

## Mathematical Skills and General Mathematics Performance of Grade 11 Students in a Public National High School in Southern Negros Occidental, Philippines

Cleah Amor S. Parcon<sup>1</sup> and Francis Jose D. Bearneza<sup>2</sup>

<sup>1,2</sup>*University of Negros Occidental – Recoletos, Bacolod City, Philippines*

**Introduction.** Mathematical skills are essential for mastering the core Senior High School subject of General Mathematics, which encompasses Functions, Business Mathematics, and Logic. This study examines the relationship between these verbal and nonverbal skills and student performance, accounting for differences in sex and academic strand. Ultimately, the findings inform the creation of supplementary instructional materials designed to enhance student proficiency and refine the mathematics curriculum.

**Methodology.** This quantitative study employed descriptive, comparative, and correlational designs to assess the mathematical skills and General Mathematics performance of 278 Grade 11 students in a southern Negros Occidental public high school (SY 2022-2023). Selected via stratified random sampling, participants completed validated researcher-made questionnaires in accordance with PHREB ethical guidelines. Data analysis utilized mean, standard deviation, and non-parametric tests necessitated by non-normal distribution.

**Results.** Grade 11 students have an approaching proficient level of mathematical skills and a developing level of General Mathematics performance. There is a significant difference in verbal mathematical skills when students were grouped by strand. In non-verbal mathematical skills, there is a significant difference when students are grouped by sex and strands. Lastly, there is a significant relationship between mathematical skills and General Mathematics performance of the Grade 11 students.

**Conclusion.** The results imply that students have acquired foundational mathematical knowledge but require further assistance and practice to apply this understanding in General Mathematics. The relationship between mathematical skills and General Mathematics performance indicates that a low level of mathematical skills may lead to low performance in general mathematics, while sufficient knowledge of mathematical skills may give high performance in general mathematics. A supplementary instructional material may give students the needed aid and support to improve students' mathematical skills and General Mathematics performance.

**Practical Value of the Paper.** The findings of the study hold practical significance for the Department of Education's Senior High School Curriculum, providing as a reference for mathematics teachers in identifying areas where instructional focus is needed, based on students' current levels of mathematical skills. The study's output may help enhance both mathematical skills and General Mathematics performance. Additionally, the findings contribute to the body of knowledge by addressing gaps in the literature, particularly in the context of the General Mathematics subject in the Senior High School Curriculum.

**Directions for Future Research.** The researcher recommends that future researchers explore more about the study, including the existing variables but with a larger scope of respondents to establish the generalizability of the findings of the study. Additionally, the researcher also suggests creating instruments that allow for quicker assessment without compromising content, providing a more efficient method for measuring mathematical skills.

*Keywords: mathematics, mathematical skills, general mathematics performance, senior high school students, descriptive-correlational, Philippines*

CORRESPONDENCE: [cleah8888@gmail.com](mailto:cleah8888@gmail.com)

ORCID: <https://orcid.org/0000-0002-8525-9307><sup>1</sup>