

Sekolah Enuma in Lampung and Medan

An Effective Digital-based Learning Solution for Young Children in Indonesia

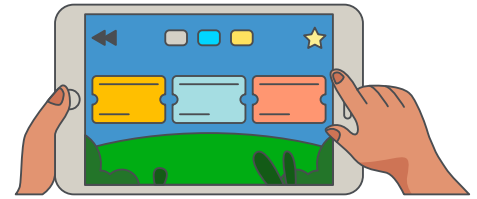


Enuma's award-winning applications, such as Kitkit™ School and Todo™ Math, help children to learn in more than 20 countries around the globe.



To create Sekolah Enuma, we worked closely with leading Indonesian curriculum designers and experts, and leveraged our years of collective expertise in education technology, gaming and learning to create a product for Indonesian children that caters to their specific language and cultural needs.

Sekolah Enuma's field trial in Lampung and Medan, conducted from January to April 2021 in the middle of the COVID-19 pandemic, allowed 586 children to continue learning during this challenging period.



Through gamified, independent and individualized learning, Sekolah Enuma empowers children to establish foundational skills in literacy, math and English.

Sekolah Enuma Indonesia

During the pandemic, we are increasingly seeing the importance of having access to good digital-based education. Once installed, Sekolah Enuma can be played without an internet connection. So, the children can still learn, even in areas where it is hard to obtain an internet connection. That is why we firmly believe that the Sekolah Enuma model is a good and creative approach, and can make a good breakthrough for children's education in Indonesia.

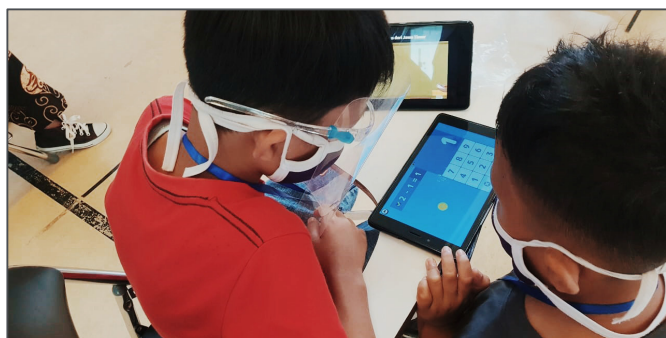
— Effendy Aritonang,
National Director, Yayasan Fondasi Hidup

Sekolah Enuma Indonesia is a digital application with hundreds of games, books, and videos that support children's learning of Indonesian (literacy), Mathematics and English as an Additional Language. With content covering Early Childhood Education through Grade Two, Sekolah Enuma can be played on a mobile or tablet device. Once installed, it does not require connectivity to function.



Children play Sekolah Enuma in Lampung (left) and Medan (right)

A child-driven learning tool, children can play Sekolah Enuma independently while supervised by facilitators or guardians. Placement tests and check-in quizzes in the application allow Sekolah Enuma to continually organize content into individualized paths to suit each child's unique learning needs. With the accompanying Learning Management System (LMS), facilitators can manage the program easily.



Children play Sekolah Enuma in Lampung

Field Trial in Lampung and Medan

From **January to April 2021**, Sekolah Enuma was beta tested with **586 children in Indonesia**: 130 children from the Deli Serdang Community, Medan, Indonesia, and 456 children from schools in Lampung, Indonesia. Children played an average of **an hour a day, 5 days a week, for 3 months**.



Map of Western Indonesia showing Medan (01) and Lampung (02)

01 Medan

130 children

Community-based activity

Kindergarten - Grade 3

In Medan, the program was implemented as an extracurricular program organized by Yayasan Fondasi Hidup, where groups of seven to 16 children gathered at community sites for 60-90 minutes daily to play with Sekolah Enuma. Children had been out of school for over nine months at the time of implementation.

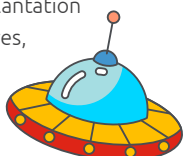
02 Lampung

456 children

School-based activity

Grade 1 - 2

In Lampung, the program was initially to be implemented as a 30-minute class in three schools located in Lampung plantation communities. However, due to COVID-19 school closures, groups of 15 to 27 children played hour-long sessions in community halls, and then as an at-home program during a more severe community shutdown.



Methodology

A pre-test was conducted a week after the intervention began to ensure children were familiar with the learning environment and a digital program. The post-test was conducted between late March and early April, just before the last day of the project at each site. The Indonesian and math tests were developed based on EGRA and EGMA¹, and the English test was developed based on the Sekolah Enuma curriculum. To allow for efficient implementation, the tests were digitally administered on individual devices with headphones.



The Sekolah Enuma program has succeeded in helping reduce children's boredom.

— **Nanik Ernawati, GMP School Principal**

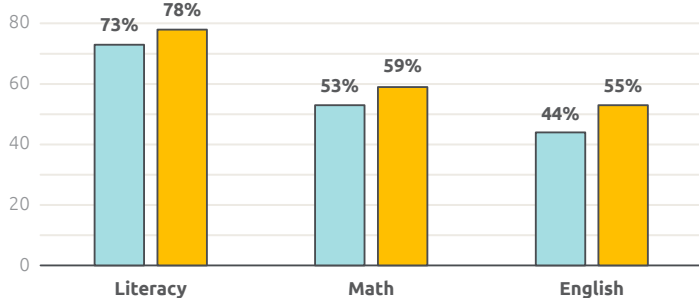


Results

In both Lampung and Medan, **average post-test scores improved from pre-test scores**. The average percentage of correct answers for Lampung students increased from 73% to 78% in literacy, 53% to 59% in math, and 44% to 55% in English. In Medan, the average percentage of correct answers increased from 47% to 53% in literacy, 41% to 53% in math, and 25% to 29% in English.²

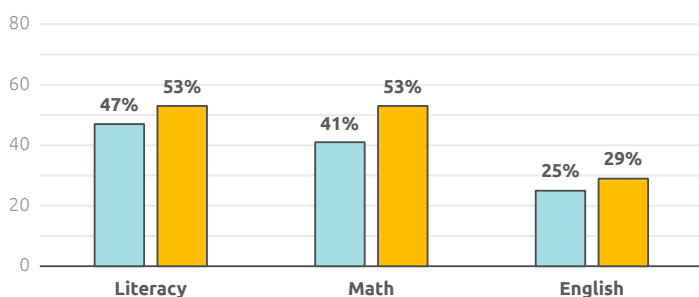
Average Correct Answers, Lampung

Pre Test Post Test



Average Correct Answers, Medan

Pre Test Post Test



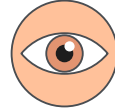
Program Design



One child per device in each session, but multiple sessions a day allow different children to share the same device



Facilitators and teachers trained on what Sekolah Enuma is, how to troubleshoot issues and how to observe children's play



Facilitators and teachers distribute devices and supervise children as they play independently



Enuma's model is suitable for various learning environments. Therefore, we believe that this model can be applied on a larger scale, and used by children from various contexts and regions in Indonesia."

— **Lim Poh Ching,**
Operation Director, PT Gunung Madu Plantations

Highlighting Learning Gains by Sub-Task

English



Phonemic awareness: The proportion of students who scored above 80% correct increased from 20% of students to 57%.



Vocabulary: The proportion of students who scored above 80% correct also increased from 2% to 10%.

Math



Basic Addition: The proportion of students who scored above 80% correct increased from 27% to 44% in Medan and from 35% to 47% in Lampung.



Basic Subtraction: The proportion of students who scored above 80% correct increased from 10% to 22% in Medan and from 14% to 23% in Lampung.

Indonesian Literacy



Reading comprehension: The percentage of children in Lampung who scored above 80% correct in reading comprehension increased from 35% to 43%.



[With Sekolah Enuma] I hope that all Indonesian children are capable of reaching their full potential when given the proper digital technologies and learning experiences towards building 21st century lifelong learners.

— **Ella Yulaelawati, PhD,**
Former Director, Ministry of Education and Culture (2006-2018) and Founder, Yayasan Rumah Komunitas Kreatif (YRKK), Curriculum Developer and Advisor, Sekolah Enuma Indonesia



Children play Sekolah Enuma in Medan

About Enuma, Inc.



Enuma is a mission-driven company that creates exceptional learning apps to enable all children, including children with special needs, to become independent learners. Enuma was founded in 2012, and is headquartered in Berkeley, California with offices in Seoul and Beijing.



Contact us at enumaschool@enuma.com to learn more or visit www.enumaschool.com

Sekolah Enuma Indonesia was developed with contributions from The HEAD Foundation, PT Gunung Madu Plantations (GMP) and PT Pemukasakti Manisindah (PSMI).

¹ EGRA (Early Grade Reading Assessment) and EGMA (Early Grade Math Assessment), developed by RTI International and USAID are widely used to measure the early level skills development in literacy and numeracy [RTI International. (2016). Early Grade Reading Assessment (EGRA) Toolkit, second edition; RTI International. (2014). Early Grade Mathematics Assessment (EGMA) Toolkit; RTI International.]. These tests are designed as oral tests and primarily target the 2nd grade elementary students. Thus, modifications were made for digital implementation and for project participants who ranged from kindergarten to higher levels.

² Tests include timed sections that observe how many questions children can answer within a period of time, thus it is not realistically expected that children would attain a 100% in correct answers on the tests.