Abstract*—** *This correlational study was conducted to determine the English, Math and Science Competencies of Basilan State College Freshman Education Students. The study covered two hundred-ten (210) Freshman Education Students of Basilan State College who were enrolled in Academic Year 2019-2020 under the following programs: Bachelor of Secondary Education (BSED), Bachelor of Elementary Education (BEED), and Bachelor in Early Childhood Education (BECED). The descriptive-correlational research design was implemented in this study. The College Entrance Test booklet was utilized as the instrument in this study. The competency levels of the students are reflected by their scores in the different components of College Entrance Test; English, Math, and Science. (a) In terms of English Proficiency and Reading Comprehension, the Freshman Education Students got an average percentage score of 36.25%, which is classified as 'Low' level of competency. The BSED-English students' performance was highest at 41.26%, which is classified as 'Average' level of competency; (b) In terms of Mathematical Skills, the Freshman Education Students got an average percentage score of 44.07%, which is classified as 'Average' level of competency. The BSED-Math students' performance was highest at 55.00%, which was on the 'Average' level of competency; (c) In terms of Science Process Skills, the Freshman Education Students got an average percentage score of 36.63%, which was classified as 'Low' level of competency. The BSED-Science students' performance was highest at 44.03%, which was classified as 'Average' level of competency; and (d) The Product-Moment Correlational Analysis revealed that there were no significant relationships between the competency of the Freshman Education Students in English with their competencies in Mathematics and Science.*

***Keywords*—** *College Entrance Examination, Competencies, Education Students.*

I. INTRODUCTION

In today's worldwide world, the significance of English cannot be denied and overlooked since English language is the foremost common language talked all over. With the help of developing technology, English has been playing a major role in many sectors including medicine, engineering, and education, which is believe to be the most important arena where English is needed (Kasim, 2008).

Mathematics is a universal language we use to identify, describe, and investigate the patterns and challenges of everyday living and mathematicians work to find the most powerful ways to communicate a piece of extremely complex information in a limited amount of time and space taking advantage of spoken, phonetic, and symbolic languages and graphic images. (Singh, 2015).

Scientific and technical activities refers to the description of unidentified phenomena, and to the creation of new knowledge through the discovery of new natural laws and principles, and the new knowledge obtained is then utilized in the real society. The essence of how science and technology gives to society is the creation of new knowledge, and then utilization of that knowledge to boost the prosperity of human lives, and to solve the many issues facing society (Su, 2017). Some of these issues incorporate the growing HIV/AIDS widespread, worldwide climate change, world hunger, space exploration, and the improvement and execution of elective sources of energy. Whereas there is a need for scientific advances is at its peak.

In the context of education the greater exposure to English, used as the medium of instruction in Mathematics and Science classes would help develop students' language competence. Being competent in the English language is a supplementary benefit to students. For one, upon completing their education, they would be able to perform worldwide with this asset. This is based on the fact that English is used as a medium of instruction in many countries in the world. Being competent users of English also means that they are able to increase access to the resources on the Internet since most of the Internet resources are written in the English language (Mohammad Nor et al. 2011).

The College Entrance Examination is a general inclusive term, referring to the standardized examination that applicants of the higher education institutions are required to take. This test is not designed to measure what a student have learned in school; rather, it measures the student's potential to perform well in the future. Moreover, college entrance test scores is one significant metric in the selection of students who will be successful in their later professional career and those candidates who are able to study diligently enough to pass all the study requirements. In that sense the selection process at admission is selecting in the best available candidates for college programs. (Luuk, A., & Luuk, K. (2008).

At Basilan State College, entrance examination is administered for incoming freshman students to determine students' qualification and preparedness in college life based on their scores. This is a written examination which is composed of parts that measures students' level of performance in English Proficiency and Reading Comprehension, Math, Science and Abstract Reasoning.

It is based on the premises that there is a need to identify the English, Math and Science Competency of the Freshman Education Students of Basilan State College using their College Entrance Test result. This study will gather information about the students' competency level which can be a tool to measure and evaluate their readiness for college-level work.

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II. Research Questions

This study was conducted to determine the levels of competency in English, Mathematics, and Science of the Freshman Education Students of Basilan State College. Moreover, a correlational analysis of these competencies was conducted. Specifically, it aims to answer the following questions:

1. What is the level of competency of the Freshman Education Students in English?
2. What is the level of competency of the Freshman Education Students in Mathematics?
3. What is the level of competency of the Freshman Education Students in Science?
4. Are there significant relationships between the competency of the Freshman Education Students in English, and their competencies in Mathematics, and Science?

III. Methodology

A. Research Design

This study used the descriptive-correlational design. Descriptive research aims to accurately and systematically define a population, situation or phenomenon. It can answer what, when, where, when and how questions, but not why questions. Descriptive research is an appropriate choice when the research aim is to distinguish characteristics, frequencies, trends, correlations, and categories (McCombes, 2019). Descriptive research involves gathering data that describe events and after that organizes, tabulates, depicts, and describes the data collection (Glass & Hopkins, 1984). Thus it is appropriate to use descriptive research method since this study aims to determine the English, Math, and Science Competency Level of the Freshman Education Students of Basilan State College. Similarly, the correlational research design measures a relationship of two variables without the researcher controlling either of them. It aims to find out whether there is either positive correlation, negative correlation or zero correlation (McCombes, 2019). In this study, the relationships of the English, Math and Science level of competencies of the Freshman Education Students of Basilan State College will be determined.

B. Research Respondents

The subjects of the study were the two hundred ten (210) Freshman Education Students of College of Education Main Campus. These were the students who were enrolled in Bachelor of Secondary Education (BSED), Bachelor of Elementary Education (BEED), and Bachelor of Early Childhood Education (BECED) courses at Basilan State College.

These students were chosen as subject of this study since they have taken the College Entrance Test (CET) as one of their requirements for admission to BaSC. Using their scores in the CET would g ive accurate measurements of their Competency in English, Mathematics, and Science. In which the relationship of between the competencies of English, Mathematics, and Science should be conducted.

TABLE 1. The Distribution of the Freshman Education Students (Population and sample)

Course	Population	Sample
BSED	88	58
BEED	80	52
BECED	42	28

C. Data Analysis

To determine the levels of competency of the Freshman Education Students in English, Mathematics, and Science, the Arithmetic Mean was used. To determine the significant relationships between the competencies in English, Mathematics, and Science of the Freshman Education Students, the Pearson product-moment correlation coefficient (Pearson's r) was employed.

The validity and reliability of the instruments

The College Entrance Test is a standardized test that was established by the College Testing Evaluation Center, so it is valid and reliable in measuring the competencies of the Freshman Education Students in English, Mathematics, and Science.

Data gathering procedure

Permission from the College President through the Director of Testing and Evaluation Center to utilize the test result of the Freshman Education Students who were enrolled in Basilan State College was secured. Approved by the College President, the test result was retrieved and organized by the researcher for analysis.

IV. Results and Discussion

The findings of the study were:

A. The Level of Competency of the Freshman Education Students in English

1. The overall average College Entrance Test score percentage in English Proficiency and Reading Comprehension of the Basilan State College Freshman Education Students is 36.25%, which was classified as 'Low' level of competency.
2. The BSED-English students got the highest score percentage in the College Entrance Test in English Proficiency and Reading Comprehension at 41.26%, which was classified as 'Average' level of competency.
3. The BECED students got the lowest score percentage in the College Entrance Test in English Proficiency and Reading Comprehension at 34.56%, which was classified as 'Low' level of competency.

B. The Level of Competency of the Freshman Education Students in Mathematics

1. The overall average College Entrance Test score percentage in Mathematical Skills of the Basilan State College Freshman Education Students is 44.07%, which was classified as 'Average' level of competency.
2. The BSED-Math students got the highest score percentage in the College Entrance Test in Mathematical Skills at 55.00%, which was classified as 'Average' level of competency.
3. The BEED students got the lowest score percentage in the College Entrance Test in Mathematical Skills at 40.56%,

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which is classified as 'Average' level of competency.

C. The Level of Competency of the Freshman Education Students In Science

1. The overall average College Entrance Test score percentage in Science Process Skills of the Basilan State College Freshman Education Students is 36.63%, which was classified as 'Low' level of competency.
2. The BSED-Science students got the highest score percentage in the College Entrance Test in Science Process Skills at 44.03%, which was classified as 'Average' level of competency.
3. The BECED students got the lowest score percentage in the College Entrance Test in Science Process Skills at 33.13%, which was classified as 'Low' level of competency.

Across All Test Components:

1. The overall average College Entrance Test score percentage in English, Math, and Science Test Components of the Basilan State College Freshman Education Students is 38.03%, which was classified as 'Low' level of competency.
2. The BSED-English students got the highest score percentage in the College Entrance Test in English, Math, and Science Test Components at 41.96%, which was classified as 'Average' level of competency.
3. The BECED students got the lowest score percentage in the College Entrance Test in English, Math, and Science Test Components at 35.94%, which was classified as 'Low' level of competency.

D. Significant Relationships Between the Competency of the Freshman Education Students in English with their Competencies in Mathematics, and Science

1. The Product-Moment Correlational Analysis revealed that at 0.05 level of significance, there is no significant relationship between the competencies of the Freshman Education Students in English with their competency in Mathematics. As per strength of correlation, it was interpreted that there is a 'Strong Positive Relationship' between the competencies of the Freshman Education Students in English and Mathematics.
2. The Product-Moment Correlational Analysis showed that at 0.05 level of significance, there is no significant relationship between the competencies of the Freshman Education Students in English with their competency in Science. As per strength of correlation, it is interpreted that there is a 'Strong Positive Relationship' between the competencies of the Freshman Education Students in English and Science.

V. Conclusion and Recommendation

Based on the findings of the study, the following recommendations are forwarded:

There is no significant relationship between the competencies of English, Math, and Science therefore it is recommended that teachers may use teaching methods that are specifically designed to cater the needs of students under the program with 'low' percentage College Entrance Test scores in the aforementioned subject areas as intervention-teaching process that may help develop the competency levels of the freshman education students, in the three subject areas.

The overall average College Entrance Test score percentage in English, Math, and Science Test Components which is classified as 'Low' level of competency may affect the performance of Basilan State College Freshman Education Students in the future therefore it is recommended that the College Administrative and Faculty staff must monitor the level of academic performance of the students consistently.

The result shows that the Freshman Education students across all subject areas are classified as 'low', therefore, it is recommended to also conduct study on other courses to have a significant amount of data on the competency levels of the students of the Basilan State College in English, Math, and Science. It will guide the College Administration on a wider scale of the current levels of the students' academic performances as well.

The current study used data provided by the College Testing and Evaluating Center therefore it is recommended to conduct other studies that would involve the institution as one of the best practices of the school.

The result shows 'low' level of competency across the three subject areas among the Freshman Education Students of the Academic Year 2019-2020, therefore, it is recommended to conduct another study on the factors affecting the competency level of the students in English, Mathematics and Science.

Results suggest that there is a need to conduct instructional interventions to help improve the competency levels of the students, to develop and improve their overall academic performance, which is essential to successfully survive college work.

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