



Getting the Basics Right

QUALITY PRIMARY EDUCATION IN THE NORTH PACIFIC



Japan
Fund for
Poverty
Reduction



Overview

Regional assessments such as the Pacific Islands Literacy and Numeracy Assessment (2012) reveal that Pacific island primary students are averaging only 30% of the benchmark in reading, and 48% in mathematics. School systems in the North Pacific—defined as the Republic of the Marshall Islands (RMI), the Federated States of Micronesia (FSM), and Palau—face particular challenges in improving skills in literacy and numeracy. In these traditionally oral cultures, reading and writing have historically played a less important role than speaking. Student completion rates at the primary level are satisfactory; however, the quality of basic education is problematic, with literacy and numeracy achievement showing mixed progress in national assessments in the FSM and the RMI. Poor learning outcomes are directly linked to low teacher quality. In the FSM and the RMI, 17.5% and 38% of teachers, respectively, are underqualified or without the minimally required 2-year associate degree. The importance of investing in the foundations of learning is known worldwide, and in the Pacific region, this is critically important.

Under Asian Development Bank's Quality Primary Education in the North Pacific pilot project, the Early Grade Learning Assessment (EGLA) instrument was developed with Japan Fund for Poverty Reduction support. The EGLA is a tool that enables education practitioners to identify specific areas of weakness that are holding back literacy and numeracy development. With more detailed understanding of the specific areas of weakness, schools were provided with focused teacher professional development and additional learning and teaching resources to address students' weaknesses while also highlighting areas of strength.

Results from a comparative baseline collection of EGLAs conducted 1 year apart indicate that literacy and numeracy skills increased by an overall average ranging from 24% to 32% for both groups of randomly selected students from grades 3 and 5 in the three different project sites where the EGLA was undertaken. These improvements are associated with the targeted interventions designed to improve literacy and numeracy skills based on the EGLA results. The initial results suggest the importance of

“It was a good test, although there were difficult questions.”

—A 5th grade student after taking an Early Grade Learning Assessment

implementing the EGLA and providing focused teacher development. The next steps should extend these initiatives to new areas and institutionalize them into the education assessment and teacher development system, while undertaking more analyses to assess learning outcomes over the medium term.

About the Project

The Quality Primary Education in the North Pacific pilot project was designed to develop and trial new inputs in learning, assessment, teacher development, and data management to improve the quality of primary education in the northern Pacific Micronesian nations of the RMI, the FSM, and to evaluate student assessment system in Palau. The project operated in the RMI in five selected schools on Majuro, and in the FSM, the project worked with all six schools of Kosrae State and two selected schools of Pohnpei State.

What is the EGLA and how does it work?

The EGLA is a formative assessment tool that provides a detailed picture of student performance levels in reading and mathematics. EGLA can be used for multiple purposes—tailored teacher professional development, identifying appropriate learning resources, and building accountability. The EGLA was developed for the FSM and the RMI in a collaborative manner alongside education authorities of each project site, with intensive capacity building, piloting, analysis, and extensive trials.

Unlike traditional standardized assessments, which provide overall information, the EGLA uses a representative sample of students to provide detailed information on the specific learning components that



“What language does your family mainly speak at home?” one of a 17-question demographic interview the teacher asks each student in the local language at the beginning of the EGLA.

Why assess literacy and numeracy?

- ✓ The ability to read, understand, and create text (literacy) and to draw on an underlying understanding and control of mathematical concepts (numeracy) are fundamental and foundational skills used to begin, establish, and maintain lifelong learning.

Why assess grades 3 and 5?

- ✓ Based on international research and best practice, these foundational skills must be acquired early. They are difficult to attain later, especially as the gap between learners and nonlearners widens. Without a good start, nonlearners can fall further behind in all future learning as they progress through school, and so early diagnosis of problem areas enables targeted treatment.
- ✓ Assessing in Grade 3 provides information about the acquisition of foundational skills that can be addressed and improved before the middle grades.
- ✓ Assessing in Grade 5 provides information on students' progress from the early stages to more developed levels of becoming genuinely literate and numerate. This information can be used to tailor learning for a school, a class, or an individual student, so that learners are equipped to handle new demands as they are exposed to a wider range of texts and mathematical challenges.

Why assess both the first language and English?

- ✓ An important feature of the EGLA is that it is a bilingual assessment instrument the Micronesian designed for the context, and provide the only means for educators to directly compare the results for English with those for the first language, opening up many avenues for investigating aspects of bilingual learning and achievement.
- ✓ It is widely recognized that mastery of the English language is important to broaden young people's future opportunities. However, there is an equally growing understanding of the need to ensure that Micronesian languages and cultures are also retained and developed. Promoting bilingual competency in both English and indigenous first languages is the approach that both the FSM and the RMI use in their public school systems.
- ✓ International research demonstrates the benefits that accrue when children's first (and continuing) experiences in education make use of their knowledge of their first language. In fact, the best predictor of language development in English, as a second language is the level of development of language proficiency in the mother tongue.
- ✓ If students are expected to have high levels of proficiency in both languages, then knowing students' specific strengths and the areas where they face challenges will allow more appropriate instructional responses to be developed.
- ✓ Project specialists supported a workshop in the RMI to develop a new language education policy that supports the importance of both Marshallese as the first language and English as the language of international interaction. Similar language policy developments are taking place elsewhere in Micronesia. Educators have recognized that the EGLA is a very useful assessment tool that can provide information to track progress toward the first and second language proficiency goals envisaged by these policy initiatives.

How valid is the instrument?

- ✓ During the assessment and piloting phase, the EGLA assessment tools were subject to rigorous statistical analysis to ensure the reliability of each question item, and to ensure the overall validity and consistency of the tool.
- ✓ All results were processed with best-practice statistical analysis and reported in appropriate and useful formats.
- ✓ The writing section of the instrument requires evaluations to be made of student-produced writing samples. It is difficult to ensure accurate and consistent marking by different assessors of these writing samples, and research has begun looking at the reliability of the scores given by different raters on these performance tasks.



WHAT IS ONE KEY FEATURE OF QUALITY PEDAGOGY?

Research shows that lessons that involve a **variety of activities** are more likely to result in increased student engagement and improved learning.

Therefore, teachers should ensure that each teaching point is reinforced through a range of different activities.



KEY COMPONENTS OF LEARNING

For Literacy

Alphabetic principle
Phonological awareness
Phonics
Fluency
Reading comprehension
Writing
Vocabulary
Listening Comprehension
Word Recognition

For Numeracy

Counting (Grade 3 only)
Place value
Addition and subtraction
Multiplication and division
Decimals (Grade 5 only)
Fractions (Grade 5 only)
Statistics and probability
Geometry and measurement

Note: These components reflected the curriculum statements for the target countries for these grades.
Source: Development Strategists International.

must be mastered in order to develop true competency in numeracy and literacy. The EGLA provides a clear picture of areas of strength and areas of challenge, allowing education authorities to structure targeted professional development for teachers with classroom-based resources that address students' specific weaknesses. The results of the EGLA inform ministries and departments of education about overall system performance, allow them to establish priorities for professional development programs, and monitor the outcomes at the individual school and classroom level.

The EGLA involves teams of trained assessors going out to classrooms and conducting one-on-one interviews with a preselected random sample of students from the two targeted grades, Grade 3 and Grade 5. Each student who participates undergoes four separate assessments: literacy in the first language (L1), numeracy in L1, literacy in English, and numeracy in English. The interviewer, in a welcoming manner, guides the student through a set of specific tasks, by asking students to show what they can do on each task in the areas of numeracy, reading and writing. Linkages between numeracy and literacy were also incorporated in the assessments, so that students applied knowledge and strategies to word problems or number stories in familiar contexts, and could demonstrate higher thinking skills such as the application of a concept or drawing a conclusion.

A short initial interview of the student's world outside of the classroom is also conducted. This reveals the child's home context, and aspects of the child's own perceptions about schooling. These included questions such as: What is the main home language, and does the child have access to reading materials in their first language or in English? Does the child write stories in their first language or English at home? Is there a family member who provides assistance with reading or math homework? Is there a TV in the home? Are there devices like calculators in the home?

How can EGLA results be used by education authorities?

Specialists can identify which areas of the curriculum content deserve the greatest attention for supporting teachers in classrooms, make plans for schoolwide professional development initiatives, provide manipulatives or other resources, and determine how best to assist with lesson planning and assessment. Pedagogical and conceptual development issues can be identified and the next steps for learning determined. Education administrators can compare the levels of achievement for different schools. Schools can compare the achievement of different classes at the same level for particular concepts.

The experience of developing and implementing the EGLA assessments

has provided education administrators with a deeper level of understanding and commitment to students' achievement in the classroom. Education administrators and teachers involved have a stronger appreciation for where the students are, and of the need for more support to teachers.

How was the professional development structured?

Education administrators in all three project locations followed through after the professional development workshops with more concentrated time in the schools, implementing observations, debriefs, and support for teachers. The professional development workshops required an unusually high level of interaction between ministry and departmental specialists, principals, and teachers. This resulted in a new recognition of the need for commitment and cooperation to address the challenges of improving teacher quality.

Over a year and a half, three phases of capacity building took place for teachers, principals, and subject and curriculum specialists.

An initial workshop explored quality teaching methods, covering factors and strategies that are known to lead to improved teaching and learning in classrooms. Processes ensured that teachers and students know specifically what they are going to learn, how they are going to learn it, and how they will know when they have learned it. Essential aspects for improvement focused on teachers providing students with high-quality, constructive feedback and feed-forward, and building positive classroom relationships. Participants were introduced to a protocol for conducting supportive peer observations and feedback.

In the second workshop, participants used the findings of the first EGLA to formulate professional development initiatives designed to improve the quality of teaching and learning in numeracy and literacy. Specific teaching strategies were trialed and practiced with students and



A Grade 5 student in Majuro, RMI, tackles a geometry task in Marshallese. Numeracy assessment involves the assessor reading aloud while pointing to questions and the student answering orally, pointing to illustrations, using manipulatives or writing calculations on a worksheet.

teachers. Examples in literacy trainings included a focus on decoding phonetically, using context to determine word meaning, reading fluently, and responding in writing to what has been read. These were addressed in practical, interactive ways where participants immediately practiced methods with each other.

The third workshop continued to focus on numeracy and literacy findings from the EGLA. It allowed participants to consolidate their conceptual knowledge and skills, and to model, test, and practice further quality teaching strategies. Teaching strategies focused on enabling students to strengthen numeracy skills by (i) using number stories with familiar concepts, (ii) ensuring students are introduced to a new concept by handling a number of appropriate manipulatives, (iii) encouraging students to develop mental images as strategies to solve problems, (iv) and using appropriate algorithms to calculate answers and justifying strategy choices.

Participants learned to pose problems in familiar contexts, plan lessons, demonstrate the use of manipulatives, introduce strategies that develop mental images, and model interactions with learners to ensure concepts are understood. In most workshops, trainers

tried activities with students and teachers. Teachers worked collaboratively to plan lessons and to observe and give feedback to each other.

What kinds of resources were provided to schools?

Math resources

Teachers of targeted grades 3 and 5 classes were provided with math kits which contained tools for teaching the standard curriculum topics on number properties, operations, statistics and probability, and geometry and measurement for that particular grade level. The teachers also participated in professional development workshops focused on particular manipulatives that addressed needs identified from the first EGLA, particularly counting strips, number frames, number arrows, base 10 blocks, and number lines.

Participants were also provided with worksheets and the handbook, *Making Sense with Numeracy*, which included (i) a short introduction to numeracy; (ii) an outline of the necessary stages to develop math strategies and knowledge; and (iii) an illustrated guide to using manipulatives and other practical teaching tools for developing understanding of place value, the four operations (with

whole numbers, fractions, and decimals), and important applications in statistics and geometry.

Literacy resources

Local teams in Majuro, Kosrae, and Pohnpei developed an inventory of readers, books, word charts, school dictionaries, and other resources for printing in the local language and English. The books cover a variety of topics and are written at a range of reading levels. Some resources were new and had not been printed before, but the project was also able to reprint a number of previously developed items that were no longer available.

Professional development sessions included setting up reading corners, highlighting the importance of creating an environment in which reading is clearly valued. Teachers established reading corners in their classrooms with students helping to determine how the books would be organized, displayed, and used. The reading corner provides a quiet and comfortable place for students to read independently or with a partner or small group. In these classrooms, students know that reading matters.

Impact Analysis

The initial EGLA baseline was carried out in February 2014. Following this, professional development took place in three phases, and learning resources were provided to target schools. The activities stimulated a new level of engagement across the education sector, with the curriculum specialists spending more time at schools, and working more collaboratively with principals and teachers to implement some targeted strategies in the target schools. The second EGLA baseline, or endline, was conducted in February 2015 with a new cohort of Grade 3 and Grade 5

“I like Kosraean best”

—Grade 5 participant from Kosrae, on preferring to be assessed in his or her own home language.

“I liked using math counters”

—Grade 3 participant from Pohnpei, using counters and other hands-on manipulatives during the mathematics assessment

students, using the same instrument with minor refinements.

Results in both the baseline and endline showed the following:

- ✓ Student performance in English and their first language are highly correlated. However, students performed better in their first language.
- ✓ In literacy, while students performed well in fluency, vocabulary, reading comprehension, and writing for meaning, students are still significantly challenged in foundational skills for reading, such as alphabetic principles, phonological awareness, and phonics.
- ✓ In numeracy, students showed some mastery of geometry, measurement,

and statistics. However, they also showed that they are still at a more basic developmental stage when given the tasks of operations, particularly multiplication and division.

- ✓ Information about some social and home-related factors was gathered through the interview, with the anticipation that such factors might explain, or at least correlate with, language proficiency patterns. However, no factors were identified which, when analyzed, could be seen as having a significant impact and influence on literacy and numeracy performance tasks.

Was there a difference after 1 year?

After 1 year of interventions, the following changes were observed between the EGLA baseline and endline:

- ✓ Across all project sites, the percentage of proficient to advanced readers increased by an average of 21%, leading to a decreased percentage of readers at the lower beginning and developing stages.

- ✓ The percentage of proficient to advanced numerates increased by an average of 19%, which also led to a decreased percentage of beginning and developing numerates.

- ✓ Looking at the results across different learning components, the number of students responding correctly at endline increased by 26% on average.

- ✓ Students who performed well in the first language, tended to perform well in English. Performing well in one language in numeracy and literacy seems to be predictive of performing well in the other language. This runs contrary to the former prevailing view that in order to ensure good development in English, the use of the first language should be downplayed, and instead reinforces the idea that building a strong foundation in the first language will be supportive of eventual improved outcomes in English.

- ✓ The factors or areas of EGLA literacy and numeracy that were identified as areas of challenges in 2014 were still identified as such in 2015. However, the percentage of students getting correct responses had increased.



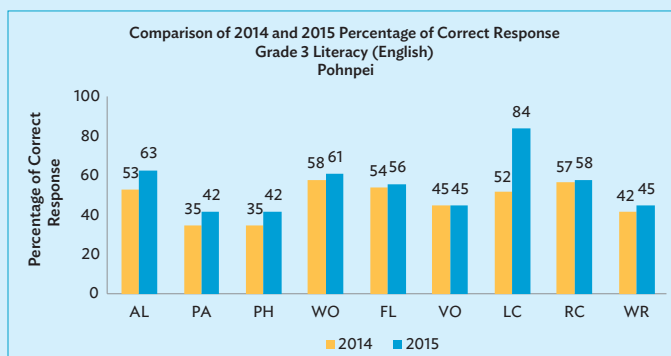
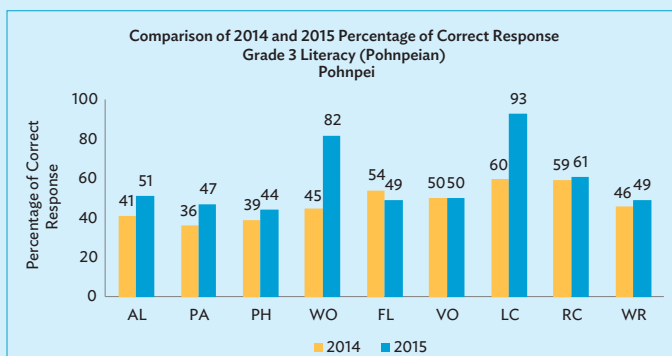
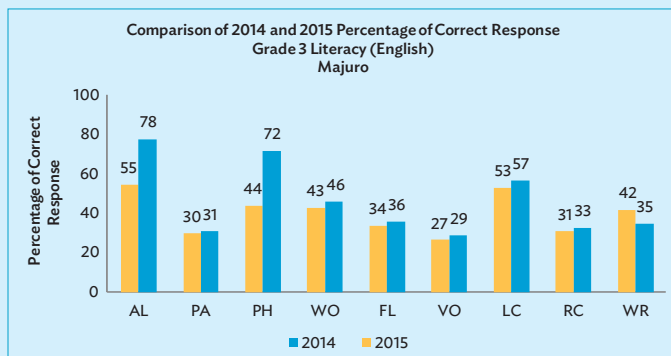
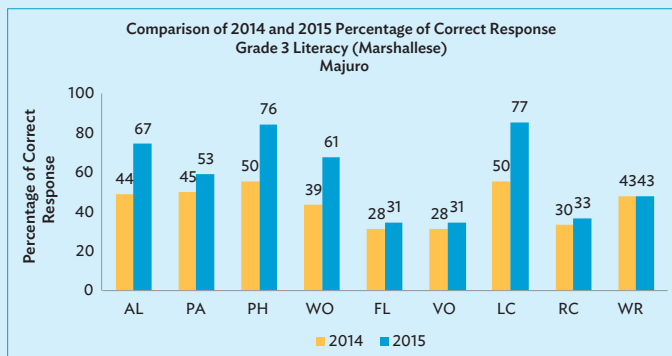
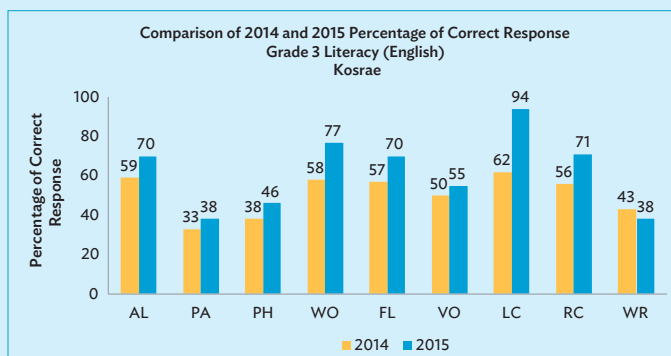
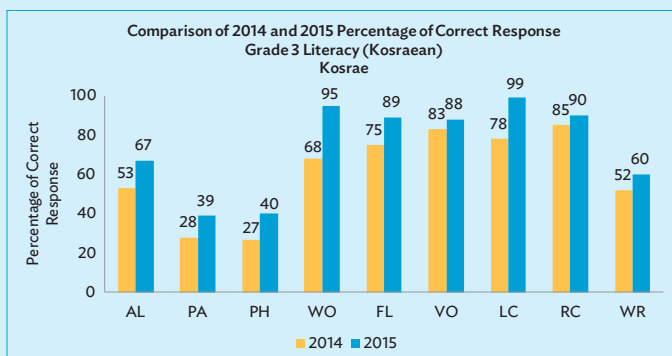
A Pohnpeian literacy assessor asks his student to read a passage out loud and takes note of specific challenges and strengths. This is followed by questions posed to reveal the student's understanding of what is read.

Grade 3 Literacy (First Language)

When the children were assessed in their first language, that is, Kosraean, Marshallese, or Pohnpeian, similar results emerged. More children answered correctly in 2015 than in 2014. Generally, all performances increased for all pilot locations, except for a slight decrease in fluency in the Pohnpeian sample, which nevertheless showed significantly improved student performance in word recognition and listening comprehension.

Grade 3 Literacy (English)

In general, there were overall increases in performance for each of the nine literacy constructs (alphabetic principle, phonological awareness, phonics, high-frequency words, fluency, vocabulary, listening comprehension, reading comprehension, and writing) assessed at Grade 3 in all pilot locations. This page shows sample graphs for Kosrae, Majuro, and Pohnpei. However, the Kosrae and Majuro sample results show a slight decline in one factor, writing for meaning. Further analysis is needed to determine if such exceptions are within the margins of error or are due to other factors.



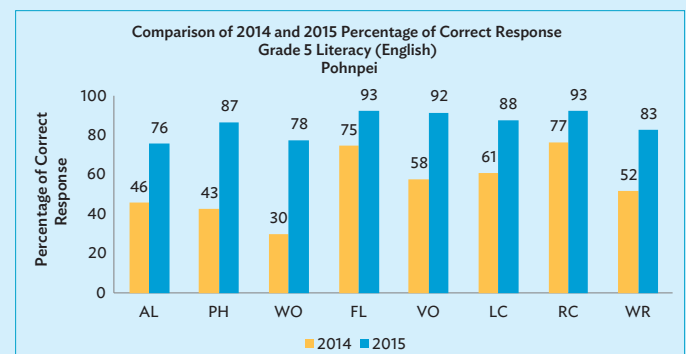
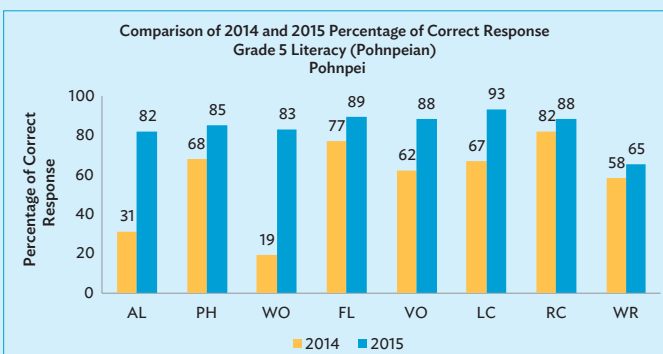
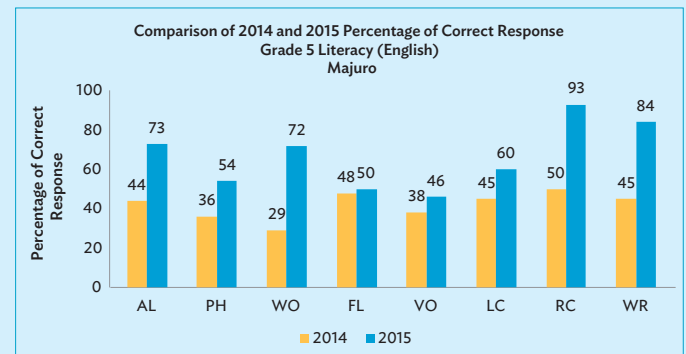
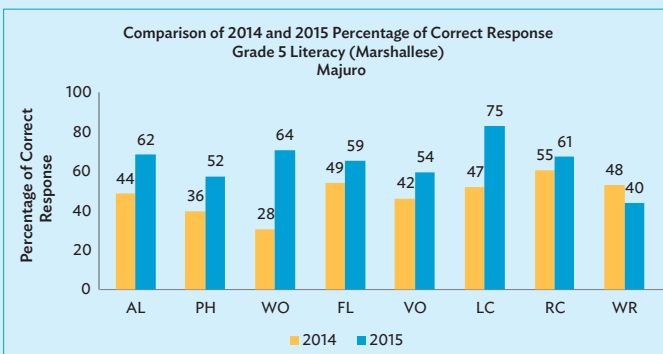
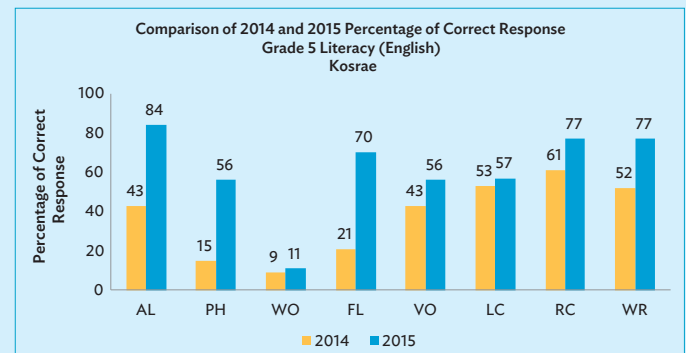
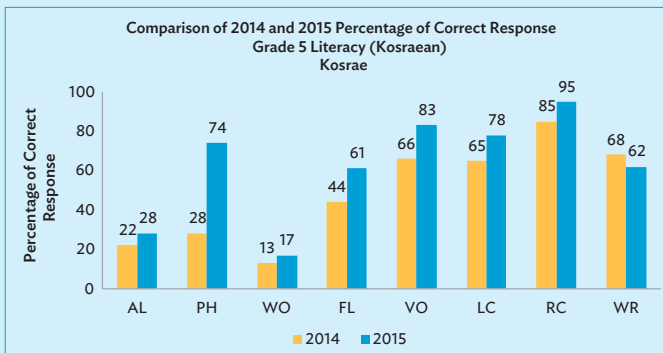
AL = alphabetic principles, FL = fluency, LC = listening comprehension, PA = phonological awareness, PH = phonics, RC = reading comprehension, VO = vocabulary, WO = word recognition, WR = writing for meaning.
Source: Development Strategists International.

Grade 5 Literacy (First Language)

Results for the vernacular language are largely consistent with the results for English. It can be seen here for Kosrae and Majuro that the percentage of correct responses increased in all factors, except for a slight decrease for the specific task of writing for meaning. The decrease in this subject area was only noted in Grade 3 Literacy English. In general, the results still imply that there is an increase in the percentage of readers.

Grade 5 Literacy (English)

For each of the eight literacy constructs assessed at Grade 5 (alphabetic principle, phonics, high-frequency words, fluency, vocabulary, listening comprehension, reading comprehension, and writing), there were increases in performance in all pilot locations.



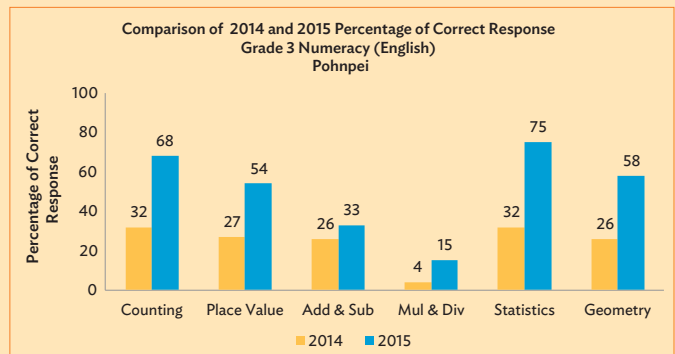
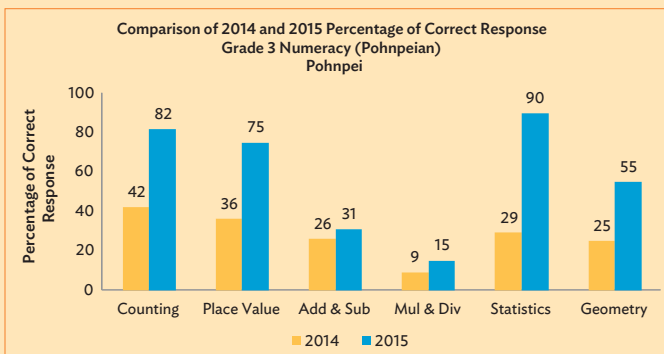
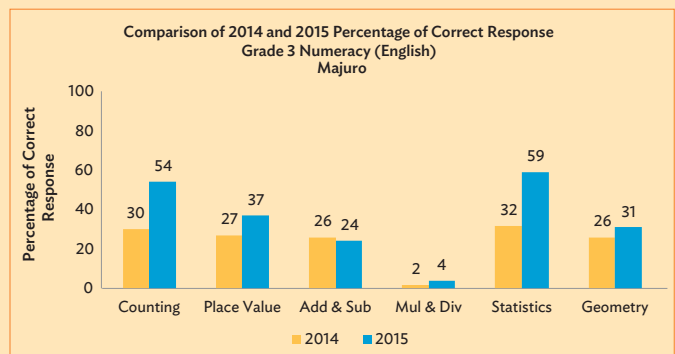
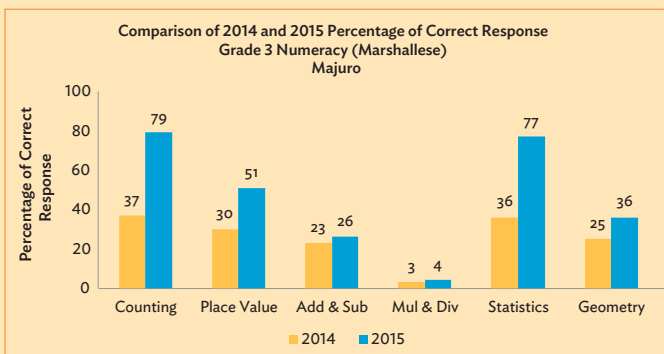
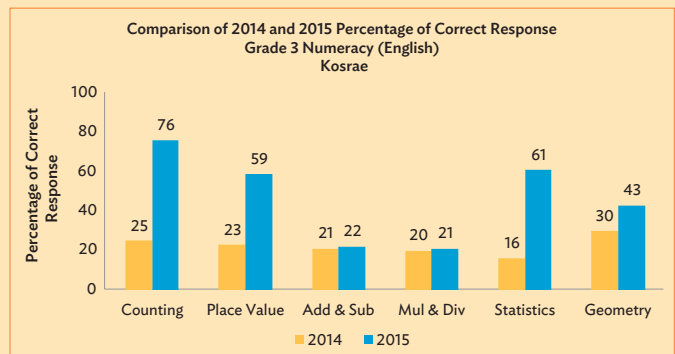
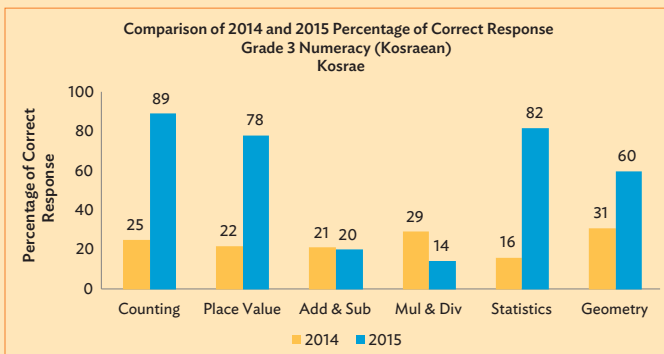
AL = alphabetic principles, FL = fluency, LC = listening comprehension, PA = phonological awareness, PH = phonics, RC = reading comprehension, VO = vocabulary, WO = word recognition, WR = writing for meaning.
Source: Development Strategists International.

Grade 3 Numeracy (First Language)

When Grade 3 students were assessed using their first language for numeracy, results showed a significant increase in the percentage of students answering the questions and performing tasks correctly. A significant increase in performance was noticed in counting, place values, and statistics. However, basic operations remains an area of challenge.

Grade 3 Numeracy (English)

Student performance in the six key constructs for numeracy in Grade 3 (counting, place value, addition and subtraction, multiplication and division, statistics, and geometry) showed significant increases from 2014 to 2015. However, addition and subtraction as well as multiplication and division remain areas of challenge in all project sites.



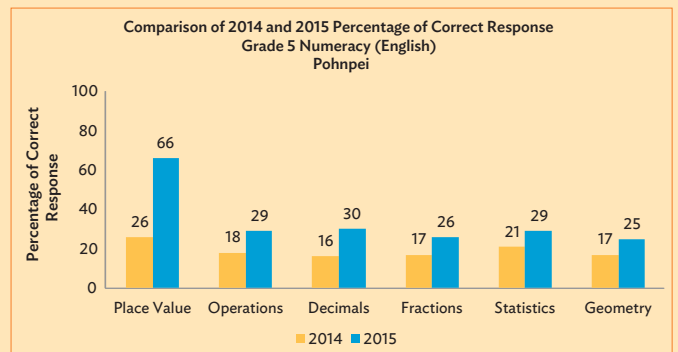
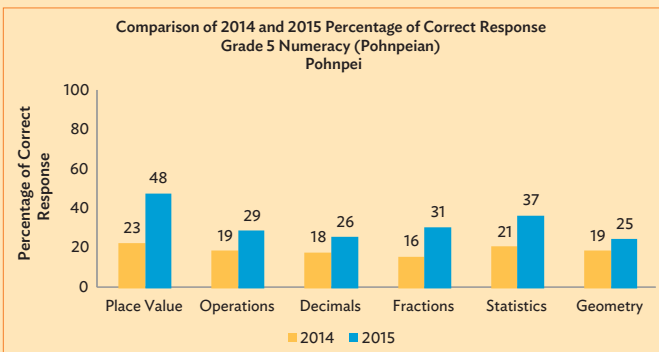
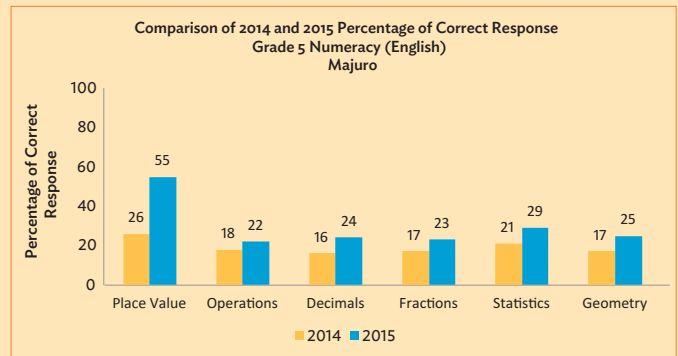
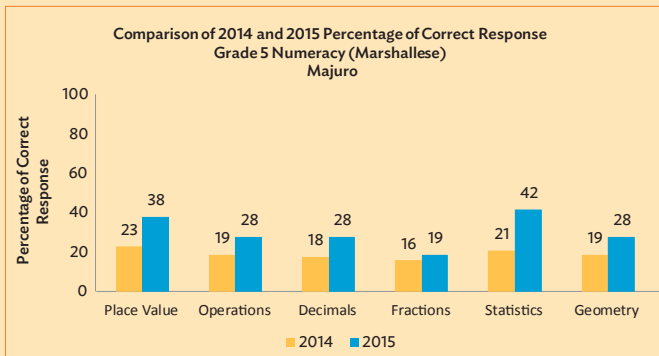
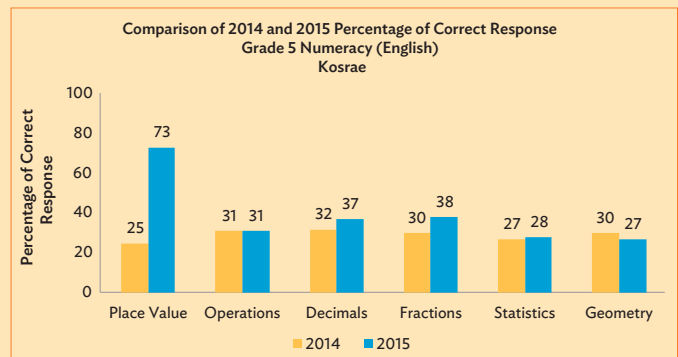
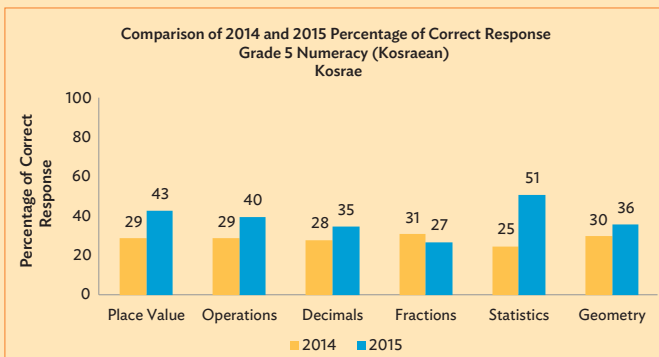
Add & Sub = addition and subtraction, Mul & Div = multiplication and division.
Source: Development Strategists International.

Grade 5 Numeracy (First Language)

When assessed using their first language in numeracy, the performance of Grade 5 students in 2015 was better than those students who took the same assessment in 2014. Similar results were obtained when they were assessed in English. This further supports findings that the performance of students in English and vernacular languages are significantly related, that is, students who perform well in English tend to perform similarly well when assessed in their first language.

Grade 5 Numeracy (English)

Among Grade 5 students, the percentage of students who successfully answered the questions and performed the tasks during the EGLA activities increased. However, in all project sites, about two-thirds of the students are still unable to answer all the questions correctly.



Add & Sub = addition and subtraction, Mul & Div = multiplication and division.
Source: Development Strategists International.

Reporting of Results

Information and data was collected and analyzed for the relevant ministries and departments. A glimpse of results from the different project sites is presented below.

It is important to note that while significant gains have been made overall, learning levels are still far below where they need to be.

Conclusions

Very promising results have been shown within a short time frame. It has become clear that, with specific and focused efforts that increase understanding of actual student learning while improving teaching practice, it is possible to effect significant positive impacts in learning outcomes. This is an encouraging sign.

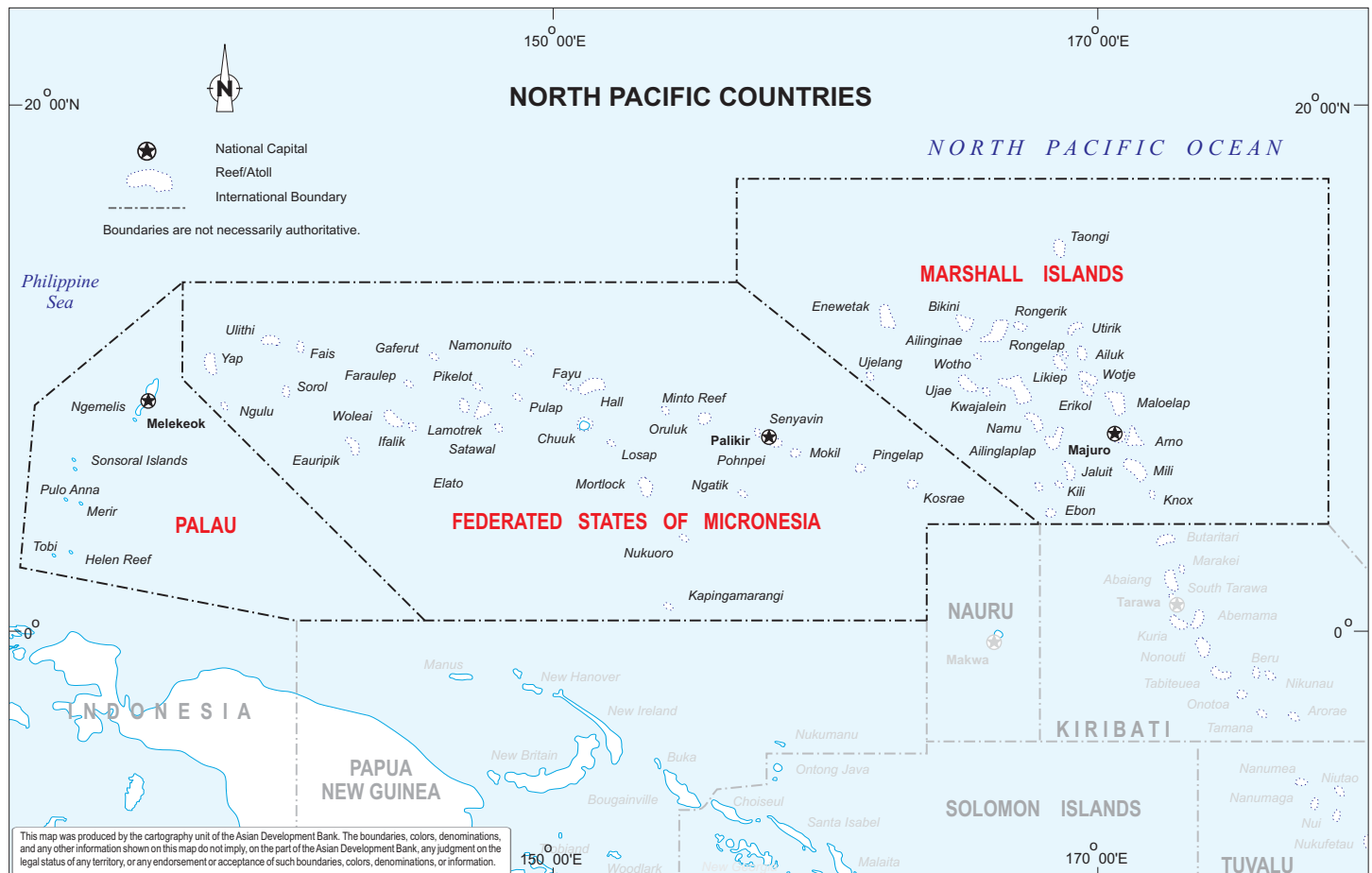
The challenge is to systematize and institutionalize such efforts more broadly. It must also be acknowledged that other contextual factors may have influenced the positive gains experienced within such a short period of time. Nevertheless, the momentum and commitment generated warrants the project's further support, as it has shown new ways of approaching assessment and providing support to teachers and student learning.

Future efforts would ideally focus on more institutionalization of teacher professional development, including its linkages to preservice education, while ensuring more bilingual and other targeted learning resources in this effort. Sustainable change in teacher practice through deeper conceptual and pedagogical understanding takes time. Community and parent support will also be key to promoting more comprehensive,

“I liked talking with the teachers”

—EGLA participant from Kosrae
(In typical testing environments, there is no talking. With EGLA, students interact with assessors and teachers.)

accountable, and transparent ways to improve the quality of education for the future of young people in the North Pacific. By maintaining a strong focus on providing critical foundations in literacy and numeracy, it is hoped that many more young people will succeed throughout their education and in life.



WHAT DID YOU LEARN PERSONALLY ABOUT STUDENTS' KNOWLEDGE AND SKILLS FROM YOUR WORK AS AN ASSESSOR?

Responses of education administrator assessment team members

- ✓ I learned that many students have different skills; even though they are in the same grade level, their abilities are not the same.
- ✓ I found that some children can read but can't comprehend and write what they read.
- ✓ I learned that some students are better in reading than other students in other schools.
- ✓ It gives me an overview of where each school is in terms of their [students'] knowledge and ability.
- ✓ Many students are behind their grade levels.
- ✓ Lots of fifth graders don't know how to write complete sentences.
- ✓ I learned a lot. What really stands out is "What we give is what they get." That was a [true] reflection of our teaching.
- ✓ A lot of work needs to be done by teachers and the Ministry of Education to improve knowledge retention and skills for students.
- ✓ All of us—parents, teachers, principals, and specialists— should work seriously. Our students are eager to learn but we don't provide our services honestly.
- ✓ Very few students master the basic skills in subtraction and the other operations.
- ✓ For literacy, the students are able to read the text passage but there is no comprehension. For numeracy, students need more shortcut techniques for operations and other math concepts.
- ✓ Students from the same grade level have different strategies to tackle math problems. Some of them use effective strategies while some don't.



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