Bilingual language resources to increase agricultural learning in Papua New Guinea

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http://pngwomen.estem-uc.edu.au/
Project background

• Project was to help women farmers improve their livelihoods

• Many women aspired to be able to read and write and a greater number wanted to support their children’s education
Project background

• New project moved into schools to increase agricultural learning in primary schools
• Target audiences now included women farmers to their families and teachers
Bilingual resources

To improve women farmer’s agricultural learning we created

• 3 place-based, dual language picture books

• 3 how-to-make videos in English and Tok Pisen
Maria’s family

goes to market

Maria’s family

goes to market

Maria’s family

saves their kina

Maria’s family

raises chickens
Videos

- How to make soap
- How to make peanut butter
- How to make sweet potato bread
Rationale for bilingual and culturally relevant resources

• Mirrors and windows
• Background knowledge and comprehension
Mirrors and windows

• Mirrors - texts in which a reader sees a reflection of their identity and experiences

• Window – texts in which the readers sees into the world of others
Why it matters

“When children cannot find themselves reflected in the books they read, or when the images they see are distorted, negative, or laughable, they learn a powerful lesson about how they are devalued in the society of which they are a part.” (Bishop, 1990, p. ix)
Text comprehension

• “every act of comprehension involves one’s knowledge of the world as well” (Anderson, Reynolds, Schallert & Goetz, 1977, p. 369)

• “new information, new concepts, new ideas can have meaning only when they can be related to something the individual already knows” (Kant, 1781/1963 as cited in Carrell & Eisterhold, p. 553)
Text comprehension

Texts with content based on the reader’s own culture are easier to read and understand than those from other cultures (Carrell & Eisterhold, 1983).
Dual language books

• Are intended to be read simultaneously in both languages

• They help readers become literate in second or third language by allowing readers to use higher order vocabulary skills from their first language (Kenner, Gregory, Ruby, & Al-Azami, 2008; Naqvi, McKeough, Thorne, & Pfitscher, 2013).
Dual language books cont.

• Readers can extend their first language literacy and link it to second language literacy and transfer conceptual knowledge and skills across languages (Kenner et al., 2008; Taylor, Bernhard, Garg, & Cummins, 2008).

• Translation, paraphrasing, and code mixing, which are using units from two languages facilitate English language learning (Shah-Wundenberg, Wyse, & Chaplain, 2012)
Dual language books cont.

• Can form a bridge between home and school where both the home language and official language are valued (Sneddon, 2008).
Book 1- Maria’s family goes to market

• Two versions
  - Western Highlands
  - East New Britain (island)

• Changes in illustrations but not text

• Messages about marketing and saving
Maria’s mother and the children carry the bilums with cucumbers and peanuts. Baby Tina stays home with grandmother.

Mama bilong Maria, na Maria na Mak karim bilum kukamba na pinat go long maket na ol i lusim Tina stap bek long haus wantaim bubumeri.

Maria’s mother and the children carry the baskets with cucumbers and peanuts. Baby Tina stays home with grandmother.

Mama bilong Maria, na Maria na Mak karim basket kukamba na pinat go long maket na ol lusim Tina stap bek long haus wantaim bubumeri.
When she comes back, Maria’s mother says, “What a lovely display you have made. Can you put out the price signs we made at home? Lots of people have cucumbers and peanuts today, but ours are clean and look good so people will be happy to buy them”.

Taim mama kambak, em hamamas tru long Maria, na em tok, “Yu lainim gut tru ol gaden kaika. Inap yu autim ol prais yumi bin mekim long haus na putim antap long ol hip kaika? Planti manmeri gat kukamba na pinat tete, tasol bilong yumi klin na luk gut. Olsem na ol manmeri bai hamamas long kam balm”.
Book 2 - Maria’s family saves their kina

• One version
• Messages about budgeting and saving
Maria’s mother and father have made a plan to save money for a water tank. This will give them water to use in their home and for the plants, chickens and pigs.

Papamama bilong Maria bungim tok long sevim moni bilong baim tenkwa. Dispela tenkwa bai givim ol wara bilong haus na tu wara bilong lukuatim kaka ruk, olk na oaden.

“We need to have money for when our wantok need help”, says Maria.

“Yes,” says Maria’s mother, “that is very important, but we are saving for our family’s future. We will give our wantok a little help but when the money runs out, they will know that we will not have any more money until next month. Put one pile in that can, Maria.”

“Yumi mas putim sampela moni bilong halivim ol wantok we laikim halivim”, Maria tok.

“Yes,” mama bekim, “dispela em gupim pasin tru, taso lumi train long sevim moni tap. Em bai halivim yu long bahun tain. Bai yumi givim liklik halivim long ol, taso laim moni pinks, bai ol save mun antap bai yumi get sampela mo moni. Putim wane bila K10.00 taso.”
Book 3 – Maria’s family raises chickens

• One version
• Messages about raising chickens
Maria's family have been saving their money. They had a family meeting to talk about ways to use some of their savings to earn more money. They have decided they should raise chickens. Maria's father says, 'We will all work together as a family team to look after the chickens and to sell the eggs.'

Famil bilong Maria i save bungim moni bilong ol. Ol i bin holim wapela famil bung long toktok long ol rot bilong yuaim sampela ol moni ol i bin bungim long en, long mekim moa moni, Ol i pasim tingting long lukatum kakaruk. Pepe bilong Maria i tok, 'Yumi bal wok bung wantaim long lukatum ol kakaruk na salim ol kiau bilong ol.'

Maria and Mark will help look after the chickens. First they help their father make a chicken house. It is called a coop. The coop will keep the chickens safe at night from other animals and thieves. The coop needs to be big enough for the chickens to move around freely, let fresh air and some sunlight in and be easily cleaned. Maria, Mark and their father make nest boxes for the chickens to safely lay their eggs. They also gather branches as sleeping roosts for the chickens.

Maria na Mak, tupela bai helpim long lukatum ol kakaruk. Tasol, namba wan samting ol i mas helpim papa bilong ol long mekim, em wapela haus kakaruk. Em ol save kolim kup. Dispela kup bal lukatum ol kakaruk long nait bai ol arapela animo o abus na ati man i no kan bagarapim o stilm ol kakaruk bilong ol. Dispela kup o haus kakaruk i mas i gat bikpela spes long ol kakaruk i ken raun insalt, na i gat spes tu we win na san loil i ken go insalt, na tu bilong lai long klinim. Maria, Mak wantaim papa bilong ol i mekim ol boks bilong ol kakaruk long karim ol kiau bilong ol insalt long en. Ol i bungim tu ol han diwal bilong ol kakaruk long slip na malolo long en.
Livelihood videos

Making soap using local materials
Livelihood videos

Making sweet potato bread using local materials
Livelihood videos

Making peanut butter using local materials
Responses from farmers, teachers and students about the books

• All groups liked that they can see themselves

• All groups thought that understanding was greater because of dual language

• All groups wanted more books like this (culturally relevant and dual language) on other topics
Impact of books

• Adults made changes to marketing, saving and budgeting practices
• Children were selling things at school and saving
Responses to videos

• Teachers used them to teach skills with children
• Some teachers used them in home villagers with farmers
• Awe in seeing themselves on video
Recommendations

Future materials
• should be dual language
• should be culturally relevant
• should have content and images that are realistic depictions
References