4 The Potential of Translanguaging for Pedagogical Research and Development in Rwanda

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Introduction

The term translanguaging has been used increasingly over the past decade to describe multilingualism as a social and psychological phenomenon and in relation to a range of pedagogical approaches for multilingual education (Bonacina-Pugh *et al.*, 2021; Dixit & Anderson, 2025). However, the value of the term in general, and its relevance for education in Africa in particular, is questioned. For some critics, the breadth of meanings and applications associated with translanguaging confuses and does not add to existing sociolinguistic concepts (Jaspers, 2018; Jaspers & Madsen, 2016; Treffers-Daller, 2025). Others caution that the term overlooks decades of African scholarship and experience around multilingualism and multilingual education (Heugh & Stroud, 2020). This chapter considers the potential of translanguaging for pedagogical research and development in Rwanda, using data from a case study of mathematics lessons in a rural, government secondary school. The chapter begins with an overview of the language policy context of Rwanda, before considering translanguaging as a theory of multilingualism and as a pedagogical concept and reviewing some key critiques. Next, the focus, design and context of the study, including ethical considerations for North–South research are described. After this, an extract of a classroom interaction and accompanying analysis is presented, along with information about the school and classroom setting. This is followed by a discussion, drawing on the teacher's and students' perspectives and the translanguaging literature. The chapter concludes with reflections on the

potential of translanguaging for pedagogical research and development in Rwanda.

Language Policy in Rwanda

In 2018, when this study was conducted, English was the official medium of instruction in Rwanda from the fourth year of primary school to the end of tertiary education. This followed an initial three years of Kinyarwanda-medium education at lower-primary level (primary 1–3), with English as a subject. English medium instruction in Rwanda is surprising, given that most of the population cite Kinyarwanda as their main language, French, not English, was the language of education in the colonial era, and only 7% of Rwandans report using English at home (Sibomana, 2022). In the following section, the factors which have shaped language in education policy in Rwanda are outlined and the subtractive model of multilingual education currently in place is described.

Formal education, socioeconomic opportunity and the use of colonial/European/international languages have been closely associated in Rwanda since the colonial era, which consisted of German (1890–1916) and then Belgian rule (1916–1962). Following independence, the official goal of the education system shifted from educating a select few to run the colonial administration to educating the masses for national development (Hoben, 1989). However, the nation's language in education policy did not reflect this shift and the former colonial language (French) was retained as an official language and used in education, government and business. While Kinyarwanda, the most widely spoken indigenous African language, was also defined as a national language, its use was prescribed for informal community and cultural contexts (Pearson, 2014; Tollefson & Tsui, 2018). This 'diglossic' language policy exacerbated colonial era inequalities by securing ongoing advantages in education and high-status work for people with historical access to French. It also served to reinforce the association between the former colonial/European language and formal education.

The situation changed dramatically in 1979, when a general reform was launched, which extended free and compulsory primary education for eight years with Kinyarwanda as the medium of instruction (Hoben, 1989). Unfortunately, the reform coincided with a steep economic downturn, and French was rapidly reintroduced as the medium of instruction from the fourth year of primary onwards (Pearson, 2014). The situation changed again following the genocide of the mid-1990s, when English was introduced as an official language alongside Kinyarwanda and French. Then, in 2008, a decision, described as 'sudden' and 'unplanned', was made to instate English as the sole medium of instruction (Pearson, 2014). The policy was later adapted to allow for the use of Kinyarwanda for the first three years of primary school.

A complex range of factors is associated with English medium instruction (EMI) policy in Rwanda, and this suggests that EMI is likely to remain for the foreseeable future (Milligan *et al.*, 2016). These include the geopolitical shift from francophone toward anglophone alliances in the East African region and internationally post-genocide, the need to accommodate the diaspora returning from neighbouring anglophone countries (Steflja, 2012) and the popular appeal of English as a 'global language' (Milligan *et al.*, 2016). For some, EMI is a calculated means to secure the sociopolitical advantage of the ruling elite (Samuelson, 2013; Samuelson & Freedman, 2010). Finally, the historical association between education, socioeconomic opportunity and European languages, also contributes to the popularity of EMI with electorates (Probyn, 2021).

Subtractive multilingual education

Rwanda's language in education policy is a form of 'subtractive' multilingual education, where learners' previous languages are officially removed and replaced by the additional instructional language (Erling *et al.*, 2021). Subtractive multilingual education is the dominant form of multilingual education worldwide, despite decades of research which point to its severe negative impacts (Alidou *et al.*, 2006; Laitin *et al.*, 2019). Subtractive multilingual education undermines educational access, participation and achievement directly, as learners struggle to comprehend classroom discourse, textbooks and examinations, and indirectly through a form of symbolic violence where former colonial/international languages are given precedence over the learners' languages in high-status settings (Milligan *et al.*, 2020; Ouane & Glanz, 2011). In Rwanda, textbooks written in English only are inaccessible to many students (Milligan *et al.*, 2016). Monolingual examinations fail to provide a valid picture of what students know and can do, beyond their competence in English (Rea-Dickins *et al.*, 2013).

Subtractive models reproduce the false assumption that language learning is best achieved by using an additional language as a medium of instruction from as early as possible (McEachern, 2019). Subtractive multilingual education reflects monoglossic linguistic ideology, and the view that languages exist as whole, singular and bounded entities of vocabulary and grammar related to national and psychological unity and stability (Makoni & Pennycook, 2007; Banda, 2009). Monoglossic ideology can be traced back to the European nation-building projects of the 18th and 19th centuries, where standardised forms of widely spoken languages were established as the official language of the nation state (Bourdieu, 1991; Tollefson & Tsui, 2018). People whose main languages most resembled the official national language gained social and political competence over others (Bourdieu, 1991). In the colonial era, monoglossic ideology spread through the selection and standardisation of indigenous

languages and the strict separation of colonial and indigenous language (Banda, 2009; Tollefson & Tsui, 2018).

In Rwanda, the sudden shift to EMI has made improving teachers' English proficiency the focus of national-scale teacher professional development programmes, with the rationale that 'to improve pedagogy, teachers must first be able to speak the language of instruction' (Williams, 2017: 556). Teachers reported that training was centred on basic language skills for a generic audience and was thus not of practical use (Pearson, 2014). A recent World Bank report (2021) notes the substantial waste of investment in teacher training, which prepares teachers as if they are working in a majority monolingual education system. Although teachers use Kinyarwanda and English in most classrooms (Sibomana, 2022), the widespread perception that teachers and students lack language, in relation to a monolingual 'ideal', limits the extent to which teachers use and allow others to see their multilingual pedagogical strategies (Pearson, 2014; Williams, 2017) (see also Early & Norton, 2014; Probyn, 2009, 2015). The present study sought to better understand how teachers and learners operate within the current policy framework and to identify pedagogical resources and constraints (Milligan & Tikly, 2016).

Translanguaging and Translanguaging Pedagogies

Next, the term translanguaging is considered, as a theory of multilingualism and multilingual education and in relation to various pedagogical approaches. The term translanguaging (trawsieithu, in Welsh) was first used to describe the pedagogical strategy of switching between English and Welsh for language reception and production tasks in Welsh schools (Baker, 2011). It was brought to international attention through García (2009) and García and Li's (2014) seminal publications. García and Li's (2014) conception of translanguaging marked a significant shift in usage, from pedagogical movement between two standard languages to a view of bilingualism as 'one linguistic repertoire with features that have been societally constructed as belonging to two separate languages' (García & Li, 2014: 2). The latter view of translanguaging presents multilingualism as a complex, social and psychological phenomenon, inseparable from the historical construction of standard language ideology.

From the perspective of translanguaging, language includes verbal resources from at least two 'standardised languages' as well as non-verbal and multimodal linguistic resources in a single, holistic semiotic repertoire. This holistic and heterogeneous view of multilingualism is exemplified by García (2009: 16), who presents the analogy of an off-road vehicle to describe how multilinguals draw on varied verbal and non-verbal linguistic resources in relation to the sociopolitical contours of contexts and

interactions. Fundamentally, translanguaging shifts attention from decontextualized language forms to a focus on language practices, which operate in dialectic relation to the construction of identities and social contexts (García, 2009).

García and Li (2014) associate translanguaging with various composite concepts and theories, while asserting that the term is more than a sum of these parts. This includes the concept of 'languaging', which emphasises the dialectical relationship between language use and users' processes of becoming (Becker, 1998; Maturana & Varela, 1978; Mignolo, 2000, as cited in García & Li, 2014). As García and Li put it, the process of '(…) continuous becoming of ourselves and of our language practices, as we interact and make meaning in the world' (García & Li, 2014: 8). In contrast to languaging, translanguaging draws attention to the meanings associated with resources from distinct standard languages (García & Li, 2014: 8).

Complex systems perspectives in sociolinguistics are another important composite aspect of translanguaging (e.g. Larsen-Freeman & Cameron, 2008). Through the lens of complexity, affordances for communication are situated in social and material environments, which are, in turn, constructed through language use. Multilingualism is understood as a complex phenomenon at the intrapersonal, psychological level, as captured in the notion of dynamic bilingualism (García, 2009). This view is distinct from the widely accepted beliefs that languages are stored separately in the brain, or stored separately but connected (Cummins, 2017; MacSwan, 2017). In contrast, dynamic bilingualism portrays the psycholinguistic system of multilinguals as a single, holistic, integrated system where the whole system is transformed with additional learning (Herdina & Jessner, 2002). In addition, the complex connection between intra- and interpersonal multilingualism is highlighted, as 'internal cognitive ecosystems and external social ecosystems' exist in interaction (García & Li, 2014: 17). This position resonates with Cook's (2012) notion of multicompetence, where cognitive and linguistic resources are understood as closely intertwined.

A further vital aspect of translanguaging is attention to historically constructed linguistic hierarchies, for example, between standard and non-standard language, high- and low-status languages, and mono- and multilingual communication (García & Li, 2014). Luckett *et al*. (2019: 31) describe translanguaging as a decolonial move which 'gives epistemic privilege to the lived experience of subordinated groups'. This political dimension has important implications for translanguaging pedagogy, which releases '(…) ways of speaking of subaltern groups that have been previously fixed within static language identities and are constrained by the modern/colonial world system (…)' (García, 2013: 161). Makalela points to the power of recognising multilingualism as the norm and not the exception in the 'schooling ecosystem' (Makalela, 2019: 239).

Translanguaging is described by proponents as a 'southern' innovation, which works against 'northern', modernist/monoglossic understandings of multilingualism (e.g. Dixit & Anderson, 2025; Li, 2022, 2024). Others perceive translanguaging as a relatively recent, Northern innovation which invisibilises (Kerfoot & Hyltenstam, 2017) decades of African scholarship and experience of societal multilingualism and multilingual education (Heugh & Stroud, 2020). Heugh and Stroud (2020) describe two concepts from South Africa, which precede translanguaging and reflect a similar view of multilingualism and multilingual education: functional multilingualism, developed by Heugh in the mid-1990s, and linguistic citizenship, developed by Stroud in the early 2000s. The concepts were developed by researchers in interaction with educators and policymakers in Africa and engage with pragmatic and epistemological tensions between fixed and fluid perspectives (discussed further below) (Heugh & Stroud, 2020). Other African researchers use translanguaging in interaction with endogenous African concepts. For instance, Makalela (2019: 238) develops a unitary view of translanguaging in relation to the African value system of ubuntu 'where languages are interwoven in a system of infinite dependent relations that recognize no boundaries between them'.

Translanguaging pedagogies

In this section translanguaging is considered in relation to multilingual pedagogy research and development. There is a considerable body of literature indicating the benefits of using learners' familiar languages with the additional language of instruction for learning-related participation and achievement (e.g. Alidou *et al*., 2006; Early & Norton, 2014; Ouane & Glanz, 2011; Setati, 2005, 2008; Setati *et al*., 2002, 2008). Such studies precede the widespread use of the term translanguaging, and there is some contention on the distinction between code-switching (i.e. switching between two or more standard languages) and translanguaging (i.e. drawing on resources from a single, holistic repertoire) (see Treffers-Daller, 2025). A central distinction for many is whether the teachers themselves consider their practice to be translanguaging (Dixit & Anderson, 2025). For instance, Probyn (2015) named one south African science teacher's purposeful uses of learners' familiar languages along with the target language of instruction translanguaging pedagogy, although the teacher did not use the term himself. However, in other classroom studies, such as Banda (2018) and Charamba (2020), and in the report on teacher education from Makalela (2019), translanguaging is used by the teachers to describe their practice in the studies. Broadly speaking, proponents of translanguaging consider familiar language a resource for learning rather than a problem, and this orientation enables pedagogical innovations for multilingual classrooms (Setati *et al*., 2008). A fundamental component of translanguaging pedagogy for Li (2024:

213) is '(…) prioritising the learners through bringing their personal trajectories, perspectives, and voices into classroom activities and into learning'. A further defining feature of translanguaging pedagogy, is the critical awareness of teachers and their learners of linguistic hierarchy. Translanguaging studies show the benefits of critical awareness of linguistic hierarchy and pride in local languages and multilingualism for learners and teachers (Banda, 2018; Childs, 2016; Kerfoot & Hyltenstam, 2017; Makalela & Mkhize, 2016).

A diverse range of pedagogical practices are associated with translanguaging (Dixit & Anderson, 2025), and a common distinction is between fixed and fluid perspectives (Bonacina-Pugh *et al*., 2021; Heugh & Stroud, 2020). The fixed view corresponds to the original Welsh usage of the alternate use of standardised languages. It is evident in studies which describe the use of two or more standard languages in classroom communication with the aim of developing bi- or tri-literacy (e.g. Heugh *et al*., 2019; Hornberger & Link, 2012; Makalela, 2019; Probyn, 2015). While, for some, the use of standardised indigenous African languages in formal education is a way to promote the rights of marginalised groups and challenge the sociolinguistic hierarchies entrenched in the colonial era (Probyn, 2021), others critique the extent to which this fixed view reifies monoglossic and modernist/colonial ideology (Ndhlovu & Makalela, 2021; Stroud & Kerfoot, 2021). Translanguaging pedagogy is also used to describe fluid translingual and transsemioic practices, which enable learners to make meaning (Li, 2024). Here, critics are concerned that emphasising fluid translanguaging in education may undermine access to high-status language forms and perpetuate socioeconomic marginalisation (Heugh & Stroud, 2020). In Nigeria, educators considered that translanguaging in classrooms would undermine the learning of standard Nigerian English, Arabic, French, and Nigerian languages (in Trudell, 2019). Heugh and Stroud (2020: 219) also highlight the risk of denying students 'access to the standardised variety of written and spoken languages that open doors to higher education and high-level employment opportunities'. Heugh and Stroud's (2020) notion of 'functional multilingualism' indicates a constructive way forward from concerns that translanguaging necessarily overemphasises either standardised or non-standardised language. Functional multilingualism, described by the authors as the basis for equitable and meaningful access to education, 'requires both the societal use of multilingualism (horizontal multilingualism) and realistic opportunities for academic proficiency, particularly reading and writing proficiency, in more than one written language (i.e. vertical multilingualism)' (Heugh & Stroud, 2020: 222). Related pedagogical approaches, such as genre-based pedagogy, are shown to be effective for engaging familiar language to acquire academic language, especially for marginalised and multilingual learners (Kerfoot & Van Heerden, 2015).

Research Design and Methods

The study featured in this chapter investigated how one lower-secondary mathematics teacher and group of students construct and participate in mathematics lessons, including the construction of the competence-based curriculum and EMI as part of the lessons. The impetus for the study was the perceived gap between EMI in national policy and teachers' development programmes, and our experience that classroom teaching and learning was most often not 'English only'. The study aimed to provide insight into actual pedagogical resources and constraints to inform teachers' continuous professional development. A fully government-owned and -funded combined primary and secondary school was selected to investigate mathematics teaching and learning with relatively underprivileged students (Williams, 2019). The case study approach was selected as appropriate for investigating complex social phenomena in a real-world social and physical context (Duff, 2008). We opted for a single case design, the case being 'this mathematics class', with multiple embedded units of analysis including single, recorded mathematics lessons and 'speech events' (or activities) within lessons (Duff, 2008: 112–113). Our focus on a single class enabled a detailed and inductive investigation of the construction of lessons in a particular social and material environment. Mathematics was selected as a subject of national importance, as the examination results are below expectations (MINECOFIN, 2000; Uworwabayeho, 2009). We consider that this case is at once unique and relatable to other contexts with similar characteristics (e.g. secondary mathematics lessons in Rwanda and comparable low-resource, postcolonial EMI contexts) (Blommaert & Dong, 2010). However, we view 'generalisation' as a partial, critical and agentive process, and encourage the readers to reflect upon the ways in which the features identified in this context align with and differ from other contexts (Duff, 2008).

This investigation builds on critical and ethnographic studies of multilingual classroom communication and language in education policy, which investigate how social structures are reproduced and transformed as part of classroom communication, and the links between local classroom interactions and both institutional and wider social processes (Martin-Jones & Martin, 2017). The ethnographic and critical approach prioritises the experience and perspectives of the research participants and seeks to identify the influence of ideology on the beliefs and practices of the researchers and research participants. We consider this necessary, given that the positionalities of the (*white*, European) lead researcher and (Black, Rwandan) researchers and research participants reflect wider, historical inequalities. Moreover, we recognise that the academic disciplines drawn on for this study (education, linguistics) have been impoverished through historical processes of exclusion. The ethnographic design of this study, including lesson recordings, interview and focus

group data and field notes, enabled the inductive description and analysis of lessons, independent of the pedagogical and linguistic models developed in the global North. Later stages of analysis involved comparison with potential conceptual and theoretical frameworks, such as translanguaging (Martin-Jones & Martin, 2017).

The study is defined as critical, owing to attention to the positionality of the researchers and research participants in the study; the analytical connection between classroom communication and discourses at school and in the community; wider, historical discourses about language and education; and the intention of the study to inform actions which counter injustices. Following Fairclough (2013), a distinction is made between 'positive critique' aimed at identifying ways in which the teacher mitigates EMI and how these might be further enabled through teacher professional development, and 'negative critique' aimed at identifying constraints on classroom communication and how these might be addressed.

The data included 10 double-period (80-minute) mathematics lessons recorded over a 5 months, a week of participant observation in school, post lesson interviews with the teacher and groups of students, an in-depth interview with the teacher, and two focus groups with students. Data were gathered by a cross-national, multilingual research team led by the first author. Where possible, the research participants were invited to choose the language(s) for communication. Most interviews were conducted in Kinyarwanda and translated into English, with some teacher interviews conducted in English. Student focus groups were conducted at school in English and Kinyarwanda, without teachers present. During the focus groups, the students were asked to share their thoughts on good teachers and good students, and what they enjoyed and found difficult about learning mathematics and English. Recorded lesson observations were conducted by all researchers.

The study raises ethical issues, given the power imbalances between the *white* European and Black Rwandan researchers and the research participants, which included young people (Bond & Tikly, 2013; Hultgren *et al*., 2016). To mitigate these issues, information and consent forms were translated into Kinyarwanda and presented orally and in writing to the staff and students. All interviews and focus groups were conducted out of lesson time, and students had the choice to opt in for interviews and to sit off-camera during recorded lessons. The teacher reviewed and commented on the tentative conclusions. Publications from the study are co-authored by all researchers involved.

In total, 13 hours of lesson recordings were transcribed, including verbal (multilingual), paralinguistic, non-verbal and mathematical language (Heller *et al*., 2018). Classroom interaction was analysed ethnographically, through the identification of contextualisation cues, speech acts and speech events (Gumperz & Hymes, 1986). The following hierarchical units of interaction were identified. 'Instructional units',

roughly equivalent to a single lesson period, were defined as having an explicit pedagogical objective presented by the teacher at the start and end of the unit. Within instructional units, distinct 'activities' repeated across instructional units were identified. Activities are defined as bounded units of interaction, with distinct roles for teachers and students, and communicative objectives serving the purpose of the instructional unit (Lemke, 1990).

In the overall dataset, six activity types were categorised. These were:

(1) Preparation.
(2) Presentation.
(3) Demonstration.
(4) Summary.
(5) Student questions.
(6) Individual and groupwork.

Of these, the first four were present in all instructional units in the dataset, while the last two were less frequent, with instances of #6 (individual and groupwork) being least frequent of all.

Critical analysis comprised tracing the connections among classroom discourse and discourses and ideology at school and in the wider education system and society (Fairclough, 2013). Interview, focus group and participant observation data were coded, and connections were traced among classroom practice, teacher and student comments and EMI texts, discourses and ideology from the school and wider education system (Heller *et al*., 2018). For example, the teacher's claim that 'language is not that important for mathematics' (5 September 2018 field notes) was associated with claims made by Ministry of Education officials and the introduction of EMI for mathematics and science before other subjects (Pearson, 2014), and the teacher's focus on showing and doing mathematics and his omission of talk-based textbook activities, which asked students to discuss mathematics together.

Setting, Extract and Analysis

Next, the social and material setting of the school and classroom are described, followed by a lesson extract and analysis. The school is a fully government-owned and -funded combined primary and secondary school, situated in a rural area on the outskirts of a village about a 90-minute drive from the nearest town. The school is relatively well-resourced for a fully state-owned school but not exceptional. Of the 27 teachers who work at the school, several migrated back to Rwanda from neighbouring anglophone countries in recent years to meet the demand for English-speaking teachers. Outside of the classrooms, the main language of communication between teachers is Kinyarwanda. There are 52 students in this Senior One mathematics class, aged between 12 and 16 years. At

this school, classes at upper-secondary level are much smaller, as many students leave school at the end of lower secondary level.

The students talk enthusiastically about learning mathematics, which they see as relevant for their future personal and professional lives but see little value in English beyond succeeding at school (05.SFGT). The classroom is rectangular, with blackboards at each end and windows along both sides of the room. Students sit three rows deep along the sides of the room, with a single row at the back facing the board. There is a large open space in the middle of the room, which is occupied by the teacher and students, nominated to demonstrate mathematics exercises to the class. The creation of written texts on the board, which students copy into their notebooks, is the main focus of lessons.

This extract is taken from midway through a mathematics lesson, which we term 'point and line' after its mathematical focus. It provides a typical example of language use and pedagogy from the dataset. The extract shows how the teacher and students use verbal, non-verbal and multimodal linguistic resources from Kinyarwanda and English to construct and participate in lesson activities, and how the teacher uses his linguistic resources flexibly to enable students access to English and mathematical concepts and practice. A transcript key is provided at the end of this chapter.

Extract

The teacher stands half facing the students and half facing the board. He gestures towards three lines he has just drawn in chalk on the board. He says:

> These three lines are very different.. Murabireba /...../ Murabireba? /...../
>
> (*Do you see that? Do you see that?*)

As the teacher says 'Murabireba' (*Do you see that?*), he moves his gaze around the seated students. Most students are facing the board. A few students call out in the pauses left by the teacher:

> /yes/
>
> /yes/

The teacher turns back towards the board, gesturing to the drawn lines as he talks.

> Urabona uyu murongo wambere.. Iyi ni nka number line. Sibyo? /…/ Sibyo? Iragenda indefinitely. Sibyo? Sibyo? Hari aho igarukira?/ ../ The left side even the right side. Hose iragenda /.. / Sibyo? Ariko iyingiyi yo, the starting point niyo fixed point. Sibyo? .ariko no end limit. Ntaho irangirira. Murabireba? /./ Iyi ngiyi rero ifite two fixed point ariyo bita bounds. Sibyo? Murabireba?.

(*You see the first line. This is like a number line. Isn't it? Isn't it? It goes indefinitely. Isn't it? Isn't it? Doesn't it have an end? The left side even the right side. It goes indefinitely on both sides. Isn't it? But for this one, the starting point is the fixed point. Isn't it? There is no end limit. It doesn't have an end. Do you see that? For this one, it has two fixed points called bounds. Isn't it? Do you see that?*)

The teacher leaves frequent pauses, during which he looks towards students. A few students answer in the pauses left by the teacher, as if on behalf of the class:

/Oya/ (*no*) /Igo /(*yes*)

/Yego/ (*yes*)

/yes/

/yes/

/yes/

Next, the teacher turns to face the class. He lifts up the chalk he is holding, signalling a request for a student volunteer. As he does this, he says:

For A. For the first line /../ this is called a line /../ Sibyo? (*Isn't it*) /..../ Isn't it?

As he talks, an increasing number of students raise their arms and click their fingers. In the pauses left by the teacher, some students call out to volunteer:

/yes/

/yes teacher/

/yes teacher/

The teacher nominates one student by gesturing towards them with the chalk and then pointing towards the space on the board, as he says:

Show us! /../ a line /..../

Other students echo the teacher in the pauses he leaves:

/yes show us/

/a line//show us a line/

As the volunteer student walks to the front and takes the chalk, the teacher repeats the task and the key word/concept of 'unbounded', moving his gaze around the seated students.

Which is…un..bounded …Sibyo? .. a line is unbounded. Sibyo. Siko bimeze

(Isn't it? Is it like that?)

A single student responds:

Yego (*yes*)

The volunteer student takes the chalk and begins to draw the line. The teacher turns to the student but speaks in a voice which is audible to the class:

Continue in two directions indefinitely … sibyo? Isn't it?

A single student responds in the pause left by the teacher:

yes

The student at the board finishes and hands the chalk to the teacher, who looks up towards the seated students and asks:

Siko bimeze? Mwabibonye? …. (*Is it like that? Have you seen it?*)

A single student responds in the pause left by the teacher:

Yes

The teacher lifts the chalk and gestures towards the lines drawn on the board. He half-faces the board, and half-faces the seated students. He says:

This is a line. Sibyo. A line igira directions. Ariyo twakwita, sibyo? Iyi niyo twita direction. Sibyo? /./ Hose kumpande zayo hose. Haba hari direction. Sibyo? … Ni ukuvuga ngo ntaho zirangirira. Hari aho zarangirira? .. Ari icyo twita .. indefinite. No end limit. ..Sibyo. ..No ending. .. Sibyo?

(*This is a line. Isn't it? A line has two directions. This is called, isn't it? This is called direction. Isn't it? On both of its sides. There is a direction. Isn't it? That means they don't have an end. Do they have an end? We call it indefinite. No end limit… isn't it…No ending. .. isn't it?*)

In the pauses he leaves, several students respond:

Yes

Yes

Igo (*yes*)

Oya (*no*)

Wapi (*it is not correct*).

Analysis

The extract above illustrates how the teacher and students use diverse linguistic resources as part of a single holistic repertoire. For example, in the first longer exchange, the teacher and students co-construct a text comprising verbal resources from English and Kinyarwanda, non-verbal

resources (such as gestures and gaze) and multimodal, mathematical resources (the lines drawn on the board). Verbal language includes mathematical English (e.g. number line, indefinitely, fixed point, bounds) and familiar classroom English (this is like a …, the left side even the right side, no end limit). The teacher integrates mathematical English with Kinyarwanda, which he uses to draw and direct students' attention and provide access to meaning. The co-constructed text includes pauses left by the teacher, following tag questions (Sibyo? (*Isn't it?*)), which are completed by the students to signal that the class is paying attention. The text also includes the lines drawn on the board, which the teacher gestures towards and students look towards as he talks.

The extract also shows how the teacher and students use linguistic resources to construct context or 'activity', as defined in the section above. We also see how context shapes the permitted identities of the teacher and students, and the meanings of their (language) actions. For example, we see how the teacher initiates the activity of 'demonstration' by holding up the chalk, and saying 'For A', and later 'Show us!'. This gesture, combined with similar utterances is used across the dataset. Students use the familiar routine as they co-construct the activity by raising their hands and clicking their fingers. Within the activity, there are well-defined roles, which also repeat across the dataset. The student volunteer works at the board, physically turning to the teacher if they need additional support but rarely speaking. Seated students are expected to 'follow!' by facing the student at the board or working in parallel on the exercise in their notebooks. The teacher stands to the side, occasionally offering verbal support to the student volunteer when he observes it is needed and managing the behaviour of the seated students verbally and by using his gaze.

Linguistic ideology influences communication in this context, as shown by the comments made by the teacher and students about language use in lessons. Neither the teacher nor the students are in any way critical of the language policy or its representation in textbooks and examinations. Instead, both 'blame' students for lacking language compared with the monoglossic ideal. For instance, one student states: 'The issue is the lower level of English skills we have' (19 September 2018, student group interview transcript S3). Other students talked about how their perceived lack of English undermines their confidence to communicate in lessons (19 September 2018, student group interview transcript). The teacher repeatedly referred to the students' limited ability in English as a problem, which he blamed on primary school English teachers, the students' families and students' own lack of talent (field notes, 4 September 2018, 5 September 2018). Thus, linguistic ideology undermines the teacher's confidence in the students' ability, and this may impact how he interacts with the students and the opportunities for learning which result.

Discussion

This aim of this chapter is to consider the potential of translanguaging for pedagogical research and development in Rwanda. Fundamentally, the data are consistent with a transglossic perspective on multilingualism (García, 2009; García & Li, 2014). Specifically, the teacher and students use multilingual, non-verbal and multimodal linguistic resources as part of a single holistic repertoire; linguistic resources are used to co-construct classroom contexts and identities; and linguistic ideology shapes classroom communication. Thus, the data suggest that translanguaging and other transglossic concepts such as functional multilingualism are relevant for data collection and analysis, in this context. Indeed, a transglossic 'lens' is important to enable researchers identify, investigate and interpret these aspects of classroom discourse, which may not be apparent through analysis of separate, verbal languages. Including analysis of multimodal and non-verbal communication is especially relevant for the global South, given the predominance of 'performance mode' pedagogical approaches (Bernstein, 1986; Guthrie, 2018). The data suggest that the tendency to evaluate classroom practice using talk-based models of pedagogy, developed through research in classrooms in the global North (e.g. Barnes, 1992; Mercer, 1995) is problematic. A transglossic lens also indicates the need to situate pedagogy within its wider sociolinguistic context and investigate the functioning of monoglossic ideology as part of classroom discourse. As such, it aligns well with the critical and ethnographic design of this study in its combined attention to locally constructed contexts, identities and meanings, and the operation of linguistic ideology.

Next, we consider the potential of translanguaging for pedagogical development. It is notable that this teacher explicitly identifies himself as a mathematics teacher, and not an English teacher or a bilingual educator (field notes, 13 June 2018, 5 September 2018), as he says: 'I am a mathematics teacher, not an English teacher' (field notes, 4 September). This orientation is typical of subject teachers in subtractive EMI contexts (Lin, 2019; Richards & Pun, 2021). The data suggest that the teacher's positioning of himself as a mathematics and not a language teacher enables his use of multilingual and multimodal linguistic resources to communicate mathematical meanings and construct mathematical practices i.e., as he is not teaching English, he does not need to use English all the time. Classroom discourse is closely focused on the mathematics terms, concepts and practices the students need to pass exams. This approach resonates with functional model of multilingualism presented by García and Li (2014) and Heugh and Stroud (2020) and genre-based pedagogical approaches (e.g. Kerfoot & Van Heerden, 2015). It contrasts with approaches aimed at developing more general bi-/tri-literacy in two or more languages, associated with pedagogical translanguaging in Heugh *et al*. (2019) and Makalela (2019).

The data indicate that monoglossic ideology shapes how the students and the teacher describe classroom communication, in terms of distinct and separate languages. For example, in interviews, the teacher and students described classroom language policy in strikingly similar terms: 'When I teach, I prefer to use English only, but students do not understand maths without explaining in Kinyarwanda' (May, teacher interview notes); 'I like studying mathematics in English but with some explanations in Kinyarwanda for understanding mathematics and English too' (19 September, student group interview transcript). Williams (2019) reports an almost verbatim description from other Rwandan teachers. The description suggests that English and Kinyarwanda are used separately, with English for mathematics and Kinyarwanda for explanation. In contrast, the lesson data show that verbal languages are often integrated as part of classroom communication, along with mathematical and non-verbal semiotic forms. Strictly speaking, this is not translanguaging pedagogy because it is not a reflection of the teacher's articulated understanding of multilingualism and multilingual education (Dixit & Anderson, 2025). At the same time, the systematic use of multilingual and multimodal communication as part of this teacher's pedagogy indicates implicit pedagogical knowledge. The concept of translanguaging or functional multilingualism may be useful here, to help the teacher more accurately describe his pedagogy and develop his pedagogical practice. It may also help the teacher and students to critically question monoglossic, deficit judgements of the students' language proficiency, prioritise learners' non-academic knowledge and meaning making (Li, 2024), and recognise the students' emergent multilingual competence.

It is important to note that any application of translanguaging pedagogy occurs in a wider sociolinguistic context and in relation to existing pedagogical resources and constraints (Ndhlovu & Makalela, 2021). The approach of pedagogical translanguaging (Makalela, 2015; discussed above), which promotes the use of two or more standard African languages, is possible in the additive multilingual official language policy context of South Africa. In contrast, in Rwanda, Kinyarwanda is the sole official and national language and is equated with national unity and stability (Samuelson, 2013). A diglossic language policy, which reifies language separation, is part of the current nation-building project, even though this contrasts with the lived experience of many Rwandans (Mamdani, 2002; Blommaert, 2010). Therefore, we recommend that those involved in teachers' professional development in Rwanda and comparable contexts make pragmatic, contextually sensitive decisions. Transglossic approaches such as functional multilingualism and genre-based pedagogy may be more appropriate and accessible to policymakers and educators than translanguaging in Rwanda. Another possibility is 'language supportive pedagogy', developed in Tanzania by Tanzanian teacher educators in collaboration with researchers from the University

of Bristol, which uses Kiswahili and language teaching and learning strategies to enable EMI, with a focus on the participation of marginalized learners (Barrett *et al*., 2021; Opanga & Nsengimana, 2021; William & Ndabakurane, 2017). Language supportive pedagogy is coherent with translanguaging, but lacks an explicit critique of EMI (Rubagumya, 2021). This may be a necessary short to medium term compromise in Rwanda too.

Conclusions

This chapter considered the potential of translanguaging for pedagogical research and development in Rwanda, using data from a case study of lower-secondary mathematics lessons. Translanguaging is consistent with research-based understandings of multilingualism as a transglossic, social and psychological phenomena. The data presented here indicate the value of transglossic theories of multilingualism and multilingual education for pedagogy research, as these enable investigation of salient features of classroom discourse, such as the use of verbal, non-verbal, and multimodal semiotic forms as an integrated whole and the functioning of linguistic ideology. Regarding pedagogical development, the findings suggest that the concept of translanguaging could enable teachers to recognise, articulate and further develop their multilingual and multimodal pedagogical strategies, help teachers and students to challenge deficit interpretations of students' multilingualism, and enable student communication in classroom discourse. However, in these regards, Heugh's concept of functional multilingualism is equally relevant and may be more appropriate, given that it was developed in South Africa and pragmatically engages with tensions between fixed and fluid translanguaging. The findings presented here confirm that multilingual pedagogy is subject-discipline and context sensitive. We conclude that pedagogical theories and practices should be identified and interpreted by researchers, policymakers and educators for their educational contexts.

Transcription key

Description of behavior is indented.

Verbal communication is double indented.

/…../ = Student/s talk at the same time. As here, this is often during a pause left by the teacher.

Original language used is presented in normal type.

(*Translation of Kinyarwanda into English*) is presented in italics and in brackets.

?= signals rising intonation.

…= denotes a pause. Each dot is approximately one second.

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