

From Mother Tongue instruction in Complementary Education into Official Language of Instruction in Government Schools in Ghana: Does the pathway make a difference to sustained literacy

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Presentation Outline

- Background and context
- Research objective
- Methodology
- Findings
- Implications



Complementary Education

Educational provision for out-of-school children is a widely acknowledged policy issue. Complementary education programmes with the following features have been developed to address this (Ngaware et al., 2018; Gresham et al., 2015).

- 1) Community driven with mother-tongue based instruction
- 2) Strong connections to the formal education system to facilitate continued learning

These features present contradictory implications for language of instruction and students learning', raising the question:

What happens to local language literacy development when children experience complementary education and then change language of instruction upon entry into the formal system?

Importance of Mother Tongue Instruction

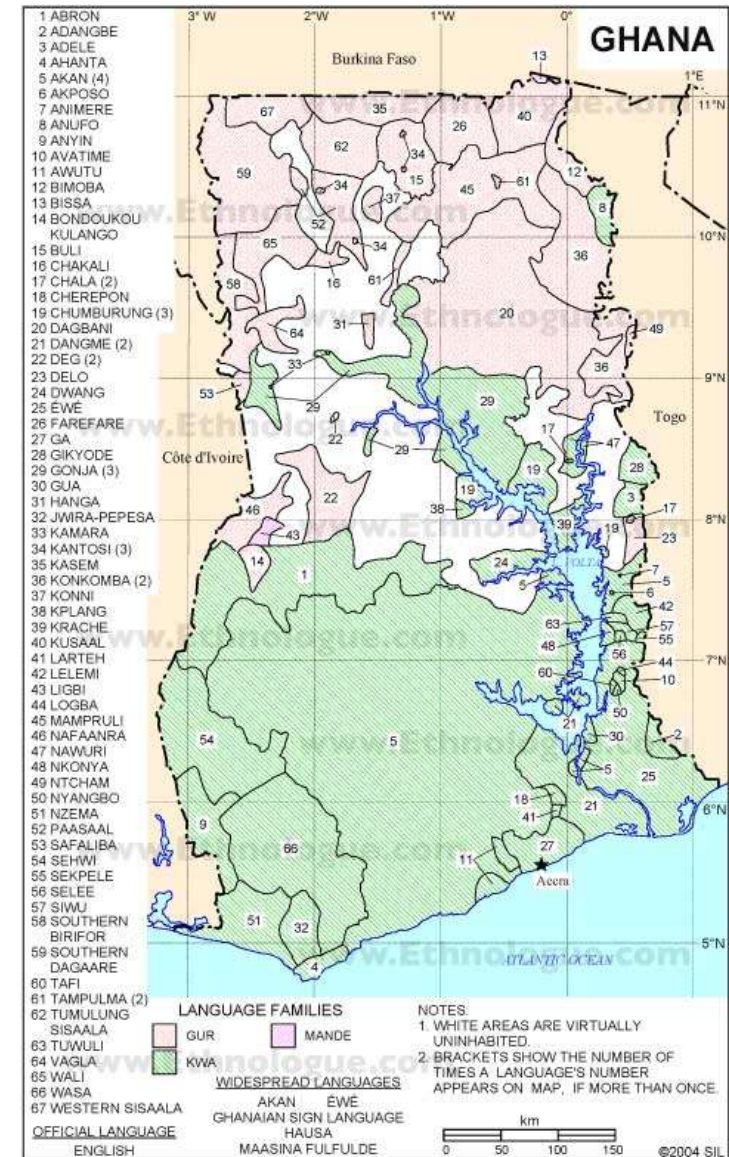
- Supports development of literacy and learning more broadly (Piper et al, 2016)
- Essential to the maintenance of cultural heritage and identity (Trudell, 2009)
- Most beneficial when implemented for at least 3 years (Ansah, 2014; Cummins, 1979, 2000)
- Abrupt shifts to new languages without a strong MT foundation has cognitive and affective implications (UNESCO, 2011)



*“If children are forced to switch abruptly or transition too soon from learning in their MT to schooling in a second language, their **first language acquisition may be attenuated or even lost....their self-confidence as learners and their interest in what they are learning may decline**, leading to lack of motivation, school failure, and early school leaving”*
(UNESCO, 2011, p. 6)

The Linguistic Context of Ghana

- One of 11 local languages for language of instruction for KG1–P3
- Children transition to English from P4 (with local language as subject)
- Approximately 80 local languages exist
- CBE targets children in the North, enabling learning in languages unrepresented by formal system
- After 9 months, over 40% of CBE children make non-MT transitions into formal school



Languages of CBE vs Formal School

Languages Provided for by CBE	Languages Provided for by Formal System
Brifo	Dagaare
Dagaare	Dagbani
Dagbani	Ewe
Ewe	Gonja
Gonja	Kasem
Gruni	Twi
Kasem	
Konkomba	
Kusaal	
Mampruli	
Sisaala	
Twi	

*From Daly, K. (2018). *Silenced by language? An empirical analysis of literacy outcomes during language of instruction transition in Northern Ghana*. MPhil Thesis in Education. University of Cambridge.

Research Objective

Research Question

What are the consequences on local language literacy acquisition for CBE children who move into a different language of instruction in government schools in Ghana?

Hypotheses

- 1) Children who discontinue their MT will show poorer local language literacy skills.
- 2) Children who make non-MT transitions in P3 or below will catch-up in their local language literacy skills.
- 3) Children who make non-MT transitions in P4 or above (where English is the dominant LOI) will experience detrimental impact on their local language learning.

Methodological Approach

Sample and Data collection

- 1116 CBE children from 2016/2017 tracked longitudinally for two years
- 46% non-MT transitions; 49% female
- Average age-10 years
- Four rounds of assessment and survey data collected
 - 1) Start of CBE
 - 2) End of CBE
 - 3) Start of formal school
 - 4) End of first year formal school

Analysis

- 1) Examines descriptively progress in local literacy (letter identification and reading comprehension)
- 2) Establishes statistical significance of observed differences between children making formal school transitions into MT and non-MT using difference-in-difference (DID) estimation techniques with the inclusion of controls

Measuring basic literacy

Subcomponents: Letter & Sound Identification; Phonemic Awareness; Familiar Word Identification; Reading Comprehension, Word Writing; Creative Writing/Sentence Formation.

b	ny	n	m	u	f	w	o	g	t
w	t	b	nw	r	n	d	ε	h	k
dw	f	a	p	t	k	f	nw	hy	s
d	o	g	i	ky	y	e	m	n	i
ε	ɔ	m	u	r	l	hw	h	hy	f

5. → Akenkan'anonkwokwaso:¶

*Monhwe·abasem·a·εwɔ·ha·yi·Mo·mu·biara·rebekenkan·no·den·akyerε·me·
wɔ·sima·baako·ntam.¶*

*Nnua·ho·wɔ·mfasoo·ma·nnipa·ne·nnooma·a·atwa·yen·ho·ahya·Nnipa·
binom·firi·Bepua·nam·wɔn·nnwumadie·ahodoɔ·so·see·nnua·no·Wɔbu·
nnua·no·basabasa·Afoforo·nso·hyehye·nwura·ne·nnua·Ne·saa·nti·
Owura·Opoku·dua·nnua·bebre·na·ɔhwe·se·afoforo·nso·nsee·no.¶*

Zero Scores using subtasks

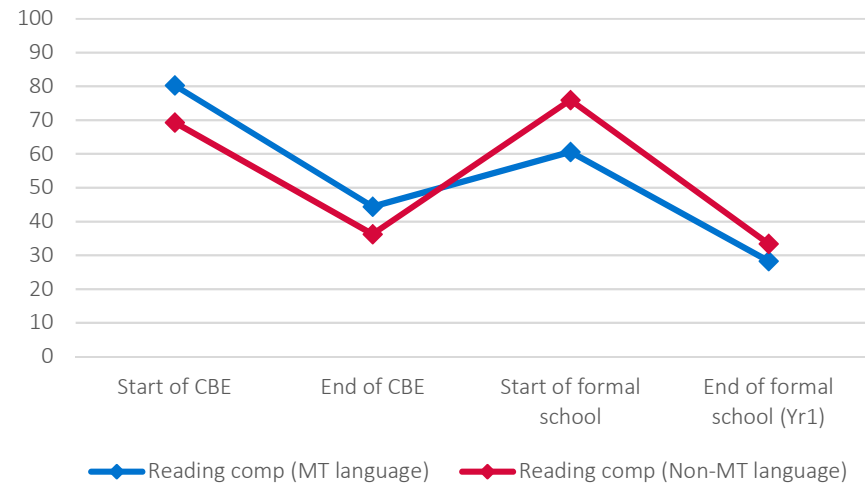
Subtasks	Baseline Percent Zero Score (%)	Endline Percent Zero Score (%)	Zero Score Reduction (percentage points)
Literacy Assessment Subtasks			
Letter sound identification	21.9	3.6	-18.3
Phonemic awareness	35.6	4.7	-30.9
Familiar word identification	57.0	13.6	-43.4
Reading comprehension	67.4	18.0	-49.4
Word writing	70.1	17.8	-52.3
Creative writing/sentence formation	80.0	35.6	-44.4

Trajectories

Grade 3 and below

Improvement

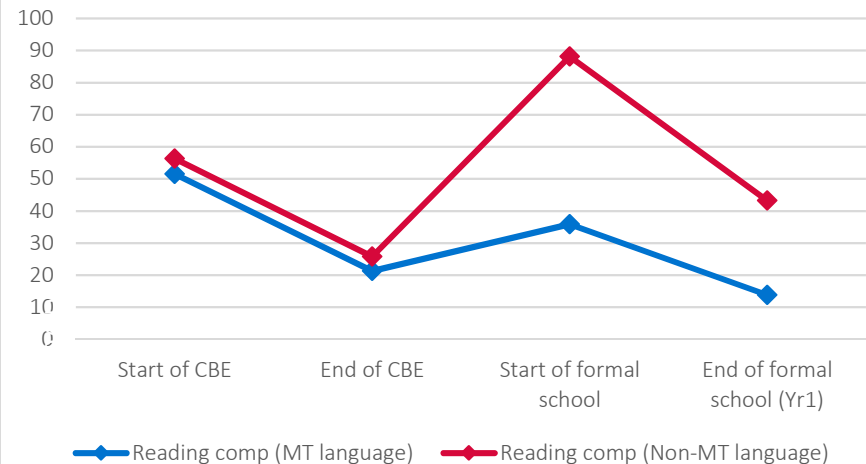
Reading Comprehension Zero Scores by Access to MT Language Instruction



Grade 4 and above

Improvement

Reading Comprehension Zero Scores by Access to MT Language Instruction



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Estimation Method

In order to establish if there are significant differences at each point in time in the plotted trajectories, and to account for confounding variables that could potentially mask these differences, we use difference-in-difference (DID) estimation techniques

$$L_{it} = \beta_0 + \beta_1 TR_i + \beta_2 Time + \beta_3 TR_i | Time + \gamma X_{it} + e_{it}$$

Linear Probability Model estimation technique

Results

Table 4: Parameter estimate and (standard error) for modelling literacy changes across two time periods, DID models, by grade of placement¶

VARIABLES□	Start to End of CBE□		End of CBE to Start in Gov. School□		Start to End of Year 1 in Gov. School□	
	Letter-sound identification□	Reading comprehension□	Letter-sound identification□	Reading comprehension□	Letter-sound identification□	Reading comprehension□
	(1)□	(2)□	(3)□	(4)□	(5)□	(6)□
Grade 3 and below □	□	□	□	□	□	□
Initial difference□	-0.01□	0.15***□	0.05□	0.06□	-0.27***□	-0.18***□
□	(0.04)□	(0.04)□	(0.03)□	(0.05)□	(0.04)□	(0.04)□
Average change□	-0.14***□	-0.32***□	0.37***□	0.38***□	-0.30***□	-0.42***□
□	(0.03)□	(0.04)□	(0.03)□	(0.04)□	(0.03)□	(0.04)□
Relative change□	0.06□	-0.05□	-0.31***□	-0.22***□	0.19***□	0.09□
□	(0.04)□	(0.06)□	(0.05)□	(0.06)□	(0.05)□	(0.06)□
□	□	□	□	□	□	□
Observations□	469□	468□	469□	468□	469□	468□
Grade 4 and above □	□	□	□	□	□	□
Initial difference□	0.01□	-0.06□	0.01□	0.02□	-0.34***□	-0.48***□
□	(0.02)□	(0.04)□	(0.01)□	(0.04)□	(0.04)□	(0.04)□
Average change□	-0.06***□	-0.32***□	0.38***□	0.65***□	-0.10*□	-0.46***□
□	(0.02)□	(0.04)□	(0.03)□	(0.04)□	(0.04)□	(0.04)□
Relative change□	0.01□	0.04□	-0.34***□	-0.53***□	0.05□	0.26***□
□	(0.02)□	(0.05)□	(0.04)□	(0.05)□	(0.05)□	(0.05)□
□	□	□	□	□	□	□
Observations□	589□	588□	589□	588□	589□	588□

Note: Standard errors in parentheses. Coefficients for gender, age, household size, access to home literacy materials, engagement in home learning activities, work outside of home, non-attendance at school and relative wealth status are included as control. Asterisks *, **, *** indicate statistical significance at 5, 1 and 0.1% level.¶

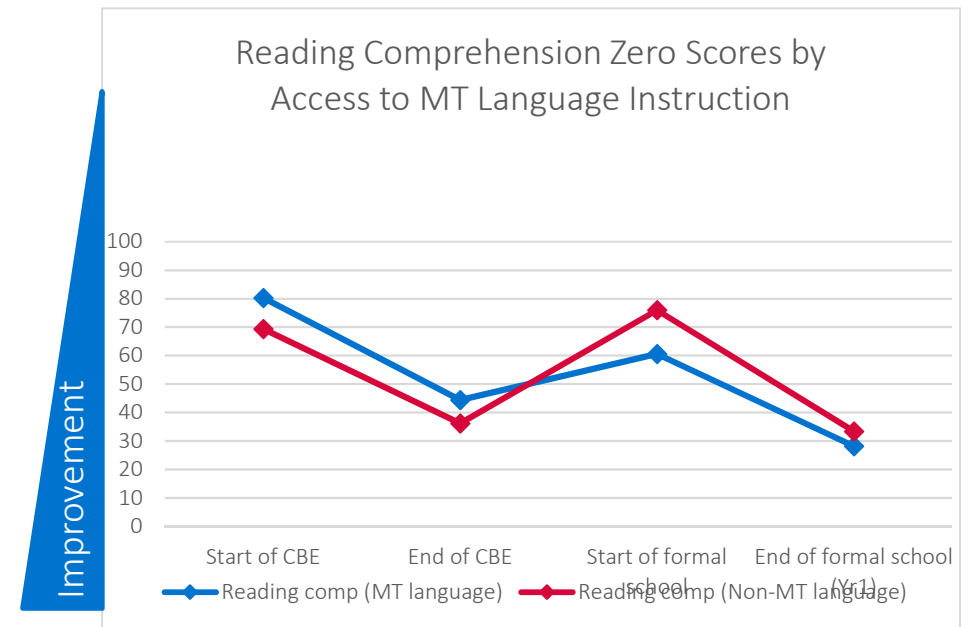
Summary of Results

H1: Children who discontinue their MT will show poorer local language literacy skills ✓

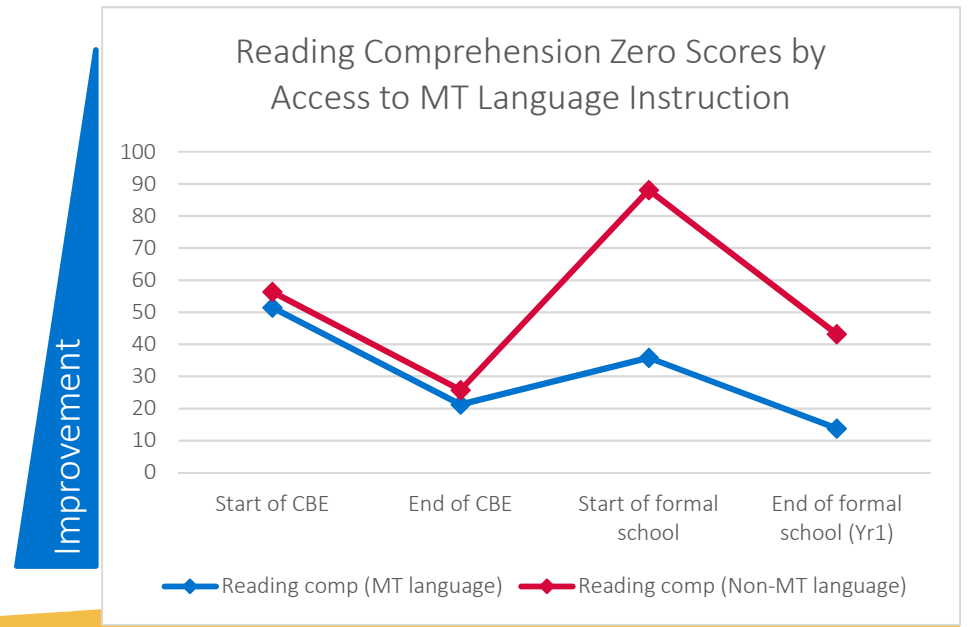
H2: Children who make non-MT transitions in P3 or below will catch up in local language literacy ✓

H3: Children who make non-MT transitions in P4 or above will experience detrimental impact on their local language learning ✓

Grade 3 and below



Grade 4 and above



Conclusions and Implications

- Use of mother tongue instruction in complementary education improves children's chances of sustaining learning gains in multilingual educational contexts
- This is dependent upon children transitioning into another local language that is similarly prioritised within the classroom
- Understanding more about the long-term literacy development and experiences of children who access complementary education is an important future direction for research looking to improve inclusive systems of education

Thank you for listening to my presentation and please contact us me the following email if you have any further questions regarding this research.

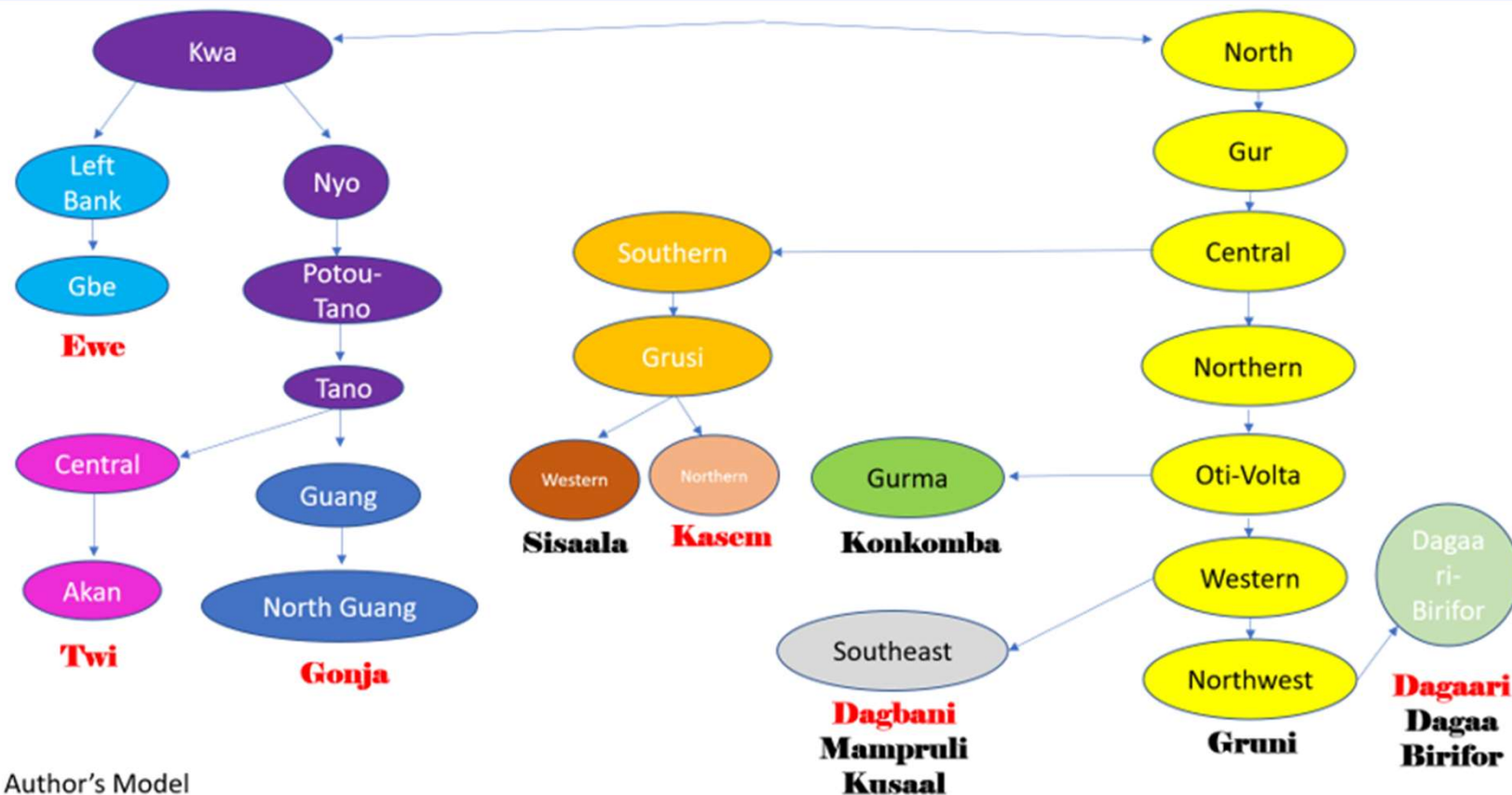
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Niger-Congo, Atlantic-Congo, Volta-Congo



Author's Model

Figure 1: Language Classification Tree, showing the relationship and similarity between the first languages of the CBE students. The languages highlighted in red are those that are taught in the first three years of formal school. Source of Classification Data: Ethnologue

Source: Kieran Daly Mphil Thesis