

15 November, 2023

We conducted the “Testing and Academic Achievement Improvement” roundtable based on our research at the 34th Conference of the Japan Society for International Development held at Sophia University on November 11-12.

Background of the Proposal

As outlined in the Sustainable Development Goals (SDGs), acquiring fundamental literacy and numeracy skills in primary and early secondary education has been a significant challenge in many developing countries. Currently, large-scale educational achievement assessments, such as PISA-D (Assessment of Student Achievement in Developing Countries) and SACMEQ (Southern and Eastern Africa Consortium for Monitoring Educational Quality), are conducted in developing countries. These assessments utilize tests for measuring academic proficiency and provide insights for educational improvement. Moreover, in many countries, tests are employed for assessing academic performance as students progress from primary to secondary and from secondary to tertiary education. Tests serve as a tool for measuring academic proficiency and establishing criteria for academic judgment. Therefore, discussing tests and educational improvement holds great significance.

Key Points

While research in various fields, including curriculum and textbook improvement, teacher training, and pedagogical enhancements, is conducted for educational advancement, there is relatively limited research focused on using test theory for academic improvement. This proposal aims to address this gap by discussing how the use of tests can offer insights into academic improvement and how intervention effects can be verified. The plan involves a retrospective examination of educational achievement assessments in developing countries, summarizing methodologies based on test theories, introducing research on academic improvement using cognitive diagnostic models, analyzing large-scale academic assessments, and discussing the verification of intervention effects on learning outcomes using test theory.

Presentation Content and Presenters

Current State of Educational Achievement Assessment in Developing Countries: Kyoko Taniguchi

Educational Achievement Assessment Based on Test Theory: Yuiko Mitsunaga, Koji Watanabe, Kyoko Taniguchi

Proposal of Guidelines for Educational Improvement Using Cognitive Diagnostic Models: Yuiko Mitsunaga, Koji Watanabe, Kyoko Taniguchi

Mathematics Achievement in Developing Countries from TIMSS 2019: Koji Watanabe

Verification of Intervention Effects on Children's Learning Outcomes—Utilizing Item Response Theory in the Evaluation of Textbook Development Projects: Takahiro Maruyama

Expected Outcomes

From the perspectives of educational development, educational measurement, educational psychology, mathematics, and development economics, the proposal aims to contribute to improving academic achievement in developing countries by utilizing test theory. Discussions will focus on how test theory can contribute to verifying intervention effects on children's learning outcomes, and how integrating test theory with other theories and methods can yield effective results. The anticipated outcomes will guide the future development and direction of research in tests and educational improvement.

