The impact of language of instruction, teacher training and textbooks on quality of learning in Africa

Research comparing classroom processes in lessons taught in English and in African languages shows how the language used impacts on teaching strategies, but also the potential of teacher professional development to address this.

Exploring classroom processes and Language of Instruction

This EdQual research examined classroom processes in English (L2) and African languages (L1) in Ghana and Tanzania at the stage when there is an official switch in the language used for teaching—the Language of Instruction (LoI). Having gathered initial data, teacher-development workshops were offered and the impact of these was measured through another round of observation. The workshops were designed to focus the attention of teachers on ways to increase the pedagogical effectiveness of their talk, and also the quality and quantity of learner talk, reading and writing in both languages (L1 and L2). As well as observing in detail the classroom processes, there was also analysis of the textbooks used by learners in both countries.

Findings in Tanzania show that teachers used a wider range of teaching and learner involvement strategies when they taught lessons in Kiswahili. However, the teacher-development interventions there improved teaching practices and learner involvement in lessons taught both in Kiswahili and in English. In Ghana, teachers used some teaching strategies more frequently when they taught in African languages, but higher fluency in English enabled them to use others more easily in English. A third, shared finding in both countries was that textbooks written in English were difficult for learners to read.

Implications for policy action

The findings add weight to arguments already being made for extending high-quality mother tongue education (MTE) in Africa, and supports policies which prioritise the development of education in African languages and which campaign to raise awareness of their value in increasing school achievement.

They also suggest a need to increase the effectiveness of initial teacher education for both teaching in African and European languages well as to provide short term professional development; and they emphasise the need to produce textbooks that are readable for learners who are being taught in a European L2 language.

EdQual RPC and education quality

The Language & Literacy Development project is part of the EdQual Research Programme Consortium. EdQual's research focuses on how to improve the quality of basic education. Education quality is key to attracting and retaining learners in basic education and ensuring education contributes to other areas of development.

Key Policy Messages

High-quality education in a language teachers and learners know well improves learning. Primary and secondary in an African language should be the long term goal.

Teaching in both English and African languages can be improved through professional development to raise teachers' awareness of how language is used in the classroom.

Where the language of instruction (LoI) is European, teacher education should develop pedagogical strategies that support learners with limited LoI ability.

Language use in textbooks needs to be at a level learners can understand. Research and guidelines on textbook design for learners working in European languages is needed.

Research findings at a glance

- In Tanzania, and to a lesser extent in Ghana, teachers used a wider range of teaching and learner involvement strategies when they taught lessons in African languages than in English.

- In both Tanzania and Ghana, a short professional development workshop for teachers improved teaching practices and learner involvement in both languages.

- In Ghana teaching and learning was obstructed by the unavailability of textbooks in the local African Language of Instruction.

- In both Ghana and Tanzania textbooks written in English were difficult for learners to read.

Language of Instruction and educational effectiveness: analysing classroom processes and textbook readability

Low achievement in African schools is partly language-related. Evidence shows that English-medium education in African schools with learners whose English language ability is low impedes learning (Macdonald, 1993; Rubagumya, 2003); by contrast mother-tongue-medium education (MTE) enables teachers to teach and learners to learn more effectively (Heugh, 2006). Initial short-term MTE has been used in many English-medium education systems in Africa for a long time, more recently being introduced in French-medium systems too. Governments and communities tend to support it for both cultural and community reasons, and because it helps early literacy.

However, much research both from Africa and elsewhere suggests initial 'early-exit' MTE (e.g. four years) may not deliver strong academic benefits. In particular, it may not enable learners to learn successfully either through the African Language of Instruction (LoI) or later through a European LoI. Current evidence suggests strongly that if it is to deliver these academic benefits, initial MTE needs to be longer – a minimum of six years – and more cognitively challenging (Heugh 2006; Ouane & Glanz 2010).

This EdQual research adds to this debate by providing data on the quality of classroom processes in classrooms taught in both L1 and L2 (English) in Tanzania and Ghana, and also on the readability of English-medium textbooks. While data is already available on the effectiveness of English-medium education in various African countries (Alidou et al 2006), very little of this looks at the detail of classroom processes or textbook readability. There is little research on the quality of classroom processes in MTE and comparison of the educational effectiveness of L1 and L2-medium education is rare.

Our research aimed to find out to what extent classroom processes in English and African LoIs differ in their pedagogical effectiveness, and whether short professional development workshops could increase this in either language. We also explored whether English-medium textbooks are readable for African learners. Our research focused on the situation at the time of an official switch in LoI, which in Tanzania meant primary year 6 and secondary form 1 and in Ghana primary years 3 and 4, and looked at lessons in science, maths, English, and the local African LoI.

Classroom processes

In lessons conducted in African LoIs, teachers used a wider range of pedagogical strategies and learners had more opportunities to talk than in lessons conducted in English. Learners had writing opportunities, but few reading opportunities in lessons conducted in both languages. Professional development of teachers increased the range of pedagogical strategies and the amount of opportunities to talk and write in lessons conducted in both languages.

Pedagogical strategies

A number of fundamental pedagogical strategies make up the fabric of classroom process and discourse. Teachers need, for example, to be able to explain concepts and give instructions clearly, to signal the course of lessons, to use visuals, to check learner's comprehension, to question and prompt, to encourage responses from a wide range of learners, to offer opportunities for group and individual work and for cognitively demanding reading and writing.

When teachers teach in L1, their pedagogy is richer: they use more teaching strategies than in L2

Learners in African schools are often disadvantaged because they have limited ability in the European LoI and thus find learning difficult. To enable them to learn, teachers need to use the full range of pedagogical strategies much more explicitly than if they were teaching in L1. There is evidence that many teachers in African schools, either because of limited language ability or limited training, employ a restricted range of strategies in the L2 (Qorro, 2004, 2009).

The Tanzanian data – and to a lesser extent the Ghanaian data – in this study suggests that when teachers teach in L1, their pedagogy is richer: they use more teaching strategies than in L2. In those lessons conducted in English, where more explicit use of a wider range of strategies is essential for learning, teachers, especially in Tanzania, in fact use fewer strategies, though they do use some which relate specifically to language acquisition and support.

The data also shows that it is not difficult to provide teacher-education which increases teachers' pedagogical effectiveness in both languages. In Tanzania, even after intervention teachers are still more effective in Kiswahili.

Selection of findings from Tanzanian section of research project

Strategy (T= teacher, P= pupils)	Strategy used more often in (before intervention)		Positive effect of intervention observed in	
	L1—medium lessons	L2—medium lessons	L1-mediums lessons	L2-medium lessons
T: speaking time		Most of lesson time	Less time speaking	
T: signalling stages & giving instructions	More clearly			Clearer instructions
T: explaining concepts	More clearly			Clearer explanations
T: checking comprehension			Frequency increased	
T: adjustment of own language		More often	More often	
T: questions & prompts	More often		More often	
T: range of feedback	Wide range & more often		More often	
T: language support		More often		More often
P: group, pair and individual work	More often		More often	
P: writing opportunities	More often		More often	
P: reading opportunities			More often	
P: range of respondents	Wider range			

Learner talk

Learners need to talk in order to learn. In L2-medium classrooms in Africa, learners have a greater need for talk opportunities than in L1-medium classrooms: firstly, they need to talk in order to develop concepts; and secondly, because their oral fluency in L2 is low, they need opportunities to develop it in the classroom. There is evidence that in African classrooms, as in many contexts elsewhere, learners say relatively little either in L1 or L2 either in plenary classrooms or in groups (Bunyi, 2005; Arthur and Martin, 2006).

Professional development can increase opportunities for learner talk

This study suggests learners talk more when working in an African language and that professional development can increase opportunities for learner talk in both African languages and in English.

In both countries, a relatively small number of learners in both L1- and L2-medium lessons made a small number of short responses in plenary classrooms, though in Tanzania the number of respondents was larger in L1-medium classrooms.

After intervention, Tanzanian learners generated more extended plenary responses in both L1- and L2-medium lessons. In both Tanzania and Ghana, learners had more opportunities for exploratory talk in groups and pairs in L1-medium lessons than in English-medium lessons. Opportunities to talk in groups and pairs increased in both types of lesson after intervention in Tanzania, but not in Ghana.

Writing

Learners need to write in order to establish their understanding of curricular concepts. In African L2-medium classrooms they also need to write in order to develop limited writing skills in the European LoI. There is little research evidence for the amount or quality of writing either in L1- or L2-medium classrooms in Africa.

Learners need to write in order to establish their understanding of curricular concepts

The study suggests that, in these two contexts, learners have writing opportunities in both languages and that professional development can increase the amount of classroom writing. There were fairly regular opportunities for writing in L1 and L2-medium classrooms in both countries, though the quality of the writing tasks was not analysed and there is no data so far on the degree to which they were linguistically and cognitively challenging. In Tanzania there were more opportunities for writing in L1-medium classrooms, though writing opportunities increased after intervention in both types of classroom.

Reading

Learners learn partly through reading textbooks, which inducts them into the world of academic literacy and reinforces the development of subject concepts. There is some evidence that learners do little reading of textbooks in African classrooms. The scarcity of research evidence for the amount or quality of reading activity in African classrooms was one factor motivating this study.

Classroom reading of textbooks is rare

A crucial outcome of this research is to confirm that classroom reading of textbooks is rare. There were few opportunities for reading in both L1- and L2-medium classrooms in this study, though there were more in Ghana than in Tanzania. In both countries there was a small increase in reading opportunities after intervention. In Ghana, stakeholders criticised the absence of textbooks in the African language of instruction.

Textbooks

Learners need textbooks they can read. Learners in African classrooms have difficulty reading textbooks in European languages, firstly because their L2 reading ability is limited and, secondly, because textbooks may be difficult to read.

The characteristics of textbooks that are accessible to learners with low ability in the LoI are known but not widely familiar either to the educational or publishing worlds. Textbooks in Africa are normally produced as if the readership was L2-fluent. Textbooks for African classrooms need to be designed to be particularly accessible by these learners, while remaining cognitively challenging.

Textbooks in English were difficult to read, even for English-fluent learners

In both Tanzania and Ghana, textbooks in English were difficult to read, even for English-fluent learners, and were not written with English L2 learners (or teachers) in mind. English-medium Ghanaian textbooks were on the whole easier to read than Tanzanian textbooks. In Ghana, textbooks in the African LoI were not available.

About the Research

The data

Video observation data was gathered in classrooms in primary years 3 and 4 in Ghana and in primary year 6 and secondary form 1 in Tanzania, in lessons in L1, English, science and maths in a small sample of urban and rural schools. Baseline data gathering was followed by interventions in the form of teacher workshops focussing on the detail of classroom processes. Main study data measured any changes in classroom practice arising from the intervention. Interviews were also held with groups of key stakeholders. The written English language ability of learners was measured through tests.

Data analysis

The data was analysed with a view to establishing:

- the characteristics of classroom interaction in lessons used for teaching subject knowledge and basic literacy through L1 and L2;
- the nature of teachers' and learners' competence in teaching and learning through L1 and L2;
- the perceptions of learners, teachers, teacher educators, parents and education authorities of the roles of L1 and L2 in education;
- the accessibility of L1-medium and L2-medium textbooks to learners of L1 and L2.

Data was gathered in a sample of urban and rural schools in Tanzania and Ghana (in Ghana the sample included state and private schools). Data was gathered in both L1-medium (year 3 in Ghana, year 6 in Tanzania) and English-medium classrooms (year 4 in Ghana, secondary form 1 in Tanzania) in L1, English, science and maths lessons. Baseline data was collected in a larger sample of schools in Tanzania.

The main data consisted of video recordings of lessons which were analysed using a classroom observation schedule designed for classrooms in which the focus of the analysis is the use of language. Some lessons were also transcribed. Stakeholders were also interviewed on the question of LoI: interviewees included teachers, learners, principals, parents, teacher educators and education officials. Learners' language ability (reading and writing) was also tested.

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