Utilizing National Assessment for Improving Learning and Teaching in Korea

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NAEA Overview

Nation-wide assessment of what Korea's students know and can do in various subjects areas

National Assessment of Educational Achievement

- Assess to what degree students have achieved set goals and analyzes trends of change
- Provide data to assist teaching-learning improvement
- Analyze results in relation to education context variables
Conceptual model for the NAEA

Identify how national curriculum actually gets implemented at school sites

<table>
<thead>
<tr>
<th>Management</th>
<th>National level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target Grade</td>
<td>(6th), 9th, 11th</td>
</tr>
<tr>
<td>Sample Size</td>
<td>Sample → Population</td>
</tr>
<tr>
<td>Subject</td>
<td>Korean language, Mathematics, English</td>
</tr>
<tr>
<td></td>
<td>(Social study, Science)</td>
</tr>
<tr>
<td>Test type</td>
<td>Mixed Format Test</td>
</tr>
<tr>
<td></td>
<td>: Multiple-choice &amp; Constructed-response items</td>
</tr>
<tr>
<td>Achievement level</td>
<td>4 levels</td>
</tr>
<tr>
<td></td>
<td>: Advanced, Proficient, Basic, Below Basic</td>
</tr>
<tr>
<td>Questionnaire</td>
<td>contextual or background information</td>
</tr>
<tr>
<td></td>
<td>: Students, Teachers, Principals</td>
</tr>
</tbody>
</table>
School Information Disclosure

Individual schools should announce the results of the NAEA in public.

- Enforcement Decree of the Act (the Presidential decree No.21119, enacted on November 17, 2008)

- Once a year
- Number of students who took the NAEA
- Percentage of students at each level (Below Basic, Basic, Proficient and Advanced)
- School Progress Index

www.schoolinfo.go.kr
NAEA Scoring and Reporting (1) – Standard Setting

Provides status and progress on subject-matter achievement

Standard Setting

Cut-off scores & Performance Level Descriptions

Modified Angoff Method
to determine cut-off scores

Item mapping
to illustrate what students know & can do

Advanced

Proficient

Basic

Below-Basic

Advanced cut-off score

Proficient cut-off score

Basic cut-off score

Cut-off scores

Item mapping

Advanced cut-off score

Proficient cut-off score

Basic cut-off score

Modified Angoff Method
to determine cut-off scores

Item mapping
to illustrate what students know & can do
NAEA Scoring and Reporting (2) – Test Equating

Provides status and progress on subject-matter achievement

Test Equating

Comparable Scores to analyze the trend of students’ achievement by year

Item Response Theory
True Score Equating

- Multiple-Choice items: 3PL Model
- Construct Response items: GPC Model

Non-Equivalent Common Item Design

Year1 → Year2 → Year3
NAEA Scoring and Reporting (3) - School Progress Index

Provides status and progress on subject-matter achievement

**School Progress Index**

- **Year to year progress or School-level**
  - System-level
  - Longitudinal data
- **Progress based on student growth**
  - Change into Census test
- **School Progress Index**
  - A measurement of academic progress of individual schools

**System-level Longitudinal data**

- Score on 9th grade in year 1
- Score on 9th grade in year 2

**Student-level Longitudinal data**

- Score on 9th grade in year 1
- Score on 11th grade in year 3

**Contextual Value-Added (CVA) Model**
Advanced and Proficient

Results of NAEA

Academic achievement of students have been improved.

Advanced and Proficient

Below-Basic

- overall percentage of three subjects (Korean Language, Mathematics, & English).

* Source: Ministry of Education (2014)

Policy decision making based on empirical data by the NAEA results
Purpose

Guaranteeing all students’ progress toward achieving basic skills

Background

To improve students’ academic performance

“Zero Below-Basic Plan”

• According to the NAEA results, schools with a significant number of underachieving students are designated as “school for academic improvement (SFI)”.
• The government supports the SFIs with learning assistants, special supplementary lectures, and teaching materials.

The SFIs reduced underachieving students more than others.
NAEA Analysis and Dissemination

Primary and in-depth Analyses have been performed using various statistical models and the results are Reported in various ways.

- Report Card for Students
- School Information Disclosure
- Press Release
- Annual Research Report
- Symposium

Regression, Hierarchical Linear Model, Structural Equation Model, etc.

- Investigation on contextual variables affecting achievement levels
- Relationships among contextual variables and academic achievement
- Exploring clusters of schools and their potential characteristics
- Effectiveness of the ‘Schools for Improvement’ policy
Model for Utilizing the Results of NAEA

Thank you

www.kice.re.kr