

“Foreign” Science in Papua New Guinea

LSPNG 2022 presentation

by

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ACRONYM	GLOSS
WB	World Bank
MTE	Mother Tongue Education
MT	Mother Tongue
LOI	Language of Instruction
HR	Human Resources
L2	Language 2; second language
AO	Age of Onset of learning English
OVOP	One Village One Preschool
ECE	Early Childhood Education

"The only good is
knowledge and the
only evil is ignorance."

Socrates



“Foreign” Science in a “Foreign” Language

In a recent seminar, Professor Craig Volker blamed the “modern Melanesian feelings about the primary role of public education as a means of acquiring *foreign knowledge in a foreign language*” for the failure of Vernacular Education in Papua New Guinea.

Jawun Research Centre
SEMINAR SERIES

Communication, Health, and Social
and Cultural Well-Being



Seminar 11: Why local language education failed in Papua New Guinea

This multidisciplinary seminar series aims to create a forum centered in Jawun. It is for researchers at COU, across Queensland and all over the world, as a forum to share their research findings and establish potential synergies, leading to joint grant applications, and partnerships that endeavour to advance knowledge in various disciplines.

Location

Room 2.26, COUniversity Cairns Campus
Corner Abbot Street and Shields Street
Or via [Zoom](#) Passcode: 253748

Date and Time

Wednesday 15 June 2022
3:00pm – 5:00pm Qld time
Light refreshments provided

RSVP

JRC Administration via email: jrc@coou.edu.au
or phone: 07 4923 2672

Further seminars upcoming in 2022 – [watch this space!](#)



Speaker

Craig Alan Volker.
Craig is a linguist whose work focusses on language documentation and language use in Papua New Guinea. A former Professor of Languages at Gifu Shōtoku Gakuen University in Japan and

Professor of Linguistic Research at Divine Word University in PNG, in retirement he is currently an adjunct professor in The Cairns Institute at James Cook University. His home is in New Ireland Province, PNG, where he is a Wangpaang (Associate Talking Chief) of the Sea Eagle Clan of the Naik people.

Abstract

Although Papua New Guinea (PNG) has more languages than any other nation on earth, its public education system is remarkably monolingual in English. Equally remarkable is the degree of public hostility to reforms that introduced vernacular early primary education at the end of the last century. This hostility was a consequence of ignoring modern Melanesian feelings about the primary role of public education as a means of acquiring foreign knowledge in a foreign language. With better teacher education, material production, and community consultation, this hostility could have been avoided.

Professor Volker
wondered why

He felt that

“Although Papua New Guinea (PNG) has more languages than any other nation on earth, its public education system is remarkably monolingual in English,” adding that

“the degree of public hostility to reforms that introduced vernacular early primary education at the end of the last century” was “equally remarkable.”

“With better teacher education, material production, and community consultation, this hostility could have been avoided”

We argue that KNOWLEDGE has no ethnicity:

- The laws of physics operate irrespective of the languages we speak. It is the **KNOWLEDGE** of them that gives us **POWER**.
- Biology or linguistics – in whatever language – give us knowledge about the world we live in.
- Science, therefore, cannot be “foreign” – it is what empowers us to become doctors, engineers – or linguists.

English is the Language of Education in PNG

Since, historically, the language of education in Papua New Guinea is English, it is no more “foreign” to us than it is


- to the indigenous Australians in Australia,
- to the Welsh in Great Britain or
- to the Cherokee or Apache Americans in the US.

English is the *tool* we use to extract and process scientific knowledge: the better we are at using it, the better we learn.



You would think, all multilingual developing nations would want to ensure that their kids come to school, prepared to learn?

Yes, of course – but reality is more complicated in resource-limited countries, as ***“He who pays the piper, calls the tune.”***



Language Education Policy in PNG

UNESCO and the World Bank shaped PNG education policy through funding projects*

Development partners do not dictate policy in PNG - they *drive* policy formulation through funding; thus, in the 1990s, World Bank supported only Universal Basic Education – **NO support for tertiary level of education.**

In mid-1990s, the **Vernacular Education Reform** in PNG became law.

*Richard Guy, Ch. 8. Policy Making and Implementation: Studies from Papua New Guinea (ANU 2009)

**Since 1953,
UNESCO
policy on
MTE
aimed to:**

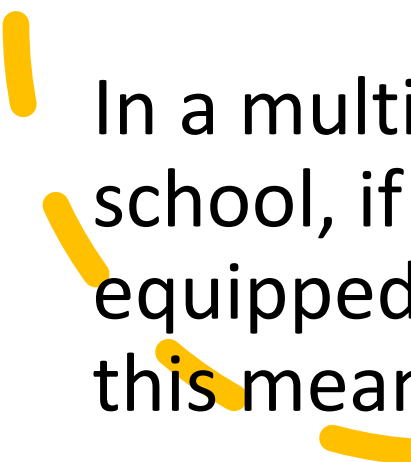
- **Promote** the development and use of **mother tongue-based instruction**.
- Support the **critical role of governments** in promoting effective MT-based education.
- **Promote clear, sustained political commitment to MTE at all levels.**
- **Make MT acquisition the first priority throughout primary school**
- Promote policies that position parents/ family members as first teachers, engaging parents & community at all stages of program planning, implementation, and evaluation.




Our needs...

We need professionals in every field of science and technology; however,

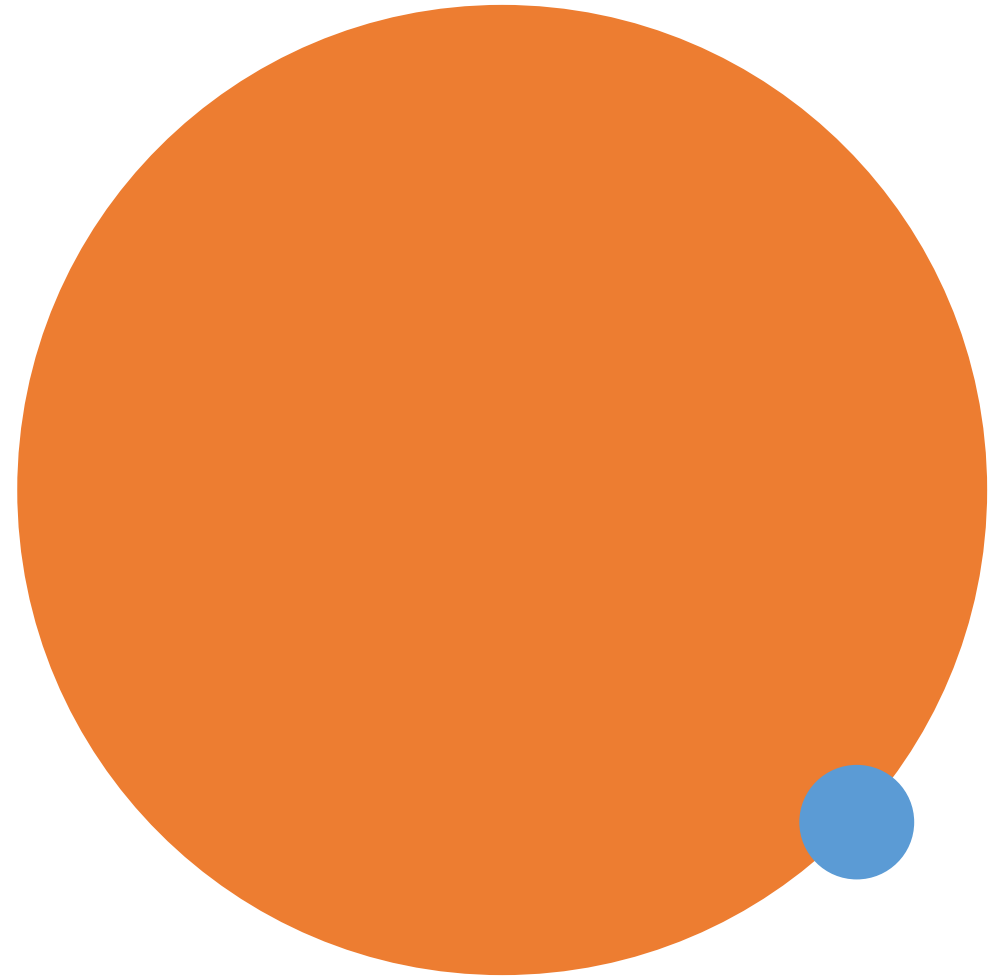
- To get better university graduates, we need better Grade 12 graduates, and
- To get better Grade 12 graduates, students must do well in school, starting from Grade 1!

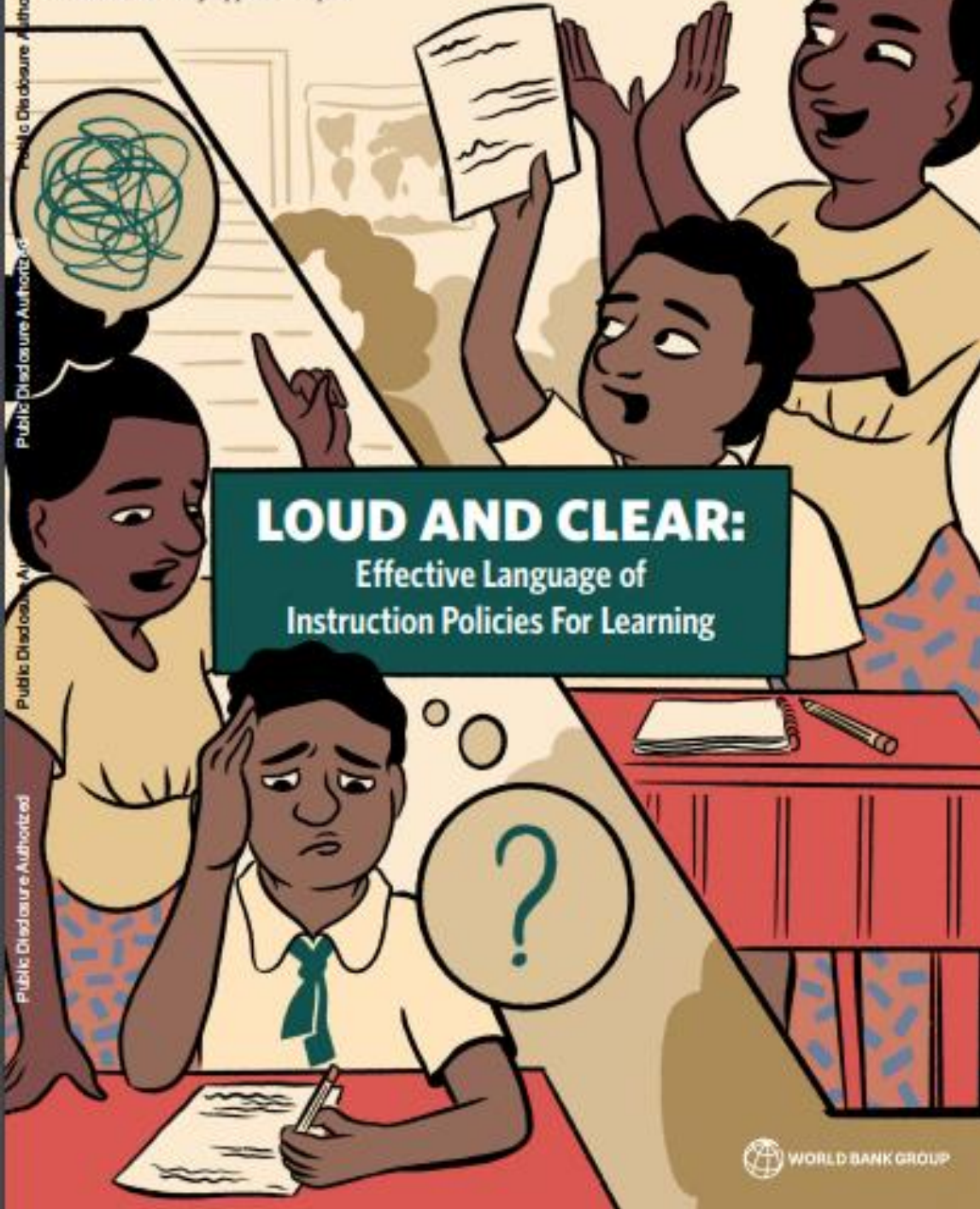


In a multilingual society like ours, students can only do well in school, if they come prepared to hit the ground running, equipped with the language skills they need to learn – in PNG, this means English.



However, the pressure on governments is unrelenting – about a year ago, the World Bank published a new **Language of Instruction (LOI) policy paper: “Loud and Clear”!**





Loud and Clear: A World Bank Policy Approach Paper

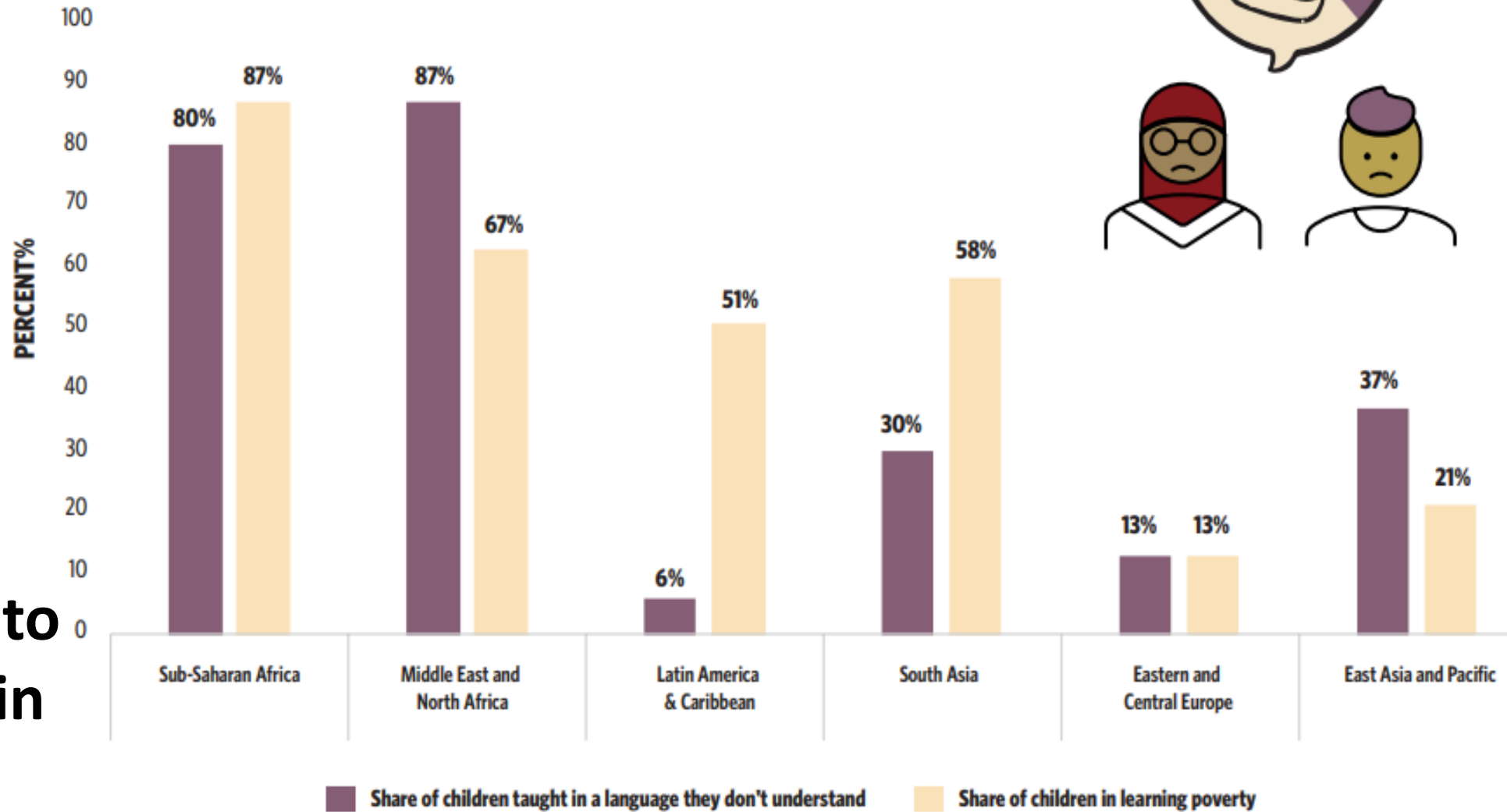
This paper describes the new world bank policy approach on LOI, as part of the operationalization of the literacy policy package in support of the bank's new learning target

"World Bank. 2021. Loud and Clear : Effective Language of Instruction Policies for Learning. Washington, DC. © World Bank. <https://openknowledge.worldbank.org/handle/10986/37892> License: CC BY 3.0 IGO."

WB notes that 37% of kids in our region are not taught in the language they speak best!

WB's solution to this problem: in MTE!

37 percent of students in low- and middle-income countries are not being taught in the language they speak and understand best.



Some of the
World Bank's
arguments
are here,
loud & clear:

**“HUMAN CAPITAL ACCUMULATION IS
LARGELY A LANGUAGE-BASED ENDEAVOR”**

Meaning, “availability of quality Human Resources depends on the Language of Instruction policy”

**SHOCKINGLY LOW LEARNING OUTCOMES MAY
BE A REFLECTION OF INADEQUATE LOI POLICIES**

Meaning, “low learning outcomes are the consequence of not using Mother Tongue as LOI”

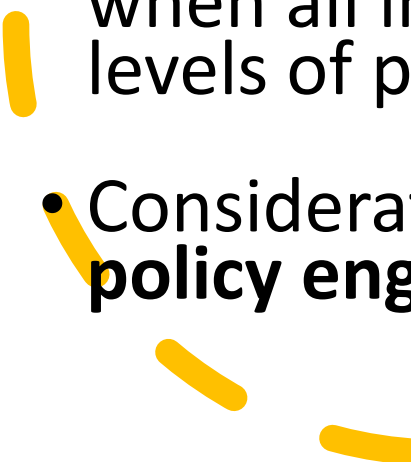
**POLICY SOLUTIONS EXIST BUT ARE NOT
BEING SYSTEMATICALLY IMPLEMENTED**

Meaning, MTE must be implemented to improve learning outcomes



World Bank asks,

“Why are so many countries still choosing a Lol that results in significantly worse learning outcomes and social exclusion?”

- Language proficiency has labor market value. Parents often view competence in international languages as central to their children’s career success.
 - The goal of achieving English proficiency becomes counterproductive when all instruction is in English, regardless of teachers’ or students’ levels of proficiency.
 - **Consideration of the broader political context is essential to effective policy engagement on Lol issues.**
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The new World Bank policy approach on Lol, as part of the operationalization of the Literacy Policy Package in support of the Bank's new Learning Target, is based around 5 principles:

PRINCIPLE 1



Teach children in a language they understand starting with Early Childhood Education and Care (ECEC) services through at least the first six years of primary schooling.

It is critical that instruction be in the language most

PRINCIPLE 2



Use a language children understand for instruction in academic subjects beyond reading and writing.

Students need to master reading and writing in a broad range of disciplines and in all school subjects.

PRINCIPLE 3



Introduce an additional language (if desired) as a foreign language with a focus on oral language skills.

Students can master two languages in basic education if instruction and sequencing are optimized.

PRINCIPLE 4



Continue using the language children understand for instruction even after a foreign language becomes the principal Lol.

L1 instruction continues to improve L2 performance in important ways even after the L2

PRINCIPLE 5



Continuously plan, develop, adapt, and improve the implementation of Lol policies, in line with country contexts and goals.

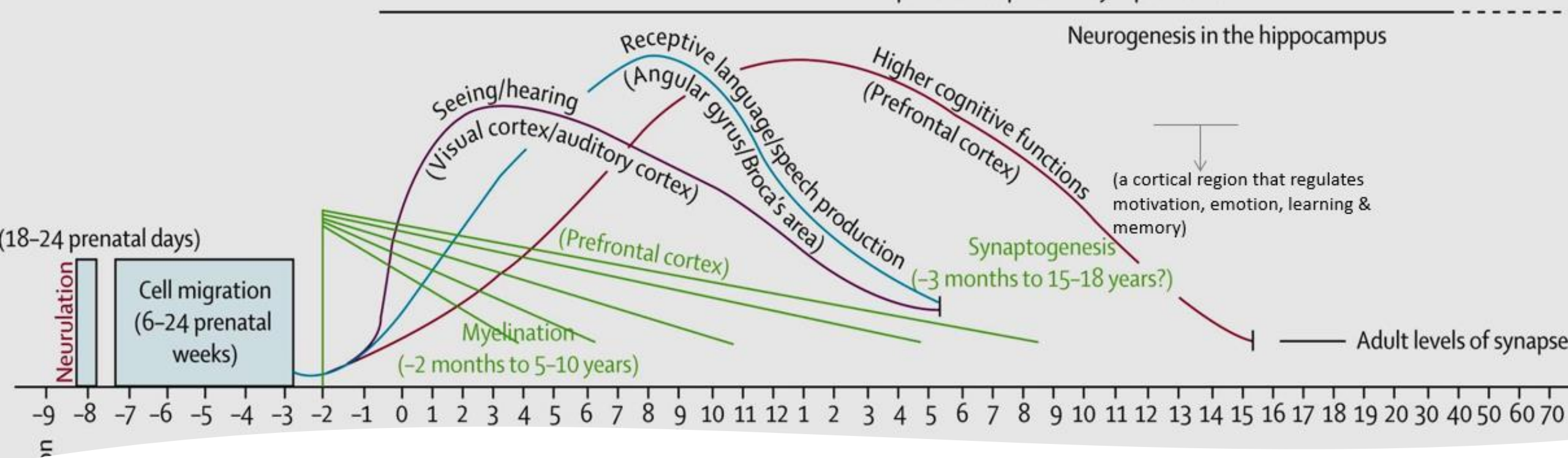


This gobbledygook translates into:

Children must be taught in their Tok Ples throughout their Primary schooling, and a “foreign” international language may be introduced (only “*if desired*”, and with a focus on *oral conversation*) in High School –



G'DAY, MATE!



We claim that WB & UNESCO LOI policy contradicts neuroscience:

The first 5 years of life are 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 from mere exposure

National – Monday, October 28, 2019

Nation | 13

PNG lacks
skills, looks
abroad

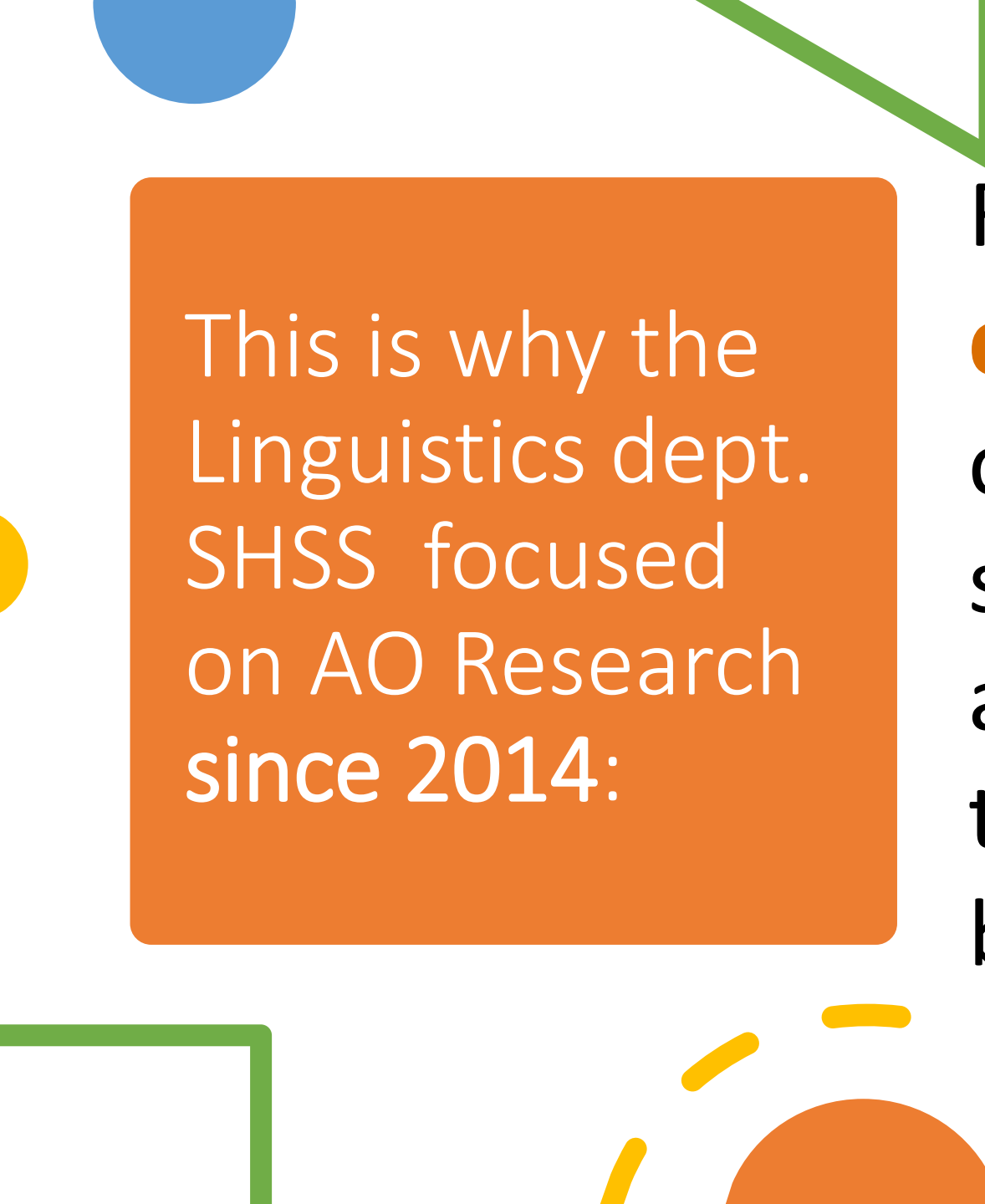
Standards at PNG's premiere university on the decline

The National – Friday, August 23, 2019

10 | **Nation**

**NRI: Drop
in quality of
education**

Newspaper headlines have for years reflected a growing public concern over falling academic standards in PNG



This is why the
Linguistics dept.
SHSS focused
on AO Research
since 2014:

Research findings showed a **clear causal effect of AO** on students' grades in all six National High Schools & at UPNG [3-6] – the earlier they learned English, the better they did in school.

“SHOCKINGLY LOW LEARNING OUTCOMES” - How can we solve this problem?

Aristotle, the “Father of the Scientific Method,” always focused on **evidence** first. When he approached a problem, he would examine

- What people had previously written/said on the subject,
- The general consensus of opinion on the subject, and
- He would make a systematic study of everything else that is part of or related to the subject.

So, to use the Scientific Method, we should look for evidence of how similar problems have been solved in other places.



Learning from others

Some 50 years ago, China faced similar problems.

In 2009, the **One Village One Preschool (OVOP)** project was launched, to make Early Childhood Education (ECE) accessible to rural, poor and ethnic minority children.

OVOP aimed to establish at least one ECE center for each village in the poor mountainous regions of China, and to provide **free early education** and **nutritional supplements*** to 3-6 yo children who lived in those villages.

*Vitamins & micronutrients support brain development. **Iodine deficiency causes mental retardation** – and this is a huge problem in the Highlands of PNG.

The OVOP evidence

OVOP established more than **2300 ECE centers** for over **170,000** 3-6-year-olds, free of charge for all.

Local Grade 12 graduates were trained and employed as ECE teachers (they were tech-savvy and good at using new technologies, i.e., Internet)

Comparative longitudinal study showed that OVOP children had caught up with urban kids in their academic performance.

Providing low-cost ECE to rural children in China proved to be of high educational and social value.

OVOP: good for PNG?

- 3-6 yo children in remote mountainous regions of Papua New Guinea need **bilingual (English & Tok Ples) ECE**
- **OVOP ECE** would enable them to do as well as city kids in school
- Ultimately, PNG society would get the **quality HR** it needs





Our studies of education & language education policy in this country have led us to these conclusions:

Science cannot be “foreign” – it embodies ***human knowledge*** of the world we live in; kids learn science through the LOI in their school system.

To do well in science, PNG kids must acquire English skills *before* they begin formal schooling at age 6.

Our conclusion #2:

Since the OVOP project has been so effective in China, it may be well worth launching a similar intervention here in PNG.

Our conclusion #3:

Only we, native speakers of our indigenous languages, can save them from extinction in IDIL 2022-2032. To do that, we must produce expert linguists who speak their Tok Ples.

And this can only be achieved through a **bilingual ECE** designed to give kids their “learning tool” (English), as well as their ancestral Tok Ples.



THANK YOU!

TENKYU TRU!

TANIKIYU BADE HEREA!

MUSE NAIYAVE!

ANGE MAM!

DANGKI TSIRA!

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