

A group of approximately ten children in blue school uniforms are posing for a photo in front of a dense, green forest. Some children have white body paint or clay applied to their faces, including around the eyes and on the cheeks. An adult woman, likely a teacher, stands behind them, smiling. The scene is outdoors, with sunlight filtering through the trees.

*Sustaining Melanesia's Linguistic Heritage*

# *Can English Save the Tok Ples of Papua New Guinea?*

**LSPNG 2026 Conference @ NRI POM  
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Ovene VALU, Ninkama KORA  
(June Valley)  
& Olga Temple (UPNG)**

# *Sustaining Melanesia's Linguistic Heritage*

We are gathered here to share ideas on how best to sustain the life of Melanesia's Languages

Some compare English to a hungry Pig ready to swallow the beautiful garden of ancestral languages:



Should the Pig be locked up, so it does not cause havoc in the garden of Tok Ples?

Should the Pig of English be kept at bay in Primary School, where MTE should be the norm, according to WB\*?

Will our Ancestral Languages be safe then?

Our study was designed to look for answers to these questions.

\* <https://www.worldbank.org/en/topic/education/publication/loud-and-clear-effective-language-of-instruction-policies-for-learning>





GROUNDWORK: Study proposal, permissions obtained, discussions

# Groundwork for our study:

- **Proposal:** this is a **quantitative study** to explore the effect of early English exposure on academic achievement
- **Survey instrument:** data collection form was designed and tested
- **Permissions** were obtained from



**NATIONAL CAPITAL DISTRICT COMMISSION**

Department of Community & Social Services

**Education Division**

City Hall Level 1, Waigani Drive, Waigani

P.O. Box 7270, Boroko. NCD

& the Principal June Valley Primary School

- **Procedures for data collection** were developed and finalized

# Research Aims and Objectives

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- **AIMS:** To assess the effect of early English exposure on students' academic performance in June Valley Prep classes
- **Specific OBJECTIVES** - to collect factual and verifiable data on:
  - The children's Age at Enrollment into JV Prep classes (2026 academic year)
  - Our students' Age of Onset of learning English (AOE)
  - Our Prep students' Home Language
  - Our Prep students' proficiency in spoken English
  - The metrics of our Prep students' academic performance in the first two terms of the 2026 academic year.

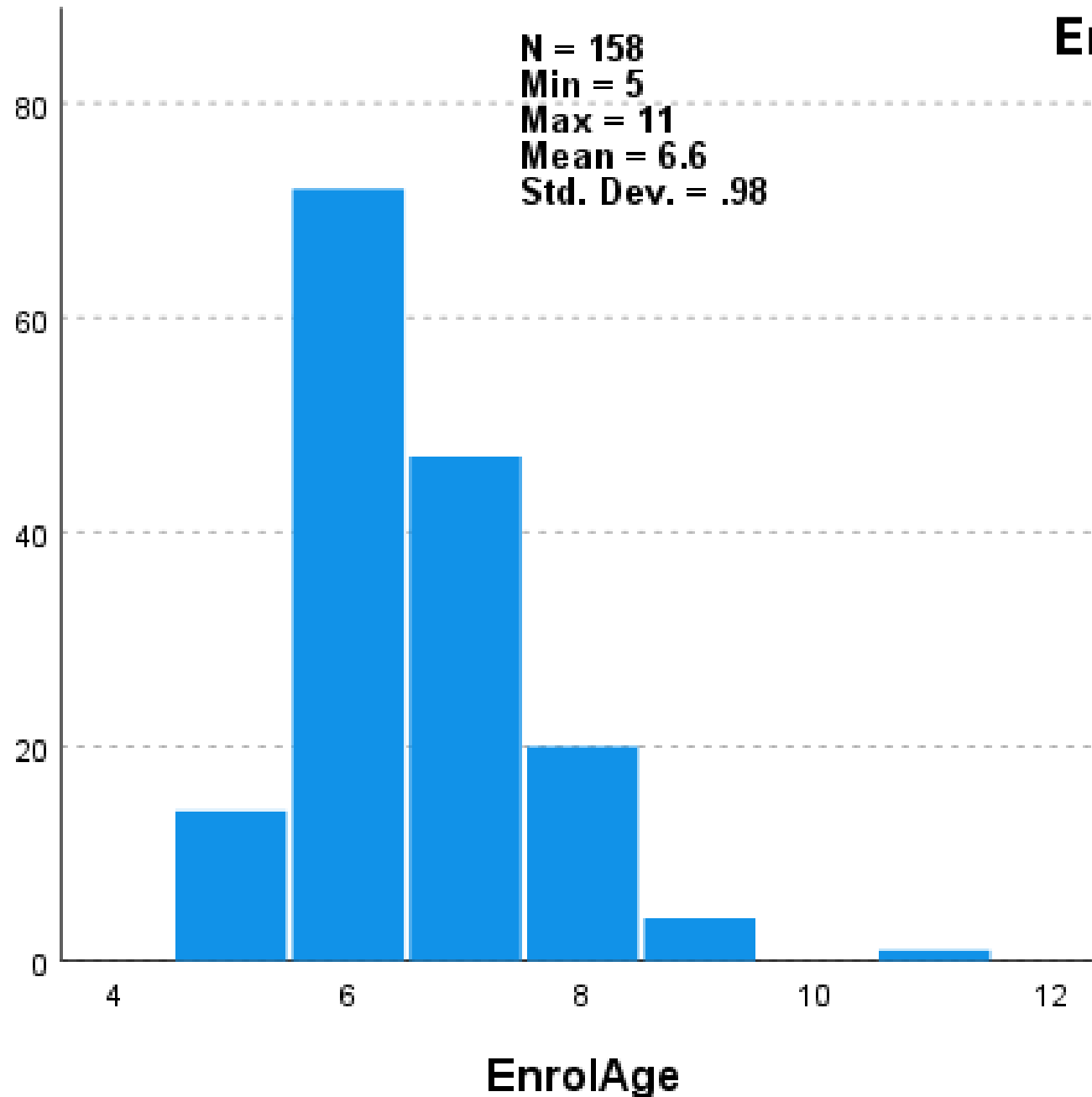


# Methodology

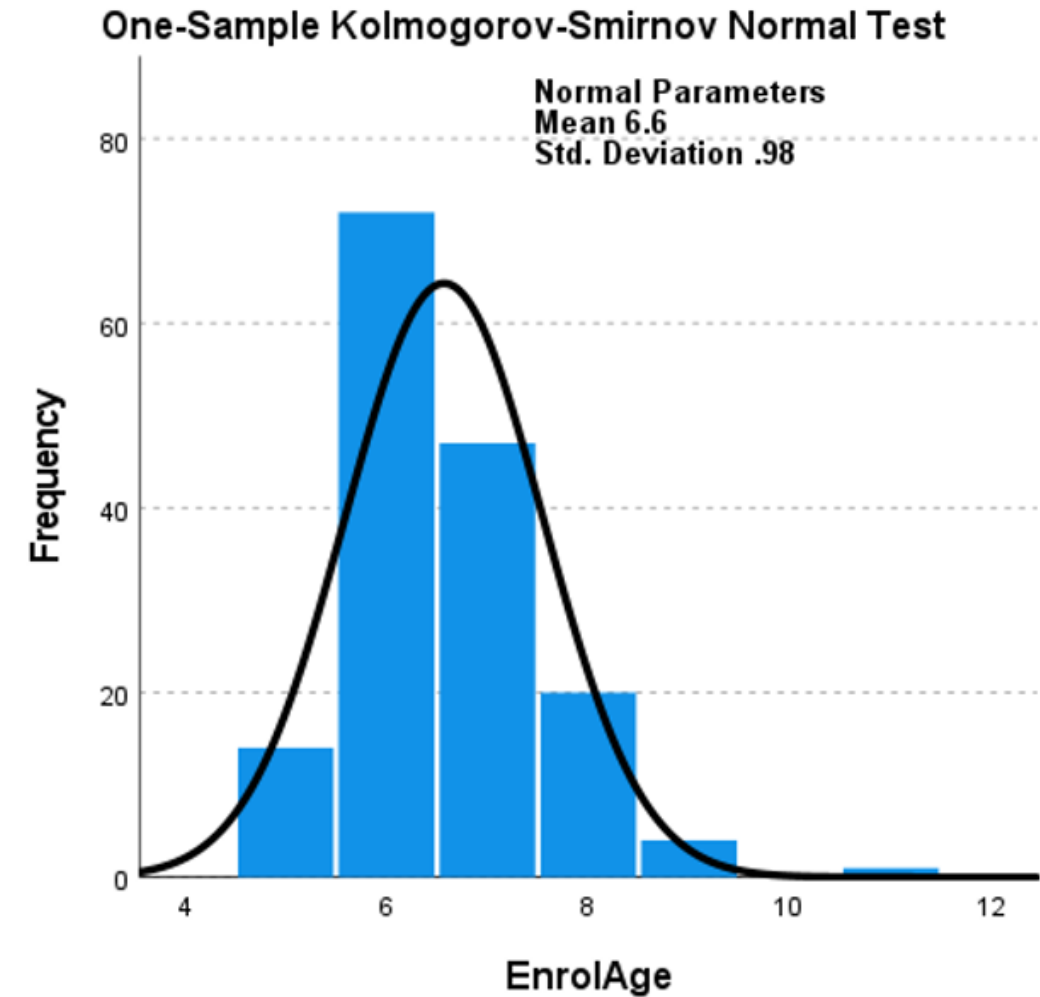
Collected data were entered into 4 Excel spreadsheets, combined into one, coded and analyzed, using SPSS V28

Presented below are our **FINDINGS:**

## Continuous Field Information EnrolAge



**EnrolAge data show a positive skew:**



# COMPARISON OF MEANS

| Home Lang    |                | AOEA        | Spoken Eng  | <u>ReadAbility</u> | English Grade |
|--------------|----------------|-------------|-------------|--------------------|---------------|
| English      | Mean           | 4.98        | 1.07        | 1.05               | 1.47          |
|              | N              | 55          | 55          | 55                 | 55            |
|              | Std. Deviation | .135        | .325        | .229               | .539          |
|              | <b>Median</b>  | <b>5.00</b> | <b>1.00</b> | <b>1.00</b>        | <b>1.00</b>   |
| Tok Pisin    | Mean           | 5.73        | 2.35        | 2.07               | 2.04          |
|              | N              | 82          | 82          | 82                 | 82            |
|              | Std. Deviation | .817        | .553        | .681               | .637          |
|              | <b>Median</b>  | <b>6.00</b> | <b>2.00</b> | <b>2.00</b>        | <b>2.00</b>   |
| <u>TPEng</u> | Mean           | 5.76        | 2.24        | 1.86               | 1.57          |
|              | N              | 21          | 21          | 21                 | 21            |
|              | Std. Deviation | .889        | .436        | .573               | .676          |
|              | <b>Median</b>  | <b>6.00</b> | <b>2.00</b> | <b>2.00</b>        | <b>1.00</b>   |

## Measures of Association

|                           | Eta  | Eta Squared |
|---------------------------|------|-------------|
| AO Eng * Home Lang        | .474 | .224        |
| Spoken Eng * Home Lang    | .790 | .624        |
| Read Ability * Home Lang  | .653 | .426        |
| English Grade * Home Lang | .408 | .166        |

### Cohen's benchmarks:

- **Small effect:** Eta Squared  $\approx 0.01$   $\rightarrow$  Explains about 1% of the variance.
- **Medium effect:** Eta Squared  $\approx 0.06$   $\rightarrow$  Explains about 6% of the variance.
- **Large effect:** Eta Squared  $\approx 0.14$   $\rightarrow$  Explains about 14% or more of the variance.

**Takeaway: Home language has a very large effect,**  
explaining **22%, 62%, 43%** and **17%** of the variance in AOEA,  
Spoken English, ReadAbility and English grade, respectively.

# Nonparametric Correlations

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Strong negative correlation between AOEa & ReadAbility:

Spearman's rho:  $r = -.618, p < .001$

∴ ~ **38.2%** of ranked variance in Reading Ability in this dataset can be explained by AOEa



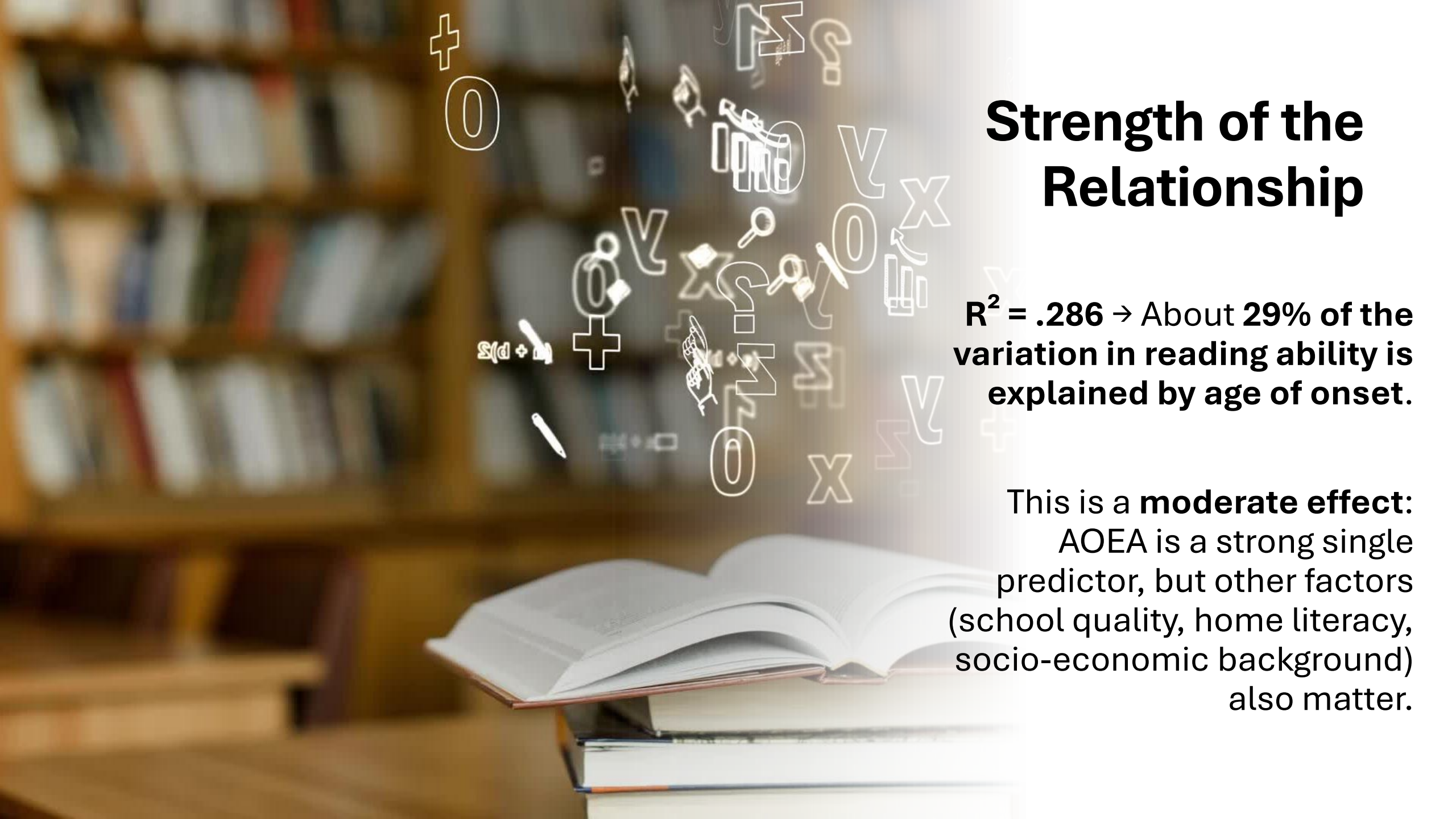
# OLS REGRESSION

## Model Summary

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .535 <sup>a</sup> | .286     | .282              | .612                       |

a. Predictors: (Constant), AO Eng

**AOEA predicts almost 29% of Read Ability scores:  
the younger, the better!**



# Strength of the Relationship

$R^2 = .286 \rightarrow$  About **29%** of the variation in reading ability is explained by age of onset.

This is a **moderate effect**:  
AOEA is a strong single predictor, but other factors (school quality, home literacy, socio-economic background) also matter.

# In essence,

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The regression confirms that **the earlier English acquisition begins, the stronger the reading ability outcomes.**

Delayed onset significantly increases the likelihood of average or poor reading performance.

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## Discussion of Results

# What our results show at a glance

## Distributional Findings:

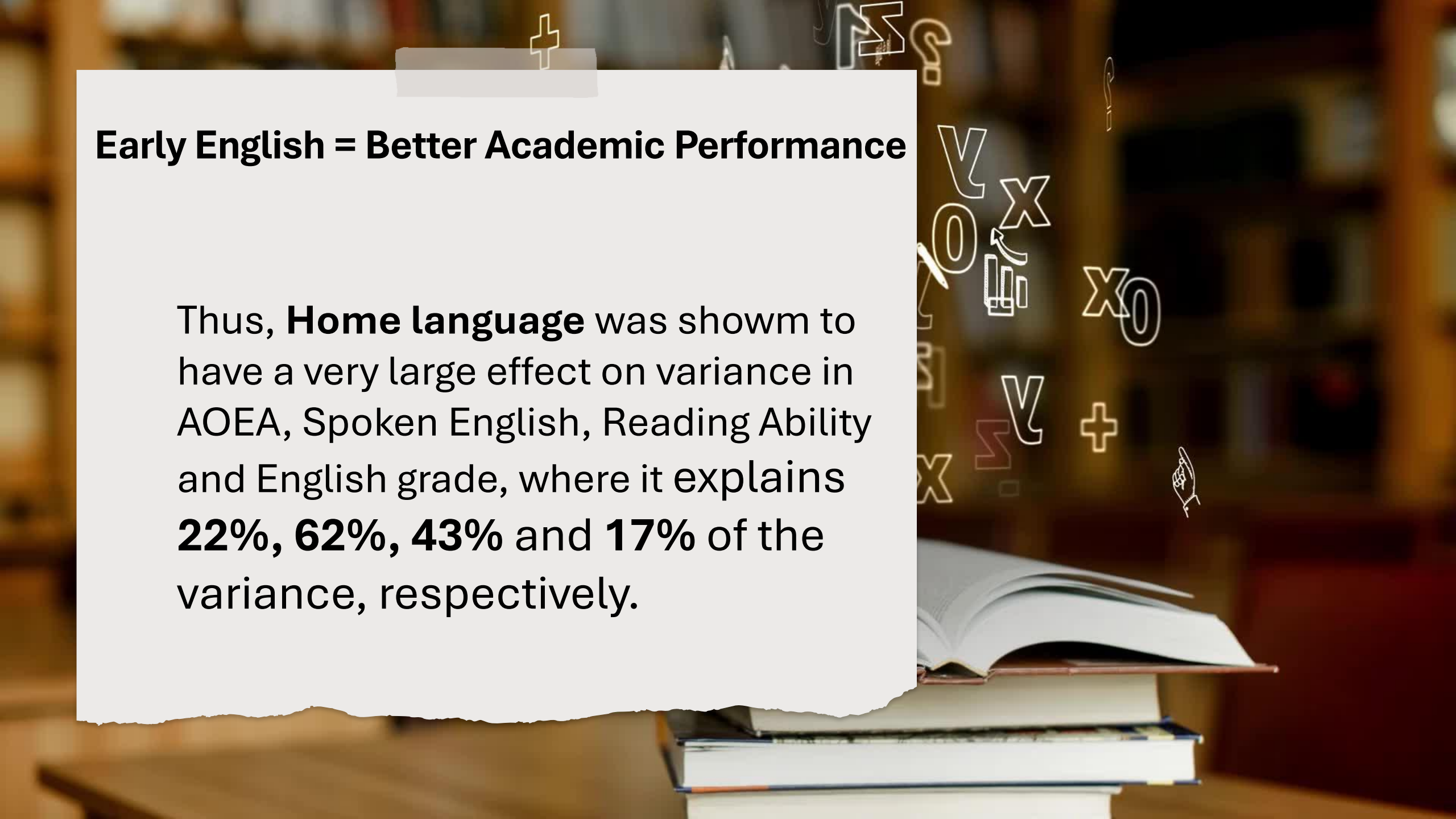
- **Unequal**: AOEA, Home Language, Oral English & English Grades
- **Balanced**: Math Grades & Gender

## AOEA & Reading Ability:

- **Strong negative correlation** (Spearman's rho:  $r = -.618, p < .001$  )
- **AOEA** explains ~38% of reading ability variance

## Practical Interpretation

- Students who begin learning English **earlier in life** are much more likely to achieve **excellent reading ability (score = 1)**.
- Students who start English **later** are more likely to fall into the **average or poor reading categories (scores = 2 or 3)**.
- The regression line essentially slopes upward: **each year's delay in English onset increases the risk of weaker reading outcomes.**



## Early English = Better Academic Performance

Thus, **Home language** was shown to have a very large effect on variance in AOEAs, Spoken English, Reading Ability and English grade, where it explains **22%, 62%, 43% and 17%** of the variance, respectively.

Native Tok Ples Speakers must become expert linguists to describe and document their ancestral languages.

Can Tok Ples+English BECE help our kids excel in school and graduate from University with degrees in linguistics?





# OUR REASONING:

**English = a Global Code**  
providing direct access to  
scientific knowledge.

To specialize in Linguistics,  
Native Tok Ples speakers must  
use this code.

■ ■ **English = SCIENCE CODE**  
in PNG – it is not a threat to our  
Tok Ples languages

## This logic is supported by

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- **Common knowledge** – we all know that young kids learn languages differently from adults
  - **Neuroscience** which has established that the first 5 years of life are the unique window of opportunity in brain development
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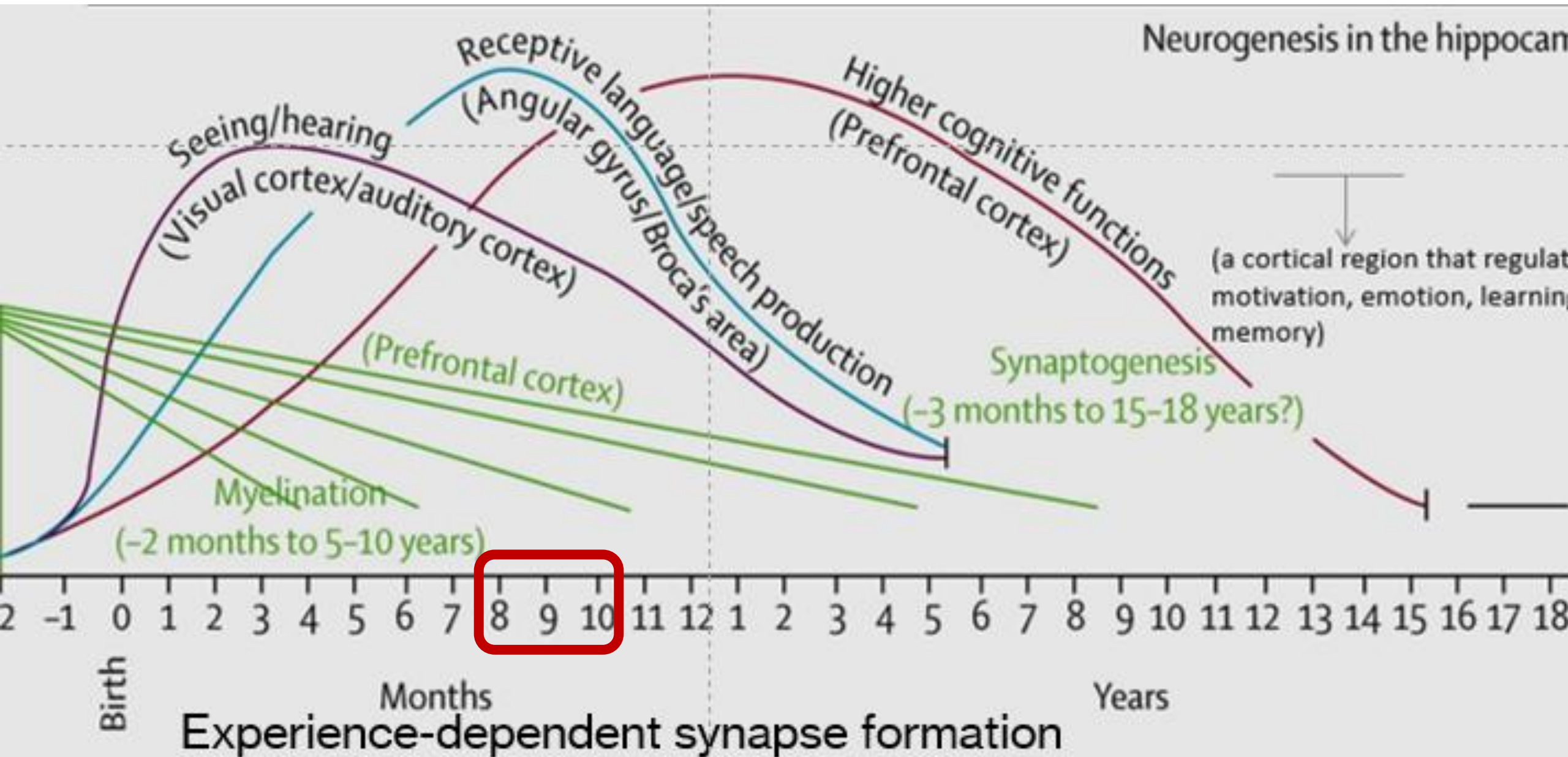


New fMRI  
technologies  
have  
revealed  
that:

Early childhood is the “**maximum impact**” period in brain development. Kids learn language(s) directly from exposure!

With age, the *mechanism* of language acquisition changes; we lose the ability to acquire a second language through mere exposure to it.

Developmental potential in the first 5 years for children in developing countries.  
Lancet 2007; 369: 60–70



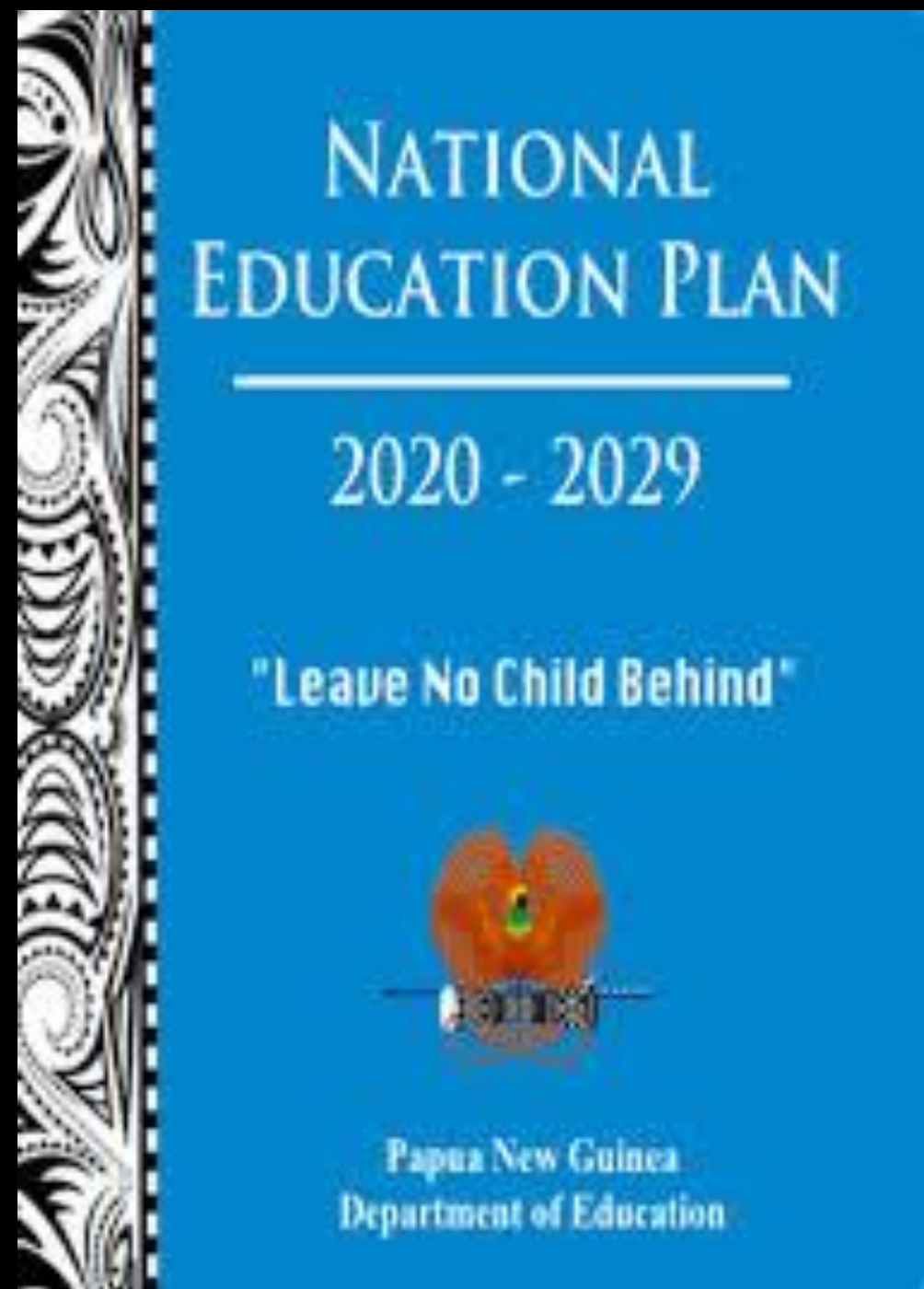
# In PNG, we have challenges:

- Traditional oral societies, 800+ languages
- Current **63.4% literacy rate\*** in PNG
- Declining academic standards at all levels of education

# But also PROGRESS:

## NEP 2020-2029

\* Kilala Devette-Chee. ILLITERACY: A GROWING CONCERN IN PAPUA NEW GUINEA. Spotlight Volume 14, Issue 7. June 2021.  
[https://pngnri.org/images/Publications/Spotlight\\_Vol\\_14\\_Issue\\_7.pdf](https://pngnri.org/images/Publications/Spotlight_Vol_14_Issue_7.pdf)



| Student age (years)   | Current structure 3-6-4                        |                 | New structure 1-6-6   |                           |
|-----------------------|------------------------------------------------|-----------------|-----------------------|---------------------------|
|                       | Sectors                                        | Grades          |                       | Sectors                   |
| 18                    | Secondary (4 years)                            | Grade12         | Grade12               | Secondary (6 years)       |
| 17                    |                                                | Grade11         | Grade11               |                           |
| 16                    |                                                | Grade10         | Grade10               |                           |
| 15                    |                                                | Grade 9         | Grade 9               |                           |
| 14                    | Primary (6 years)                              | Grade 8         | Grade 8               |                           |
| 13                    |                                                | Grade 7         | Grade 7               |                           |
| 12                    |                                                | Grade 6         | Grade 6               |                           |
| 11                    |                                                | Grade 5         | Grade 5               |                           |
| 10                    | Elementary (3 years)                           | Grade 4         | Grade 4               | Primary (6 years)         |
| 9                     |                                                | Grade 3         | Grade 3               |                           |
| 8                     |                                                | Elementary 2    | Grade 2               |                           |
| 7                     |                                                | Elementary 1    | Grade 1               |                           |
| 6                     |                                                | Elementary Prep | Preparatory           | Pre-School (1 year)       |
| 4 & 5                 | Public Private Church<br>Community Partnership |                 | Kindergarten<br>1 & 2 | Early Childhood (2 years) |
| Total Years of school | 13 years                                       |                 | 13 years              |                           |

**BECE maximizes children's learning potential**

NEP 2020 – 2029 incorporated Early Childhood Education (ECE) and Preschool into the formal education structure

## Our Findings point to great:

- **Language Inequality:** Unequal distribution of AOEA, reading ability and English grades signals systemic disparities in access and achievement.
- **Enrolment Age Variability:** Non-normal distribution indicates inconsistent school entry ages, potentially affecting readiness and achievement.

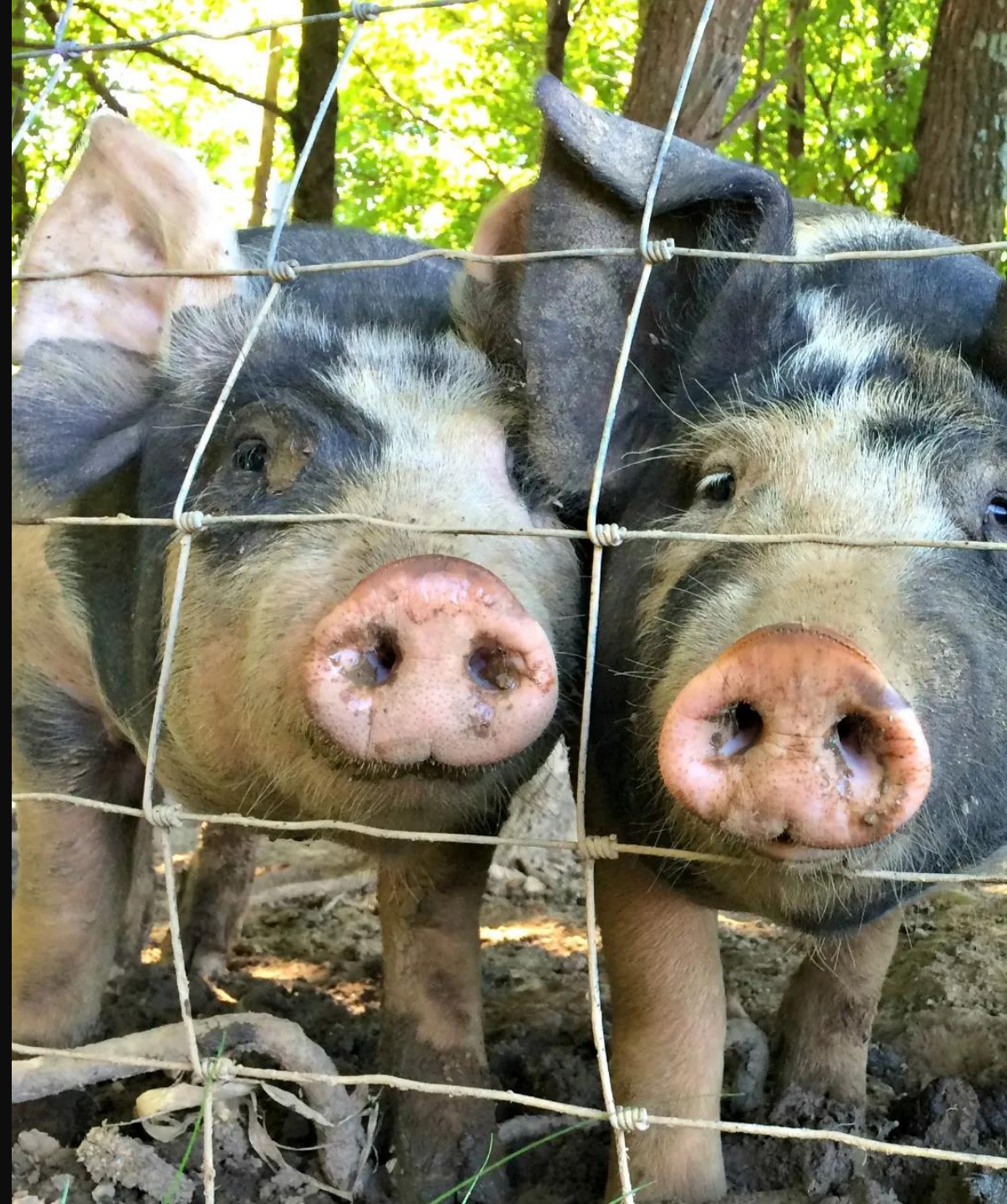


# Conclusions:

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English ≠ Hungry Pig;  
it is a  
**TOOL FOR LEARNING**  
all sciences  
in PNG

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**We also conclude that:**

**JV kids use English + Tok Pisin:**  
Tok Ples instruction is a challenge  
in diverse urban settings

**Tok Ples + English ECE** in remote  
villages → equal opportunity for  
village kids to get university  
education



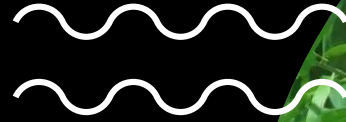
# RECOMMENDATIONS

**Equity Focus:** We need the right policies to reduce language-based inequalities in school.

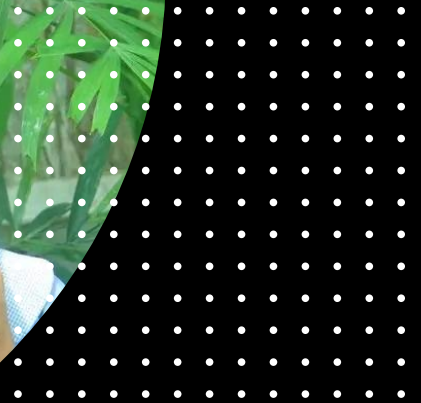
**BECE in remote villages** can sustain Melanesia's linguistic heritage!



Em  
TASOL –  
TENKYU  
TRU!



Please see the References & details of  
Hypothesis testing below



## References

- Olga Temple & Kilala Devette-Chee. *Why English + Tok Ples ECE is a strategic imperative for Papua New Guinea*. PNGJE Vol. 43, 2023.  
[https://www.pngjedu1472.com/\\_files/ugd/98733c\\_e4fb9b0ad4784aed834f5e6ca0d143bb.pdf](https://www.pngjedu1472.com/_files/ugd/98733c_e4fb9b0ad4784aed834f5e6ca0d143bb.pdf)
- Si Chen et al. *Long-term effects of China's One Village One Preschool program on elementary academic achievement*. Early Childhood Research Quarterly Vol. 49, 2019.  
<https://www.sciencedirect.com/science/article/abs/pii/S088520061930095X#:~:text=We%20found%20that%20children%20whohad%20attended%20private%20township%20ECE.https://doi.org/10.1016/j.ecresq.2019.06.010>

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<https://www.worldbank.org/en/topic/education/publication/loud-and-clear-effective-language-of-instruction-policies-for-learning>