



Global Resources for Assessment Curriculum and Evaluation, Inc.

**Presented at
Philippine Educational Measurement
and Evaluation Association (PEMEA)
2023**

Towards the Development of a Grade 4 Science Achievement Test

Authors:

Papa, Pia Marie Therese P.
Aguila, Mary Nela S.



Global Resources for Assessment Curriculum and Evaluation, Inc.

Abstract

In 2012, the K-12 Basic Education Curriculum Framework was constituted by the Department of Education (DepEd) to develop Filipinos' readiness and mastery for the 21st Century world of work (DepEd, 2015). To further aid educators and guide students in measuring their proficiency in the core subjects of Philippine education, an achievement test for Grade 4 Science was designed and developed. The researchers opted to develop this because the DepEd curriculum aims to ensure that it reflects the different developmental milestones of this stage and to align it with the goals of the TIMSS international large-scale assessment. In the process of test development of the Grade 4 Science achievement test, it underwent a series of writing and review by subject matter experts in Science to establish its content validity.

It also utilized the item response theory analysis using a 3-parameter logistic model (3PL), which uses discrimination, difficulty, and guessing as parameters. One hundred items for Grade 4 Science were developed and administered to students of 24 schools across Luzon, Visayas, and Mindanao islands of the Philippines for pilot testing. The initial development resulted in a 50-item test. Recommendations for further validity studies are provided in this research.

Keywords: K-12 Curriculum, readiness, mastery, 21st century, proficiency, Science, achievement test