

Bristol Working Papers
In Education Series

Working
Paper

#02/2022

Theory, Practices and Policies for ‘Late Exit’ Transition in the Language of Learning and Teaching: A Literature Review

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February 2022

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Acknowledgements

This literature review is an output from the Evaluation Language Supportive Approaches to Transitions at Scale (ELSATS). The project was made possible by funding from the British Council. It is a collaboration between the University of Bristol, the University of Dodoma and Kotebe Metropolitan University.

Recommended citation: Bowden, R. & Barrett, A.M. (2022) Theory, practices and policies for ‘late exit’ transition in the language of learning and teaching: A literature review. Bristol Working Papers in Education, #02/2022

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SCHOOL OF EDUCATION

CONTENTS

Abbreviations	iv
Executive Summary	i
1. Introduction.....	i
2. Key concepts: Language, multilingual education, and LOLT transitions	ii
3. Subject learning across LOLT transitions.....	v
4. Multilingual pedagogies for LOLT transitions.....	viii
5. Systemic approaches for LOLT transitions	x
1. Introduction.....	1
1.1 Background to this review.....	1
1.2 Aims and research questions	2
1.3 Methodology of the literature review.....	2
1.4 Structure of the review	3
2. Key concepts: Language, multilingual education, and LOLT transitions	4
2.1 Conceptualising language.....	4
2.2 Labelling languages	5
2.3 Language ideologies	6
2.4 Multilingual education	9
2.5 Academic language.....	11
2.6 Literacy	17
2.7 Conclusion: Monoglossic objectives and transglossic methods.....	17
3. Subject learning across LOLT transitions.....	19
3.1 Subtractive MLE.....	19
3.2 Additive MLE.....	24
3.3 L1- based MLE.....	26
3.4 Flexible MLE.....	28
3.5 Summary.....	28
4. Multilingual pedagogies for LOLT transitions.....	30
4.1 Genre-based approaches	30
4.2 Language supportive pedagogy.....	30
4.3 Pedagogical translanguaging	31
4.4 Conclusion	32
5. Systemic approaches for language transitions.....	33
5.1 Policy	33
5.2 Curriculum	34

5.3	Textbooks and other TL resources	36
5.4	Assessments and examinations.....	37
5.5	Teacher education and CPD	38
5.6	Informal education and digital learning resources	40
5.7	School and community engagement.....	41
5.8	Summary.....	42
6.	Conclusions.....	43
6.1	The influence of LOLT transitions on subject learning	43
6.2	Strengthening LOLT transitions at scale	44
6.3	Research priorities for additive, multilingual LOLT transitions	45
7.	References.....	49

Abbreviations

EAC	English Across the Curriculum
ELSATS	Evaluating Language Supportive Approaches to Transition at Scale
EMI	English Medium Instruction
CBI	Content-based instruction
CBLT	Content-based language teaching
CLIL	Content and language integrated learning
CoE	Council of Europe
CPD	Continuous Professional Development
CS	Code-Switching
DBE	Department for Basic Education (SA)
ICT/IT	Information Communication Technology/ Information Technology
L1	Main language/s (local/familiar/main)
L2	Additional languages learnt at school (former colonial/international/European)
LAC	Language Across the Curriculum
LMIC	Low- and middle-income country/ies
LOI	Language of Instruction
LOLT	Language of Learning and Teaching
LSTT	Language Supportive Teaching and Textbooks
MLE	Multilingual education
MOI	Medium of Instruction
MTBMLE	Mother tongue based multilingual education (also L1-based education)
SA	South Africa
SDG	Sustainable Development Goal/s
SFL	Systemic Functional Linguistics
SPINE	Student Performance in National Examinations
SSA	Sub-Saharan Africa
TL(M)	Teaching and Learning (Material)
UK	United Kingdom
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organisation

Executive Summary

1. Introduction

Most children in state education systems in sub-Saharan African experience a transition in the language of learning and teaching (LOLT) at some point during the basic education cycle. The research project *Evaluating Language Supportive Approaches to Transition at Scale* (ELSATS) focuses on LOLT transition in upper primary and lower secondary.

It is timely to look at LOLT transition in upper primary and lower secondary education and what resources, systems and approaches strengthen learning across that transition. LOLT transition at upper primary and lower secondary raises distinct issues from transitions in lower primary and early years education, where most research and advocacy to date has focused. In addition, secondary education is now part of the basic education cycle in the Sustainable Development Goals (UN, 2016), and a focus of national education policies (e.g., Ethiopia and Tanzania).

This review takes stock of available concepts, theories and evidence related to LOLT transitions, from diverse sociolinguistic contexts, in order to inform recommendations for policy, practice and further research.

1.1 Research questions

The literature review is guided by the following overarching research question and sub-questions:

What is the evidence that bi/multilingual approaches can strengthen subject learning across LOLT transitions in sub-Saharan Africa?

- 1) How is MLE conceptualised and theorised within the international literature?¹
- 2) What insights do theory and empirical research give into how transitions in LOLT influence language and subject learning in various sociolinguistic contexts?
- 3) How can teaching and learning be strengthened across LOLT transitions at scale?
- 4) What systems-level measures strengthen teaching and learning for LOLT transitions at scale?
- 5) What should be the priority areas for further research to strengthen knowledge for policy and practice across language transitions?

The term ‘approaches’ encompasses pedagogy and the systemic processes and measures that enable and constrain pedagogy. Following Schweisfurth (2013, 2015) and Schweisfurth and Elliot (2019), we conceptualise pedagogy as an interactive nexus between teachers, students, and their historical, social and material contexts.

1.2 Methodology of the literature review

This scoping study maps available evidence and identifies gaps and debates in the literature. The process has been iterative, with re-definition of focus areas, themes and concepts on the basis of emergent understanding. Publications were identified through keyword searches online and in electronic databases of academic journals, using the reference lists from selected publications and in consultation with ELSATS colleagues. In total, over 160 documents were included in the review, comprising peer-reviewed papers, book chapters and grey literature. A full list of publications is provided in the references section, at the end of this report. There are several limitations of this

review. Only English language publications were consulted. The literature reflects considerable ideological, methodological and contextual diversity, which makes comparison challenging. Further, literature focused on LOLT transitions at upper-primary and lower-secondary level is limited.

1.3 Structure of the executive summary

The executive summary is divided into six sections. In section 1, the background, aims, research questions and methodological approach of the review are presented. In section 2, key terms related to language, multilingualism, and multilingual education, are defined. In section 3, contemporary evidence on the impact of LOLT transition on subject learning from diverse socio-linguistic contexts is summarised. The section is organised by three main orientations to language transitions identified in the review, which are subtractive, additive, and flexible. In section 4, three pedagogical approaches shown to support LOLT transitions are reviewed, namely genre-based approaches, language supportive pedagogy, and pedagogical translanguaging. In section 5, literature related to other aspects of education systems that support LOLT transitions are presented. The review concludes in section 6, by summarizing insights in relation to the research questions and making recommendations for research to inform LOLT transitions. A full list of references is provided at the end of this report.

2. Key concepts: Language, multilingual education, and LOLT transitions

2.1 Conceptualising language

People use language to construct and participate in social practice. For sociolinguists, ‘language’ includes verbal and non-verbal semiotic (i.e., meaningful) forms (e.g., words, pauses, intonation, body language, dress and use of artefacts) (Blommaert, 2010). In multilingual settings, the language people use often spans named ‘languages’ (see 2.3.1 below). Language is fundamental to education as both ‘the tool of tools for learning’ (Wells, 1994, p. 46) and a learning outcome. Language links particular instances of communication and other social and historical contexts. Language is never neutral but always works to privilege particular ways of knowing and being whilst marginalizing others. Multimodality describes the expanded view of language as including non-verbal and verbal communicative resources (Kress and van Leeuwen, 2001; Kress, 2009). It is increasingly recognised as central to multilingual teaching and learning (WIDA, 2020).

2.2 Labelling languages

According to widely used convention, the term L1 refers to learners’ main out of school language/s, which may or may not be the same as the initial language of instruction, and L2, L3, L4 etc. for additional languages. Languages are also described in relation to functions, e.g., ‘language of instruction’ (LOI), ‘language of learning and teaching’ (LOLT), home language, national language and lingua franca. However, all these terms overlook the situated and hybrid diversity of language as part of social practice (Blommaert, 2010).

2.3 Language ideologies

Two ideologies underpin popular, political and academic discourses of language. Monoglossia is associated with standardization of languages and is the dominant influence on education policy. Pluriglossia or transglossia arises from observation of situated language practices, including language practices observed in schools.

2.3.1 Monoglossic ideology

Monoglossia is the idea that standard languages, with names such as English, Amharic and Maasai, exist independent of social context (Silverstein, 1989 in Blommaert, 2010). Monolingualism is perceived as the ‘norm’ and the aim of second language learning is to speak and write like a native

language speaker (Flores & Beardsmore, 2015). Monoglossic assumptions underpin LOLT transition policy in many education systems, where curricula, textbooks and examinations are designed ‘as if’ for monolingual learners with no allowance made for the change in language of instruction (Milligan et al., 2016).

2.3.2 Pluriglossia/Transglossia

Transglossia perceives language as social practice, which spans ‘languages’, verbal and non-verbal semiotic resources (García, 2009). The psycho-linguistic system of multilinguals is conceptualised as a complex and integrated whole (Herdina & Jessner, 2002). The linguistic competences of multilinguals are seen to be distinct from and not directly comparable to monolingual competence. García (2009) uses the analogy of an off-road vehicle to illustrate how multilinguals flexibly draw on a single system of linguistic resources as they negotiate the social and political contours of various interactions.

2.3.3 Translanguaging

Translanguaging refers to the flexible and fluid discourse practices that bilinguals use to communicate and make sense of their worlds (García, 2009). The term is also used to describe pedagogical strategies that use multilingual learners holistic linguistic and cultural resource for learning (García and Li, 2014, see section 4.3). In line with transglossia, translanguaging shifts attention away from de-contextualized language forms and standard languages and towards fluid language use where, “languages are interwoven in a system of infinite dependent relations that recognize no boundaries between them” (Makalela, 2019, p. 238). Translanguaging practices have considerable pedagogic potential, enabling multilingual learners to bridge between local knowledge and practice and the formal curriculum (Childs, 2016; Kerfoot & Hyltenstam, 2017; Makalela & Mkhize, 2016). Critics of translanguaging argue that formal education should focus on the acquisition of standardised written forms of language, needed to access higher education and employment opportunities (Jasper & Madsen, 2016; Heugh & Stroud, 2020).

2.4 Multilingual education

Multilingual education (MLE) refers to education systems where a language which is not the main language of the majority of learners is used to teach non-language subjects. MLE includes situations where bi or multilingualism is an official educational goal and situations where multilingualism is ‘de facto’ and not officially sanctioned (Heugh et al., 2017).

2.4.1 Language of learning and teaching

Language of learning and teaching (LOLT) refers to the official language/s assigned for teaching and learning, educational resources such as textbooks, and processes such as teacher education and CPD and national examinations. Other widely used terms include language of instruction (LOI), medium of instruction (MOI) and language of schooling and (Beacco et al., 2016).

2.4.2 LOLT Transitions

Transitions in LOLT refer to the introduction of additional languages, which are not the main languages of learners, for language and subject teaching. All MLE involves some form of transition from learners’ main languages (L1) to the LOLT (L2), whether this occurs at the point when learners begin school, or at some point during their education. How transition is perceived and implemented depends on underlying beliefs about language and language learning. It may also depend on material conditions of implementation, such as class size and availability of texts in different languages in and out of school.

2.4.3 Inductive language learning

Inductive language learning approaches prioritise language use in contextualised and meaningful communication as a means to acquire additional language. Content-based instruction (CBI) and

Content-language integrated learning (CLIL) are inductive approaches, where subject-lessons provide authentic contexts for language learning. Studies indicate that when well supported, the use of an additional language for subject teaching can lead to higher levels of language proficiency than is gained by studying language as a subject alone. However, the language learnt closely reflects the language used. As a result, learners develop greater proficiency in the receptive skills of reading and listening than productive skills of writing and talking, to acquire more academic than everyday language and to have low grammatical accuracy (Genesee, 2013; Perez-Vidal, 2013). This has led to calls for more explicit language teaching alongside inductive learning opportunities.

2.4.4 Cross-linguistic transfer

The theory of cross-linguistic transfer, forwarded by Cummins (1980), suggests that concepts and ways of communicating acquired in one language can be transferred to an additional language. The theory has empirical support in studies which show that higher levels of L1 literacy correlate with higher levels of L2 literacy (Bialystok, 2001). The notion of cross-linguistic transfer indicates the importance of developing foundational literacy in L1, before using additional languages as instructional mediums at school. Although initially conceived in relation to two distinct but connected language systems, the theory remains useful alongside holistic views of the psycholinguistic system (see 2.3.2) (Cummins, 2017).

2.5 Academic language

Academic language includes language skills (i.e., collaborative, creative and critical speaking, listening, reading and writing skills), language forms (i.e., subject-specific terms and genres); and language learning strategies (e.g., noting similarities and differences between languages, recording new terms). Academic language differs from language use at home and in the playground and has to be learnt, even when LOLT is students' L1. The difference between academic and out of school language is especially big for learners from marginalised communities and multilingual learners, who therefore face a greater challenge learning academic language compared to monolingual learners from dominant communities (Beacco et al., 2016). However, multilingual learners may be better equipped with language learning strategies than monolingual learners (Jessner, 2017).

2.5.1 Genre

Genre refers to widely applicable, predictable and relatively stable forms of behaviour. For example, scientific genres include: laboratory reports, classifications, theoretical explanations and arguments (Polias, 2016, p. 12).

2.5.2 Register

Register is more specific than genre, and distinguishes one example of a genre from another. Three variables constitute register (field, tenor and mode) and these are understood as occurring along continuum (Polias, 2016). Field refers to the perspective of representation: from every-day, common-sense and concrete to technical and abstract. Tenor describes the interpersonal aspect: from personal and informal to impersonal and formal. Mode refers to the role of language: from language accompanying action (oral and body language) to language constituting meaning (written and subject-specific symbols and images) (Polias, 2016, p. 72).

The classroom talk of teachers and learners tends to move back and forth between every-day, concrete and personal register to more abstract, formal and impersonal registers (Halliday 1995). For multilingual learners, the movement between less and more formal registers may also be a movement between or across languages (Setati et al. 2002).

2.6 Literacy

Literacy refers to ways of obtaining and applying knowledge through different sources, contexts and practices. Within education, the term ‘literacy’ is often used to refer to basic skills of reading and writing that should be mastered in the early years. However, literacy extends beyond this operational dimension to cultural and critical dimensions (Green & Beavis, 2013). Cultural literacy is about recognising and acquiring situated language practices. Students may engage in numerous literacy practices outside of school, such as texting family and friends or reading labels on medicines (Cruikshank, 2004). Critical literacy is about deconstructing the values and assumptions that are carried by texts as well as authoring texts that imagine alternative possibilities. Language as a subject, particularly when it is L1 and includes the study of literature, is often concerned with developing all three dimensions of literacy.

2.7 Conclusion: monoglossic learning objectives and transglossic methods

Monoglossia treats languages as bounded and stable lexical and syntactic systems. It assumes that a goal of formal education is to learn a standardized language system. It does, to an extent, describe the goal of academic language learning within school subjects, where students are expected to learn established subject specialist genres of a standardized language. Transglossia views language as a series of situated practices, with meaning dependent on social context. Within this view, multilinguals have a single, integrated linguistic resource available for social interactions which spans named languages and verbal and non-verbal resources. Translanguaging has pedagogic value to enable access to and movement between formal and informal registers, which is a central part of meaning making processes in school subjects. Hence, both horizontal fluid communicative practices and vertical standardised written versions of language have a place within equitable and meaningful education (Heugh and Stroud, 2020).

3. Subject learning across LOLT transitions

Monoglossic and transglossic understandings of language learning inform different approaches to LOLT transition within MLE. Monoglossia is associated with a subtractive MLE and transition, where the L2 replaces L1 as the LOLT for subject learning, and exposure to ‘the language’ is seen to lead to learning ‘the language’. Traditional forms of additive multilingual education also separate L1 and L2 e.g., for different time periods and/or subjects, and both additive and subtractive models reflect inductive language learning approaches (see 2.4.3). However, in contrast to subtractive models, additive approaches provide support for L2 language learning as part of L2 medium subject lessons. Additive approaches also provide for ongoing development of L1 academic language (see section 2.5), through using L1 as an LOLT, along with L2. Transglossic perspectives underpin flexible additive approaches to MLE and LOLT transition, where L2 is progressively added to learners’ main language and other languages used in education. The objective is for learners to master formal registers and subject genres in two or more languages, and learners’ full linguistic repertoires are employed as resources for learning. Transglossic perspectives are increasingly integrated into additive models (Cenoz & Gorter, 2017; Cummins, 2017).

3.1 Subtractive MLE

Subtractive MLE reflects the assumption that the learners’ main language and/or previous language of instruction (L1) should be removed and replaced by L2 as the sole LOLT. It aims to maximise exposure to L2 in order to develop the grammatical accuracy and lexical range of native speakers of L2. The majority of education systems in SSA prescribe the use of a local and/or national African language for LOLT in the early years and then a subtractive transition to a European language (Trudell, 2016). These are known as early exit programmes. Late-exit involves transition at secondary level or above.

3.1.1 Comparing early and late-exit transitions

It is often assumed that the earlier transition occurs, the greater learners' exposure to L2 and hence learning gains made in L2. However, a number of empirical studies from Spain (McEachern, 2019) and Canada (Genesee, 1987 and Harley, 1986) show that students who begin learning L2 later achieve at the same or higher levels than those who started learning earlier. Evidence from Ethiopia, where different regions pursue different language policies, shows that students who had 8 years L1-medium instruction and who are assessed in L1, outperform students who switched to English medium earlier (Heugh & Skutnabb-Kangas, 2010; Ramachandran, 2012, 2017). When South Africa switched from a system of using African languages for African speakers for 8 years of primary school to early transition to EMI after Grade 5 in 1994, student achievement in English language and across the curriculum declined (Heugh et al. 2017).

Theorists argue that early exit programmes interrupt the acquisition of literacy in L1 and hence the potential for cross-linguistic transfer of language skills to L2 (Bialystok, 2001). Late exit subtractive transitions undermine the extent to which learners can connect new learning to previous learning at school and out of school knowledge (Pinnock & Vijayakumar, 2009). Furthermore, encountering new concepts and practices through an additional language conflates linguistic and cognitive challenge and undermines language and subject learning (Cummins, 2000).

3.1.2 English medium instruction

English medium instruction (EMI) is a form of subtractive multilingual education where English is introduced as the medium of instruction for all non-language subjects, during basic education, after which the use of other languages is not officially allowed.

3.1.3 Evidence of the negative impacts of EMI

The negative impacts of subtractive EMI in basic education in low- and middle-income countries is now widely recognised (The World Bank, 2021). They include reduced years of schooling (Laitin et al., 2019; Seid, 2019; Ramachandran, 2017; Schroeder et al, 2021) and lower educational outcomes (Brock-Utne, 2017; Heugh et al., 2017).

Students marginalised by poverty, rurality, gender, ethnicity and disability, are most disadvantaged by EMI as they have limited access to English outside of schools compared to elites and are often enrolled in under-resourced schools lacking basic facilities, such as hygienic toilets and electricity (Kerfoot & van Heerden, 2015). This has been demonstrated by studies in Nepal (Sah and Li, 2018), Cambodia (Benson & Wong, 2019) and India (Manocha & Panda, 2015). Benson (2004) describes how L2-medium undermines the educational participation and achievement of girls. Hovens (2002) finds that rural children and girls gain most from participating in bilingual programs in Guinea-Bissau and Niger. Milligan, Desai and Benson (2020, p. 119) cite studies which indicate the negative impact of EMI on children from lower socioeconomic groups (Fleisch, 2008; Smith, 2011), poor urban areas and remote rural areas (Benson & Wong, 2017; Evans & Cleghorn, 2012; Milligan, Clegg, & Tikly, 2016), nondominant groups (Benson & Wong, 2017), and conflict-affected areas (Dryden-Peterson, 2015). Subtractive EMI restricts classroom dialogue. Despite communication in most classrooms being multilingual after the official point of transition (Probyn, 2021), the requirement to demonstrate learning in an unfamiliar language reinforces practices such as rote-learning, memorization and copying written texts from the board (Altinyelken et al., 2014; Probyn, 2009; Webb & Webb, 2008) Ouane & Glanz, 2011; Manocha & Panda, 2015). Considerable financial investments are made in materials in L2 that assume native-like fluency and are too hard for learners to read (Milligan and Clegg, 2021). Teacher education does not equip subject teachers with techniques for supporting language learning and overlooks the language learning needs of student teachers, themselves graduates from the same ineffective EMI programmes in which they will go on to teach (World Bank 2021). Research has also questioned the reliability of monolingual examinations to measure subject

knowledge (Rea-Dickins et al., 2013; Lockett et al., 2019), although this is an area where more research is needed (May, 2017).

3.2 Additive MLE

Additive multilingual education refers to programmes which systematically provide for the progressive development of two or more languages, in addition to cognitive and academic development and achievement across the curriculum, over a prolonged period of time in the school setting (Abello-Contesse, 2013). To be defined as additive multilingual education, both languages are used to deliver curricular content, so this excludes situations where L1 and/or L2 are only present as separate subjects (May, 2017, p. 83). Additive language learning models share similar language learning theories and embrace diverse and overlapping practices (Dalton-Puffer et al., 2014). Here we situate the various models in their contexts of development in order to comment on the conditions within which they have been successful.

3.2.1 CBI, CBLT and CLIL

Content-based language teaching (CBLT) and content-based instruction (CBI) emerged from North America in the 1980s, influenced by ideas about inductive language learning (see section 2.4.3). The term content and language integrated learning (CLIL) was first used in Europe in the 1990s by researchers who aimed to promote multilingualism in regions where this was not on the political agenda, and to promote innovative pedagogies in subject and language teaching (Dalton-Puffer et al., 2014). CLIL programs range from pre-school to higher education (Cenoz, 2015). CLIL is mainly associated with European international languages such as English and French, although it can include other foreign, second and minority languages (Cenoz, 2015; Dalton-Puffer et al., 2014).

3.2.2 Immersion education

Immersion education was first established in Montreal, Quebec, to enable English-speaking Canadian students to develop high levels of proficiency in French, the official language of Quebec. The term is also used to describe two-way bilingual programs in the USA (English -Spanish and Spanish-English), and language maintenance programs in Spain, New Zealand and Wales (Richards & Pun, 2021). Within immersion education at least 50% of academic instruction is delivered through the target language, there are timetabled target language lessons combined with 'incidental' language instruction in subject classes, and the target language is used for social interaction and extracurricular activities (Genesee, 2013).

Evaluations of immersion education consistently show learners develop higher levels of L2 proficiency than peers studying an additional language as a subject (Collier & Thomas, 2017; May, 2017; Thomas & Collier, 1997) and socio-economically disadvantaged learners are not adversely affected (Genesee, 2013). While these findings indicate the potential of additive MLE, they need to be treated with caution in relation to less well-resourced contexts (Perez-Vidal, 2013). In the case of CLIL, teachers and families often opt into the program, and this contrasts with EMI in state provided basic education.

3.3 L1- based MLE

L1-based MLE or mother tongue based multilingual education (MTBMLE) aims to support learners to develop basic literacy and other foundational skills in the language they are most proficient in, before introducing official and/or national languages, and/or international languages as additional languages of instruction (Benson, 2021). It describes a number of MLE programmes, predominantly in low- and middle-income countries. Three reviews of L1-based MLE programmes in Africa have identified key features of successful programmes. Those that related to LOLT are:

- L1 medium of instruction for at least 6 years (Schroeder et al., 2021);

- L1 reading taught for at least 4 years (Schroeder et al., 2021);
- L2 introduced through oral activities, with reading and writing only being introduced after a solid foundational literacy in L1 is achieved (Trudell, 2016; Bunyi & Schroeder, 2017);
- support for transferring literacy skills from L1 to L2 (Bunyi & Schroeder, 2017)
- continued use of L1 to support teaching and learning in L2 (Bunyi & Schroeder, 2017)
- suitable teacher training (Schroeder et al., 2021);
- textbooks for L1 as a subject and for L2 acquisition (Schroeder et al., 2021);
- examinations of L1 (Schroeder et al., 2021); and
- community stakeholders engaged in decision making about LOLT (Trudell, 2016).

MTBMLE is supported by scholars who view access to learning in a mother tongue as a linguistic human right (e.g., Skutnabb-Kangas, 2017). Others, taking a transglossic perspective, have pointed out that many learners appear in school with rich multilingual repertoires that are not recognised by L1-based approaches (Erling et al., 2021). There is growing acceptance amongst international commentators that standardisation of a restricted number of indigenous languages, making them available to use as LOLT, would substantially improve educational quality and equity for the majority of learners currently learning through L2 (Brock-Utne, 2017; The World Bank, 2021).

3.4 Flexible MLE

Flexible multilingual education refers to additive multilingual models that validate and build on learners' actual linguistic resources, including non-standard language forms and varieties (Erling et al., 2017, pp. 22–23). Flexible MLE seeks to realise the pedagogic potential of translanguaging and utilise multilingual metalinguistic awareness as a resource for language and subject learning (Cummins, 2017; Jessner, 2017). Consistent with Heugh & Stroud's (2020) concept of functional multilingualism, it allows for the "(...) horizontal multilingual capabilities (multi-directional communication through porous linguistic borders) and vertical multilingualism (developing expertise in writing at an academic level in at least one, usually two, or sometimes three standard written languages)" (Heugh et al., 2017, p. 205). WIDA (2020) and the Council of Europe (2018) provide language descriptors which reflect flexible multilingual principles.

3.5 Summary

Large-scale longitudinal studies and meta-analyses consistently show the importance of additive MLE for L1, L2, and L2-medium language learning (Collier & Thomas, 2017; May, 2017). Foundational learning through L1 for around the first 8 years of formal education is a prerequisite for an effective transition to learning through an additional language (Schroeder et al., 2021; The World Bank, 2021). The ongoing use of L1 across the curriculum is shown to have substantial benefits for the development of literacy in L1 (Pinnock & Vijayakumar, 2009), the learning of L2 (Taylor & von Fintel, 2016), learning across the curriculum (Heugh & Skutnabb-Kangas, 2010), the development of general cognitive abilities (Trudell & Piper, 2014), and school access and retention (Laitin et al., 2019; Ramachandran, 2017; Seid, 2019). There is irrefutable evidence that subtractive MLE undermines subject learning, in addition to limiting learning of L1, L2 and reducing access and retention at school (Milligan et al., 2020; The World Bank, 2021).

4. Multilingual pedagogies for LOLT transitions

Section 3 has already identified the main approaches to MLE. In this section, we look in more detail at three distinct pedagogical strategies for strengthening learning across LOLT transitions.

4.1 Genre-based approaches

Genre-based approaches involve the explicit definition and teaching of subject-specific genres. Subject teachers' overt focus on subject specific language forms benefits all students, especially marginalized and multilingual learners (Beacco et al., 2016). Various initiatives with a theoretical basis in systematic functional linguistics (SFL) have developed genre-based pedagogic approaches in both multilingual and predominantly monolingual contexts, such as the professional development programme for science educators in Australia, described by He & Forey (2018). Some of these are focused on specific subject areas (Forey & Polias, 2017; Forey & Cheung, 2019), and some take a whole-school approach to strengthening academic language across the curriculum (see Forey's description of an initiative in a UK secondary school, 2020). Kerfoot and Van Heerden (2015) demonstrated the potential of genre-based pedagogy in a small-scale study of an intervention in a low socio-economic neighbourhood of Cape Town. They found that all 72 learners substantially improved control of staging, lexis, and key linguistic features, with those who had formerly assessed as 'not competent' by their teacher, making the greatest gains.

4.2 Language Supportive Pedagogy

Language supportive pedagogy (LSP) refers to classroom strategies which support the learning of content through an additional language (Erling et al., 2017 and 2021). It was developed in Tanzania at lower secondary level and in Rwanda at upper primary level as a pragmatic initiative to strengthen teaching and learning in contexts where a change to the EMI policy seemed unlikely (Milligan & Tikly, 2016). The approach draws on ideas from CLIL, principally those set out by Coyle (2007) and Polias' (2016) work on genre-based science writing. However, a defining characteristic of LSP is that there is no single prescribed pedagogical practice, and the language supportive teaching and textbooks (LSTT) project has focused on the development of "endogenous" pedagogical approaches (Rubagumya, 2021), with innovation led by teacher educators (Barrett et al., 2021). This allows teachers to develop distinct subject-based LSPs, which may also be adapted to context (Barrett and Bainton, 2016). Some general pedagogical strategies are introducing topics through informal activities aimed at making connections with students' previous learning. At this stage learners may discuss informally using Kiswahili and other familiar languages. Later, students are provided with structured support to produce written English. There is also attention to new vocabulary, use of translation and visual meaning making resources (Barrett & Bainton 2016; William & Ndabukrane, 2017; Opanga & Nsengimana, 2021). In an intervention study with 250 lower secondary (Grade 8) students and 36 Biology teachers, Opanga et al. (2021) found LSP increased student interactions and strengthened content learning. A criticism of LSP is that, by innovating within the parameters of an EMI policy, it fails to question how appropriate that policy is for two contexts (Tanzania and Rwanda) where a much more widely spoken African lingua franca is available for use as the LOLT (Rubagumya, 2021).

4.3 Pedagogical translanguaging

'Pedagogical translanguaging' has emerged from South Africa as a planned and purposeful approach to the use of learners linguistic and metalinguistic resources for learning (Makalela, 2015; Probyn, 2015). It is distinguished from classroom code-switching, which is seen as reactive and ad hoc in comparison (e.g., Poo & Venkat, 2021). Pedagogical translanguaging refers to the use of two or more standard languages with the aim of developing bi or tri-literacy (Heugh et al., 2019; Hornberger & Link, 2012), and there is a tension between this fixed view and the fluid and integrated perspective on multilingual competence presented by García and Li (2014) (Bonacina et al, 2021). There are some overlaps between LSP and pedagogical translanguaging. For example, Probyn (2015) proposes the term 'pedagogical translanguaging' to refer to the combined pedagogical and linguistic strategy of using learners' home language for exploratory talk and the LOLT for presentational talk (p. 221), both of which are strategies used within LSP. In contrast to LSP, pedagogical translanguaging is sometimes used to describe existing classroom practices, based on researcher observations (e.g., Probyn, 2015; Msimanga, 2021). The term is also used to guide and evaluate pedagogical innovations e.g., engaging

learners in written translation to and from indigenous languages (e.g., Banda, 2018; Charamba, 2020). These practices can challenge existing perceptions of language hierarchies through the creation of African language academic genres (Probyn, 2021). Classroom translanguaging may reflect and not resolve existing linguistic hierarchies (Sah & Li, 2020).

4.4 Conclusion

Genre-based approaches, LSP and translanguaging offer teachers and teacher educators different ways of thinking and talking about pedagogy in MLE contexts as well as a set of strategies for classroom practice (Heugh, 2015). LSP and translanguaging both have their origins in African classrooms and seek to build on and systematise existing practices. There is as much to learn from the process of their development as endogenous innovations as there is from the specifics of the theory and practices associated with them. This draws attention to how the education systems support effective language transitions.

5. Systemic approaches for LOLT transitions

The recommendations made in this section build on the principles raised so far:

- LOLT transitions can be strengthened by shifting from monoglossic and subtractive to additive and flexible multilingual perspectives and practices, which recognise learners' cognitive-linguistic resource is a single, integrated system and the basis for language and subject learning.
- quality and equity can be enhanced by explicitly addressing three dimensions of academic language learning across curriculum subjects: academic language skills (listening, reading, writing, speaking), the academic language forms (vocabulary and genres) of subject disciplines, and language learning strategies.

5.1 Policy

5.1.1 *Support additive multilingual teaching, learning and assessment*

There is increasing recognition of the importance of LOLT for educational quality and equity (World Bank, 2021). The emphasis to date has been on early years and primary education, and international education discourse (e.g., the SDGs), should do more to promote additive, multilingual approaches in upper-primary and secondary education (Milligan, Desai and Benson, 2021). At national level, where the language of instruction is an additional language for most learners, education policy should define the education system as multilingual, and support additive, multilingual teaching, learning and assessment. Policy can lead effective LOLT transitions through establishing evidence-based targets, and providing for sustained monitoring and evaluation. Key indicators could include: 6-8 years of L1-based instruction supported by provision of L1 materials and L1 examinations; the incremental addition of L2 as a LOLT beginning with oracy and moving to written literacy; and ongoing strategic use of L1 for L2 and L2 medium subject learning and assessment, which allows teachers to adapt to the linguistic resource students bring to the classroom. Policy has a vital role in ensuring coherence between pedagogy, curricula, textbooks, assessments and teacher CPD as part of an effective and responsive education system.

5.1.2 *Engage with education stakeholders at all levels*

To be effective, policy needs to be accompanied by active engagement with education stakeholders at all levels to ensure coherent implementation, including strong partnerships with grass-root education stakeholders (Altinyelken et al., 2014; Bunyi & Schroeder, 2017; Herzog-Punzenberger et al., 2017). Community members should participate in decision-making regarding school level LOLT policies and in developing teaching and learning resources in community languages (Trudell, 2016).

5.1.3 Monitor implementation and learning outcomes

There is a need to measure the impacts of different MLE models on language and subject learning, for students with distinct characteristics over time. This can be achieved by monitoring data from assessments in L1, L2 and L3 proficiency over time and disaggregate by student characteristics associated with marginalization (i.e., socio-economic status, rurality, gender, ethnicity).

5.2 Curriculum design

In the term ‘curriculum’, we include national curriculum documents, or curriculum frameworks and the curriculum (or syllabus) for particular subjects.

5.2.1 Strong connections across grades, levels, subjects and languages

Lin (2019, p. 14) proposes a “continuous and expanding” curriculum where connections are made between new knowledge and practice and previous learning. This involves recycling and development of key concepts and practices within and across subjects. LOLT transition presents a potential ‘break’ in learning. Using L1, teachers and learners can connect to previous learning, translate between equivalent terms for the same concepts multilingual education systems, and enable access to new language and learning. Glossaries can support consistent use of equivalent L1 and L2 terms by teachers across school grades and levels.

5.2.2 Literacy in L1 leads literacy in L2

High levels of L1 spoken and written literacy transfer to L2 (Bialystok, 2001; Cummins, 2017). Therefore, literacy in L1 should lead literacy in L2, and oracy should come before written literacy in any particular language (Trudell & Young, 2016) . Wherever possible, L1 should continue to be supported across all levels of the curriculum.

5.2.3 Do not conflate cognitive and linguistic challenge

When learners are encountering a new genre, concept or practice, the cognitive demand is high, so the linguistic challenge should be reduced through use of L1, spoken rather than written language, translanguaging and language supportive pedagogies. Conversely, when the focus is on particular linguistic features and accuracy of linguistic production the cognitive demand should be lower, i.e., expressing familiar concepts, genre and practices with a focus on form.

5.2.4 Provide opportunity for meaning making using students’ linguistic and cultural resources

Curricula should provide opportunities for learners to make sense of academic knowledge and practice using their full range of linguistic and cultural resources, and apply academic learning to their lives outside of school. These emphases are often included in curricula (e.g., Tanzania, biology form 1 and 2), but depend upon the use of local languages and translanguaging and can be undermined when these practices are not viewed as legitimate.

5.2.5 Explicitly target academic language learning across the curriculum

Academic language skills (i.e., collaborative, creative and critical speaking, listening, reading and writing) should be explicitly taught, using consistent approaches and L1 and L2, across all subjects. This includes subject-specific terms and genres and language learning strategies. Learning outcomes in all subjects should include academic language learning outcomes, which both aim to develop academic literacy and build on the multilingual resources of the classroom (Herzog-Punzenberger et al, 2017; WIDA, 2020).

5.3 Teaching and learning resources

5.3.1 Ensure equitable access to teaching and learning resources

Textbooks are the most widely available teaching and learning resource across sub-Saharan Africa (Milligan et al, 2019). Digital resources are gaining in importance, but there is still huge disparity in access between rich and poor, urban and rural, and girls and boys (Webb et al, 2020). This was made particularly visible by the Covid-related school closures in 2020-2021 (APCF, 2020). Students from lower socio-economic groups are less likely to benefit from textbooks, either because they do not have access to them or they are difficult for them to read and use (World Bank, 2021). Research points to the need for teaching and learning materials in learners' and teachers' main languages before and beyond a give point of LOLT transition (Milligan et al., 2020). Mpofo & Maphalala also point out that textbooks can provide relevant examples of language supportive activities for teachers.

5.3.2 Design language supportive textbooks for LOLT transitions

Great attention has been given to create L1 reading books for early years mother tongue education (World Bank, 2021). There is less literature on subject textbooks for upper primary and lower secondary adapted to the needs of multilingual learners. At present, the majority of subject textbooks designed for EMI contexts assume reading and writing fluency similar to that of monolingual native English speakers. The Language Supportive Textbooks and Teaching project in Tanzania developed exemplar language supportive textbooks for lower secondary students in the first year of EMI education. Key features included use of simple English, images and figures that aid interpretation of the text, English-Kiswahili glossaries and suggested activities and exercises for developing academic language proficiency (Barrett, Kajoro & Mills, 2014; Mtana and O-saki, 2017; Clegg, 2021).

5.3.3 Model multilingual pedagogies through textbooks and other TLMS

Textbooks can provide teachers with situated subject-specific examples of multilingual and language supportive practice, linked to curriculum learning objectives. Subject-content teachers in South Africa suggested that textbooks would help them to integrate language teaching and learning strategies in their lessons, in addition to addressing the language barrier that students face in reading textbooks (Mpofo & Maphalala, 2021). Heugh et al. (2019) present a resource book for English and subject teachers in postcolonial and low resource EMI contexts to demonstrate 'purposeful translanguaging' in an accessible format. It includes activities that emphasize writing in two languages as well as translating and oral translanguaging.

5.4 Assessments and examinations

5.4.1 Promote L1 literacy through ongoing L1 assessments

Assessments and examinations have a significant impact on classroom teaching and learning, and L1-based early education is undermined when not supported through examinations (Bunyi & Schroeder, 2017; Benson, 2021). Bunyi and Schroeder (2017) and Benson (2021) suggest that high-stakes L2-medium examinations lead to L2 teaching before the official point of transition. Benson (2021) and Benson and Wong (2019) flag up the need to assess L1 competence to demonstrate the positive impact of continued L1 instruction on learning across the curriculum and incentivise the use of L1 in schools.

5.4.2 Provide flexible, multilingual examinations

Research on language of assessment is limited (May, 2017, the World Bank, 2021). A project in Zanzibar compared Form 2 (Year 9 of education) pupils' performance in assessments written in English, in Kiswahili and with bilingual elements and language supportive elements (Rea-Dickins et al, 2013). A much larger scale study in the Western Cape (Makgamatha et. al., 2006) with Grade 8 students found that performance improved when assessments were undertaken in students' home

language. Performance also improved when language was made more accessible and supported with images.

5.4.3 Align assessment with curriculum goals and learning outcomes

There is often a mismatch between curriculum goals and assessment practices, with examinations favouring short-answer questions, which encourage memorisation. Teachers' formative assessment practices are also important for the development of more complex, open literacy practices (Elks, 2016).

5.5 Teacher education and professional development

5.5.1 Every teacher is a language teacher

Teacher education and continuing professional development (CPD) is vital to introduces subject teachers to theory and practice regarding the language demands of their subject and academic language (Herzog-Punzenberger et. al., 2017; Beacco et al, 2016; DBE, 2013). Writing from Tanzania, Rubagumya (2021, p. 4) asserts that “every teacher should also be a language teacher” and this has been promoted in South Africa since the mid-1990s (Probyn, 2021). In subtractive MLE systems, secondary level subject-teachers rarely consider language teaching to be part of their role (Richards & Pun, 2021; Bowden et. al., in press). Therefore, substantial re-orientation of teacher education and CPD are needed, to broaden teachers' professional identities as language and subject teachers and to equip them with appropriate knowledge and skills.

5.5.2 Teachers develop and spread pedagogical innovations

Given opportunity and guidance, teachers can develop and spread pedagogical innovations, relevant to their subject and school contexts. For example, the Hub for Multilingual Education and Literacies in South Africa (HUMEL), provides professional development for in-service teachers including theoretical sessions about translanguaging, the creation of teaching and learning materials, and guided cycles of planning, teaching, and reviewing model lessons and ongoing support at school (Makalela, 2019). Likewise, in the LSTT project teacher educators were guided through cycles of planning, teaching and reflection. Barrett et. al., (2021) highlight the need to allow time for professional learning, which developed over annual cycles across successive years. They recommend maintaining a focus on student learning and build upon teachers' existing theories of learning. In Europe, teachers have been leading the development and spread of CLIL pedagogies through face to face and online networks (Perez-Vidal, 2013).

5.5.3 Collaboration between language and subject teachers

Collaboration between language and subject teachers is a recurrent theme in the literature. For example, Barrett et. al., (2021) recommend collaboration between language and subject teachers, between teachers in different institutions, and between researchers, teacher educators and teachers to generate and spread pedagogical innovations. Thompson and McKinley (2018) propose that language teachers should learn about subject- knowledge and practices and subject teachers should learn language teaching strategies. From the USA, Meskill and Oliviera (2019) report how pairing language and science teachers positively impacts teachers' pedagogical expertise in both language and science teaching and learning.

5.5.4 Language use in teacher education

The World Bank (2021) highlights the importance of using languages which teachers know well in initial teacher education and CPD to ensure the maximum impact of investment in teacher CPD on classroom practice and student achievement. Teachers in Mpofu and Maphalala (2021) reported that a barrier to them implementing the EAC strategy was not having experienced similar approaches themselves. Teacher education is an opportunity for teachers to experience purposeful, multilingual and language supportive pedagogical approaches, which they may not have experienced at school.

Teacher education and CPD can enable teachers to talk about, reflect upon and develop their multilingual competences and pedagogical strategies.

5.6 Informal education and digital learning resources

Informal education and digital resources enable multilingual and multimodal communication beyond the limits prescribed by the formal curriculum and examinations (Prinsloo, 2019).

5.6.1 Opportunity for multilingual and multimodal learning

Kendrick, Early and Chemjor (2019) report on an after-school journalism club in rural Kenya where adolescent girls blend their social, cultural, and linguistic repertoires innovatively whilst designing videos. Guzula et. al. (2016) describe an after-school literacy club in a Cape Town township, and a mathematics holiday camp in a rural area in Eastern Cape Province where students were encouraged to draw on their linguistic resources and transgress normative views of language separation. McKinney and Tyler (2019) report on an after-school science study group in South Africa, where students draw on their multimodal and multilingual resources to produce scientific explanations in everyday and academic registers and deepen their understanding of science concepts, while questioning what counts as legitimate language for science learning.

5.6.2 Digital learning resources support multilingual learning

Olivier (2021) shows how self-directed learning in multilingual Information Technology (IT) classrooms in a South African high school allows individual language planning. Similarly, Pitchford et. al. (2021, p. 136) describe how interactive mathematics learning apps offer a “unique, cost-effective opportunity to support children in multilingual contexts to learn elementary math's in their home language, and/or language of instruction”. The World Bank (2021, p. 50) recommends the use of learning technologies to “provide tailored resources for diverse educational needs”.

5.7 School and community engagement

Effective LOLT transitions depend upon the engagement of stakeholders across education systems (Bunyi & Schroeder, 2017; Schroeder et al., 2021; Trudell, 2016). Here we draw out two key elements: strong school leadership, and grassroots engagement through whole school language policy.

5.7.1 Strong school leadership

Kirss et. al. (2021) conducted a systematic literature review to identify factors explaining student success in multilingual education programs. The review confirms the importance of school leadership, to drive teaching with a pervasive focus on learning, a positive school culture, high expectations for all, student responsibilities and rights, progress monitoring, developing school staff skills, and involving parents. Herzog-Punzenberger et. al., (2017) suggest that positive attitudes of school leaders and teachers towards pupils’ languages and cultures increases students’ motivation and feeling of school belonging and recommend that non-dominant languages are included into school contexts, formally and informally.

5.7.2 A whole school language policy

A whole school language policy is a process for engaging school and local community stakeholders in LOLT transitions. School language policies that are inclusive of languages spoken by parents and the community can strengthen relations between school and community. Community participation in school governance builds relationships of trust and contributes to local accountability and strengthening school quality (Prew & Quagrain, 2010; Mitchell, 2015; Nishimura, 2017). Herzog-Punzenberger et. al., (2017) suggest that schools and teachers should build partnerships with families and local communities to help them learn about, acknowledge and value the linguistic and cultural practices families and communities and enable transfer between home and school

languages. The South African Department of Basic Education (DBE, 2013) recommend the development of a school language policy, driven by school leadership, that recognises the centrality of language and literacy for all subjects and guides a systematic and coherent approach to language support across the curriculum and for assessment of learning.

Trudell (Trudell, 2007 and 2016) recommends involving community stakeholders in language decisions and activities, such as the creation of local language resources. Bunyi and Schroeder (2017) conclude that greater community participation is needed in order to ensure that policies are implemented. They assert the need to communicate that education in African languages does not undermine access to powerful international languages, supported by robust, long-term data on the benefits of the use of L1 for student achievement. Milligan, Desai and Benson (2020) indicate that parents and community members are integral to effective MLE, and that collaboration across government, NGO, and community actors is not only desirable but also necessary. Forey (2020) reports from the UK on a whole school approach to teaching academic language across the curriculum.

5.8 Summary

We have identified a set of recommendations for strengthening learning across LOLT transitions within multilingual education systems. We conclude by pointing out that changing language policies alone may not be sufficient to strengthen teaching and learning where schools are ineffective for other reasons such as inadequate resourcing, unacceptable teacher working conditions, oversized classes and low levels of accountability (Rubagumya, 2013).

1. Introduction

1.1 Background to this review

Language of learning and teaching (LOLT) is a key factor undermining the education of millions of children in low- and middle-income countries (LMICS), who are taught in a language which is not their L1² (The World Bank, 2021). It is now well-established that children more readily acquire literacy in a language in which they are already fluent (Pinnock & Vijayakumar, 2009; Trudell & Piper, 2014). International funding and policy influence have created a positive environment in much of sub-Saharan Africa for L1-based education in pre-schools and for the first two- four years of primary education (Benson, 2021). However, nearly all children who start their primary education in an African language and continue to secondary school will switch to the use of European language at some point during their schooling career. For those accessing private education transition occurs at the point of entry to primary or pre-primary education, when they are expected to acquire literacy in a European language. For the majority within state education systems, transition occurs at some point during the basic education cycle. In state education systems in many countries LOLT transition occurs after the early years and before grade 5. However, in a small number of countries where an African language is widely spoken over a national or regional level, this exit happens later, usually between grade 5 or grade 8. This review takes stock of contemporary research about LOLT transitions to inform the project Evaluating Language Supportive Approaches to Transition at Scale (ELSATS), which is focused on two countries, Ethiopia and Tanzania, following what is known as a late exit policy.

LOLT at upper primary and lower-secondary raises distinct issues compared to lower primary and early years' education, where most research and advocacy to date has focused. In lower primary education, academic learning centres around foundational literacy and numeracy and learners' immediate experiences and environments. In upper primary and lower secondary, more subjects are introduced, often taught by specialist teachers. In each subject, learners encounter subject-specific concepts, terms and forms of communication. Across subjects, academic language skills such as collaborative, critical and creative speaking, listening, reading and writing are vital for learning and are important learning outcomes. Further, learners' cognitive capacity develops substantially across upper primary and lower secondary levels and this process is shaped by and reflected in their use of language at school (Halliday, 1995; Schaffer and Kipp, 2013).

Lower secondary education is included as part of free and compulsory basic education in the United Nations (UN) Sustainable Development Goal for Education (SDG4). This means that LMIC governments have access to loans from development banks for expanding and improving the quality of lower secondary education. It is therefore timely to look at how learners and their teachers navigate LOLT transition in upper primary and lower secondary education and what resources, systems and approaches strengthen learning across that transition.

The project Evaluating Language Supportive Approaches to Transition at Scale (ELSATS) is focused on two countries, Ethiopia and Tanzania, which both have policies for free and compulsory lower secondary education and have rapidly expanded access in recent years. However, in both countries, provision is far from inclusive, with less than 50% of young people enrolling in secondary education.

² We use the terms L1, to refer to learners' main out of school language/s, which may or may not be the same as the initial language of instruction, and L2, L3, L4 etc. for additional languages. e.g., In Tanzania, Maasai may be a learner's L1, Kiswahili the L2 and English as the L3 (see [section 2.2](#)).

Both countries follow what is known as a [late exit LOLT policy](#), switching from the use of an African language to English. Mainly this switch occurs at the beginning of secondary school but in Addis Ababa in Ethiopia and the semi-autonomous islands of Zanzibar in Tanzania it starts in grade 5.

1.2 Aims and research questions

The purpose of this literature review is to summarise key concepts used in theorising learning in multilingual contexts, and contemporary research evidence on approaches to LOLT transition. The review will be used to build shared understanding of key terms, concepts and approaches; inform curriculum analysis and interpretation of findings from ELSATS research; and inform recommendations for policy and practice. The literature review is guided by the following overarching question and sub-questions:

What is the evidence that bi/multilingual approaches can strengthen subject learning across LOLT transitions in sub-Saharan Africa?

- 1) How is multilingual education conceptualised and theorised within the international literature?
- 2) What insights do theory and empirical research give into how LOLT transitions influence language and subject learning in various sociolinguistic contexts?
- 3) How can teaching and learning be strengthened across LOLT transitions at scale?
- 4) What systems-level measures strengthen teaching and learning of LOLT transitions at scale?
- 5) What should be the priority areas for further research to strengthen knowledge for policy and practice across language transitions?

We use the term ‘approaches’ to encompass pedagogy and the systemic processes and measures that enable and constrain pedagogy. We understand pedagogy to be at the heart of education. Following Schweisfurth (2013, 2015) and Schweisfurth and Elliot (2019), we conceptualize pedagogy as a nexus, constructed in interaction between teachers and students, teachers and their historical, social and material contexts, and teachers and educational interventions and observers. This view of pedagogy informs our focus on classroom strategies ([chapter 4](#)), and education system measures and processes which enable these strategies, such as policy, curriculum frameworks, assessments and examinations, teacher education, and school leadership and community engagement ([chapter 5](#)). We recognise that social, cultural and material conditions outside of formal education systems influence learning. However, a consideration of these factors is beyond the scope of this study.

1.3 Methodology of the literature review

This literature review is conceived as a scoping study, with the purpose of mapping available evidence and identifying gaps and debates. The process of conducting this review has been iterative, and involved re-definition of focus areas, themes and key words on the basis of emergent understanding and in relation to ELSATS tasks. The review was guided by the main and sub-[research questions](#) and the practical and geographical focus of the ELSATS project. It mainly but not exclusively draws on literature emerging from or concerned with sub-Saharan Africa (SSA), particularly East and Southern Africa, including the Horn of Africa. Literature from outside SSA concerned with basic education in low resource and post-colonial contexts were also prioritised. Initially, the review was restricted to publications from the previous six years (i.e., from 2015 onwards). Earlier works which continue to be widely cited were then included. Publications were

identified through keyword searches online and in electronic databases of academic journals, using the reference lists from selected publications and in consultation with ELSATS colleagues. In total, over 160 documents were included in the review, comprising peer-reviewed papers, book chapters and grey literature. A full list of publications is provided in the [references](#) section at the end of this report.

There are several limitations to this review. Only English language publications were included, which means that insights published in other languages may have been overlooked. The literature reflects considerable ideological, methodological and contextual diversity, and this makes direct comparison challenging. Further, literature focused on LOLT transitions at upper-primary and lower-secondary level is limited. This absence necessitates inference from studies that investigate LOLT at earlier stages of education (e.g., Laitin et al, 2019). Studies which have investigated LOLT at upper-primary and secondary level indicate the importance of contextual factors such as school type, level and location, student background characteristics and instructional subject. We conclude that there is a need for further research into LOLT transitions that is sensitive to such factors (see section [6.3](#)), and that interventions for strengthening LOLT at scale should allow for contextual differences.

Concepts and theories related to language, multilingualism and multilingual education are diverse and contested in academic literature and across distinct contexts of policy and practice. Research and commentary often reflect distinct ideological positions around language in education, which can obscure understanding of how language in education operates and narrow discussion of the options for teachers, policy makers and other education-sector actors (Jaspers, 2019). For this reason, in [chapter 2](#) key concepts related to language and multilingualism in education are presented, and in [chapter 3](#) evidence around LOI transitions is reviewed in relation to three distinct orientations to multilingual education (subtractive, additive and flexible).

1.4 Structure of the review

The review is divided into six chapters. In [chapter 1](#), the background, aims, research questions and methodological approach of the review are presented. In [chapter 2](#), key terms related to language, multilingualism, and multilingual education, are defined. This section is intended to support the ELSATS research team to establish a shared vocabulary for talking about language in education. It also serves as an introduction to key theory in the field of multilingual education and informs analysis of different models and interventions in relation to LOLT and subject learning. In [chapter 3](#), contemporary evidence on the impact of LOLT transition on subject learning from diverse socio-linguistic contexts is summarised. The section is organised by three main orientations to language transitions identified in the review, which are subtractive, additive, and flexible. In [chapter 4](#), three pedagogical approaches which are shown to support LOLT transitions are reviewed, namely genre-based approaches, language supportive pedagogy, and pedagogical translanguaging. In [chapter 5](#), literature related to other aspects of education systems that support LOLT transitions are presented, including policy environment, curriculum provision, teaching and learning resources and forms of assessment. The review concludes in [chapter 6](#), by summarising insights in relation to the research questions and making recommendations for research to inform LOLT transitions. A full list of [references](#) is provided at the end of this report.

2. Key concepts: Language, multilingual education, and LOLT transitions

In this chapter key concepts and debates relating to language, multilingual education and LOLT transitions are presented.

2.1 Conceptualising language

Language is used to construct and participate in social practice. Language links particular instances of communication and other social and historical contexts. The idea of standard languages emerged as part of European nation building and colonisation processes, and is associated with social inequality.

Although language is all around us, defining language is challenging. The term is widely used in the sense of 'Kiswahili' or 'English', to refer to systems of vocabulary, grammar, writing and pronunciation. However, many sociolinguists reject the idea of standard, verbal languages as relatively stable, insulated systems of communication (Blommaert, 2010). They point out that in human interaction verbal language is used along with other non-verbal semiotic resources such as paralinguistic cues (e.g., intonation, pause, stress, and font), gesture, body language and artefacts (e.g., the chalkboard, textbooks and pens), and meaning is contingent on the context of communication and the intentions of speakers. Further, the context of communication and hence the rules of interaction are often contested and negotiated using language (McCarty, 2011). A classroom example is when a teacher clears their throat and turns to the class to signal that the lesson is beginning, whilst students continue to chat to keep break-time going (from Lemke, 1990).

Language is fundamental to education as a learning and teaching tool and outcome. According to sociocultural learning theories, higher order concepts and thought processes are experienced initially through interpersonal interaction, mediated by language, before being internalized psychologically (Vygotsky, 1978). The cognitive development of children and adolescents is shaped by and reflected in language (Halliday, 1995). Thus, language is described as "the tool of tools for learning" (Wells, 1994, p. 46). Language is also an important learning outcome across the curriculum, as learners acquire specific terms/concepts, and ways of communicating and thinking associated with different disciplines (Polias, 2016).

Scholars from critical traditions highlight the political nature of language, which privileges some ways of knowing and being whilst marginalising others. An example from science education is the use of nouns to describe processes (e.g., respiration), and the use of the passive voice, in scientific texts. These features distance the human observer from the natural process, privileging their knowledge as neutral disinterested observers. Instead, using a verb to describe the process of breathing (we breathe in air, extract oxygen and exhale carbon dioxide) brings the observer (we) into a direct relationship with the observed process (breathing). Critical theorists trace the concept of standard languages to the formation of European nation states and note how the official allocation of standard languages to high status social contexts e.g., education and government, empowers (and disempowers) people depending on their main languages (Bourdieu, 1991). Others assert that the use of former colonial/European languages as LOLT in postcolonial contexts reinforces colonial-era social inequalities, within and between countries (Tollefson & Tsui, 2018).

2.1.1 Multimodality

The term multimodality describes the expanded view of language as including non-verbal and verbal communicative resources (Kress and van Leeuwen, 2001; Kress, 2009). The concept has been developed in relation to subject-specific communication (e.g., in science and mathematics), where meaning is constructed across different modes such as symbols, visuals and verbal language and as part of classroom interaction (Lemke, 1990; O'Halloran, 2015). It is increasingly recognised as central to multilingual communication, and for multilingual teaching and learning in particular. For example, a recent framework for language and content integrated learning describes multimodality in the following terms:

“Multimodality is inherent to and essential for how students make meaning and engage in disciplinary practices. All students are able to both interpret and express ideas with greater flexibility when using multimodal resources, including multiple languages. Multimodality allows all students to use multiple means to engage, interpret, represent, act, and express their ideas in the classroom. For example, as students read, they also might refer to illustrations or diagrams, and as students write, they might also represent their ideas numerically or graphically” (WIDA, 2020 p.19).

2.2 Labelling languages

L1 is used here to refer to learners' main out of school language/s, which may or may not be the same as the initial LOLT, and L2, L3, L4 etc. for additional languages. e.g., In Tanzania, Maasai may be a learner's L1, Kiswahili the L2 and English the L3.
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Scholars debate appropriate terms for talking about language in society and education. The abbreviations L1, L2 etc., are widely used conventions for labelling languages used by multilinguals. These terms are criticised for concealing the situated hybridity, and the political dimension, of language as part of social practice (Blommaert, 2010). Cummins (2017) suggests that referring to named, standard languages is a useful 'pedagogical shorthand' and should continue with recognition of the socio-political implications. Blommaert (2010) and Makalela (2021) point out that in multilingual contexts, especially superdiverse cities, children's L1 may be a mixture of languages and/or far from standardized versions of any single L1. Confusingly, L1 is sometimes used to refer to learners' initial language of literacy (i.e., a standardised language used in schools) and/or learners' out of school language practice.

The terms L2, L3 etc. to refer to additional languages are also problematic. They can refer to additional languages used outside of school, or standard languages acquired through education. The expressions language of instruction (LOI), language of learning and teaching (LOLT), home language, national language and lingua franca, describe the use of standard languages in particular social contexts e.g., Arabic as a lingua franca in North Africa and the Middle East. However, these terms overlook the complexity of language practices within any particular context. For example, LOI fails to differentiate language used for social interaction, classroom management, and subject-specific terms and genres in schools by monolingual and multilingual learners (Beacco, Fleming, Thürmann, & Vollmer, 2016). García and Li (2014) propose the concept of language functions to describe how multilinguals combine linguistic resources from two or more standard languages to communicate.

2.2.1 A functional language toolbox

García and Li (2014) propose the term functions instead of languages, to refer to repertoires of particular language forms used for distinct purposes, which for multilingual people may span different 'languages'. Similarly, WIDA (2020) use the metaphor of the language toolbox, which “contains various tools that function

for different needs. Particular linguistic tools achieve certain purposes” (2020, p.20). This functional view of language is consistent with genre-based analysis of academic language (see [2.5.2](#), below).

2.3 Language ideologies

The term ‘ideology’ refers to ideas (in this case, about language, multilingualism and language learning), which promote political interests (Fairclough, 2013). Sociolinguists contrast two ideologies that underpin popular, political and academic discourses of language. The first, monoglossia is associated with the standardization of languages and is the dominant influence on education policy. The second, pluriglossia or transglossia arises from observation of situated language practices, including language practices observed in schools. In this section we describe each and then elaborate on transglossia through describing the practice of translanguaging, which has been observed in multilingual communities.

2.3.1 Monoglossic ideology

Monoglossic ideology refers to the idea that standard languages, with names such as English, Amharic and Maasai, exist independent of social context (Silverstein, 1989 in Blommaert, 2010).

Monoglossia is a powerful and enduring linguistic ideology within education. It lies behind the idea of a single, standard version of a language, and forms of language teaching that pay close attention to ‘correct’ grammar, syntax and pronunciation. From this perspective, the objective of second language learning is to acquire the rules and patterns of a language with the aim of speaking and writing like a native language speaker (Flores & Beardsmore, 2015). In the Global South, monoglossic language in education policies can be traced to the colonial era, where formal education began through a local language, which was officially replaced by the colonial language for higher levels of learning (Tollefson & Tsui, 2018). This practice entrenched associations between European/international languages and education, power and prestige which is understood to drive EMI policy in many contexts today (Probyn, 2021). Monoglossic ideology is associated with the idea that monolingualism is the norm. Its assumptions underpin policy in many education systems with language transitions. Hence, curricula, textbooks and examinations are designed as if for monolingual learners with no allowance made for the change in language of instruction (Milligan et al., 2016).

The symbolic power of standard languages is used to empower marginalised communities, through the standardisation of minoritised languages and their use in formal education (e.g., Hornberger and King 1996). Critics argue that the use of indigenous languages, standardised by missionaries in the early colonial era, perpetuates monoglossic ideology and is at odds with the multilingual reality of communities (Banda, 2009). Local communities reportedly resist the use of local languages in education, if they perceive a choice between indigenous or international languages as is implied by a monoglossic perspective (Bunyi & Schroeder, 2017; Makgamatha et al., 2013; Trudell, 2016). Where a dominant local language is selected for use as the medium of instruction, members of other language communities may opt for education in an international language instead (Trudell, 2019).

Others highlight the distance between standardised forms of indigenous languages and the language which students from marginalised communities use outside of school, which increases their language learning load (García, 2013). A further challenge is the potential number of distinct languages and the cost of producing materials (Simpson, 2019). In response, Brock-Utne (2017) cites Prah (2005, 2009) who proposes that 12-15 standardised African languages could be usable by two thirds of the population of sub-Saharan Africa. This idea is echoed in a recent World Bank report, which suggests that providing education in an additional 220 languages could meet the needs of approximately 270 million students currently learning through an international L2 worldwide (The World Bank, 2021).

2.3.2 Pluriglossia/Transglossia

Transglossia is a view of language as social practice, which spans verbal and non-verbal semiotic resources and is specific to users and contexts of use (García, 2009). It is informed by a view of the psycho-linguistic system of multilinguals as complex and integrated whole (Herdina & Jessner, 2002).

Transglossic perspectives are informed by a view of language as contingent on speakers and contexts of use (Blommaert, 2010; García, 2009). They reflect a distinct viewpoint on psychological and social aspects of multilingualism from the monoglossic position. Instead of separate psycho-linguistic systems (McSwan, 2017), or distinct and interdependent systems (Cummins, 1980), the psycho-linguistic systems of multilinguals are understood as integrated, complex and adaptive systems that are transformed as additional language is acquired (Herdina & Jessner, 2002; Garcia, 2009). From this point of view, the linguistic competences of multilinguals are distinct from and not directly comparable to monolingual competence. Grosjean (1989) used the analogy of a high hurdler, who combines the skills of running and jumping in a single athletic performance and cannot be directly compared to either a sprinter or a high jumper. García (2009) extended this position, with her analogy of an off-road vehicle, to describe a single system of verbal and non-verbal linguistic resources which multilinguals draw on as they negotiate the social and political contours of interactions. García and Li (2014) critique the ‘balanced bilingual’ view of bilingualism, and the goal of parallel competence in two or more languages. They propose a holistic view of multilingual competence, including translanguaging and monolingual practices, in relation to different purposes and contexts of use.

The notion of plurilingualism was promoted by the Council of Europe (CoE) in 2001, as part of the Common European Framework of Reference (CEFR) and has recently been elaborated into a series of descriptors of communicative competence (CoE, 2018). The term is used to describe the dynamic and developing linguistic repertoire of individuals, where the proficiency in distinct ‘languages’ (which can include standard named languages, language varieties and dialects) is uneven and emergent. Fundamentally, and in line with the transglossic position, it reflects a single, integrated repertoire (CoE, 2001 and 2018). The goal of plurilingualism is to develop and flexibly use an uneven and expanding linguistic repertoire, instead of achieving ‘native-speaker’ mastery in a given language. Plurilingual competences include the ability to:

- “switch from one language or dialect (or variety) to another; express oneself in one language (or dialect, or variety) and understand a person speaking another;
- call upon the knowledge of a number of languages (or dialects, or varieties) to make sense of a text;
- recognise words from a common international store in a new guise; mediate between individuals with no common language (or dialect, or variety), even with only a slight knowledge oneself; bring the whole of one’s linguistic equipment into play, experimenting with alternative forms of expression;
- exploit paralinguistics (mime, gesture, facial expression, etc.) (CoE, 2018 p.27)”

2.3.3 Translanguaging

Translanguaging describes the flexible and fluid discourse practices that bilinguals use to communicate and make sense of their worlds (Garcia, 2009).

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 has since been applied to descriptions of multilingual communication in and out of formal education (Garcia & Li, 2014) and to a range of pedagogical approaches (e.g., Banda, 2018; Charamba, 2020a, 2020b; Makalela, 2015, 2017, 2019; Probyn, 2015) (see section 4.3, below). Translanguaging shifts attention away from de-contextualized language forms and standard languages towards language use as part of social practice. Recent theoretical work emphasises the interactive aspects of translanguaging. For example, Lin describes translanguaging as “a fluid dynamic flow of meaning making” which should be viewed as “coordinated parts of an assemblage of agents and resources” (Lin, 2019, p. 8). Makalela (2019, p. 238) develops this 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”.

The concept has substantial pedagogical potential, given the positive impact of using African languages for teaching and learning on school achievement (Alidou et al., 2006; Brock-Utne, 2012; Ouane & Glanz, 2011). Translanguaging positions multilingualism as the norm, not the exception in the “schooling ecosystem” (Makalela, 2019, p. 239). There is an explicit, emancipatory dimension to some arguments for translanguaging pedagogies. Garcia (2013, p. 161) describes translanguaging pedagogies as a movement 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 (...)”. Lockett et al (2019, p. 31) see translanguaging as a decolonial move which “gives epistemic privilege to the lived experience of subordinated groups”. Translanguaging is understood to promote epistemic access in education, by enabling learners to make links between personal and local knowledge and practice and the formal curriculum (Childs, 2016; Kerfoot & Hyltenstam, 2017; Makalela & Mkhize, 2016). This has led to the argument that translanguaging enables forms of education that promote sustainable development (Barrett & Bainton, 2016).

Translanguaging has its critics. For Jaspers and Madsen (2016), the term confuses more than it clarifies, because it is used inter-changeably for descriptive, ontological pedagogical and political functions. They question what translanguaging adds to existing terms for language use (e.g., languaging) and second order linguistic categories (e.g., language, register and genre). Further, they reject the claim made by García and Li (2014) that translanguaging is natural whilst monolingualism is socially constructed, pointing out that all language is socially constructed. They make the case for the value of standard language, in academia and beyond and indicate that claims around the power of translanguaging in education to improve social equity overlook other material and structural barriers. Jaspers (2018) flags up the paradox that researchers who champion teacher agency prescribe translanguaging practices to teachers in a way which precludes their situated agentive interpretation. Jaspers (2019) expands this argument and critiques an academic discourse surrounding linguistic diversity in education, which, he suggests, claims an authoritative scientific basis to make recommendations for teaching practice and education policy. He suggests that researchers should aim to draw out recommendations from their research that expand rather than narrow pedagogic and policy possibilities.

Others express concerns regarding the application of translanguaging in SSA. Heugh and Stroud (2020) caution that recent attention to translanguaging should not overshadow decades of experience and research into multilingual education in Africa. They 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” (2020, p. 219). They draw attention to the concept of ‘functional multilingualism’ developed by Heugh in South Africa in the 1990s, based on the premise that 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, p. 222). Likewise, Cummins (2017) and Cenoz and Gorter (2017) assert the need to enable access to the target languages of learning in addition to

opportunities for translanguaging in multilingual schools in Canada and Spain. Trudell (2019) presents the concern of Nigerian educators that the promotion of translanguaging in classrooms would undermine the learning of standard Nigerian English, Arabic and French, and Nigerian languages. She suggests that to succeed in examinations in Nigeria, students need a high level of fluency in English. While she notes this is “undeniably unfair”, she makes the case for “proficiency in one specific language for success in school, rather than a broad, multi-language repertoire for communication” (2019, p. 30).

2.4 Multilingual education

Multilingual education refers to education systems where a language which is not the main language of most learners is used to teach non-language subjects.

Multilingual education can refer to situations where multilingualism is an official educational goal (e.g., through the use of more than one language for subject teaching and learning) and situations where multilingualism is a de facto practice, not officially sanctioned (Heugh et al., 2017). The terms multilingual education (MLE) and bilingual education can be used interchangeably to describe education systems in which two or more languages are used for classroom communication (Erling et al., 2021). We follow Kirss, Sääli, Leijen, and Pedaste (2021) in using multilingual rather than bilingual education, to reflect the integrated use of two or more languages within schools and communities.

2.4.1 Language of Learning and Teaching and LOLT transitions

Language of learning and teaching (LOLT) refers to the official language/s assigned for learning and teaching, educational resources such as textbooks, and processes such as teacher education and continuous professional development (CPD) and national examinations. Other widely used terms include language of instruction (LOI), medium of instruction (MOI) and language of schooling and (Beacco et al., 2016) (see sections [2.1](#) and [2.2](#), above).

LOLT transitions

Transitions in the language of learning and teaching refer to the introduction of additional languages, which are not the main languages of learners, for language and content-subject teaching.

MLE involves some form of transition from learners’ main languages to the language/s of instruction, whether this occurs when learners begin school, or at some point during their education. In both Tanzania and Ethiopia, learners may speak more than two languages and experience more than one language transition during their educational career, including the transition into school at the start of primary or pre-primary education. Transition is enacted by decision makers across the education system in official language policy statements, in curriculum and syllabus documents, in textbooks and other teaching and learning materials, in national examinations, in teacher education and CPD, and of course, in classroom communication. How transition is perceived and implemented by different actors in the education system reflects underlying beliefs about language and language learning, including whether they have a monoglossic or transglossic view of language. It may also depend on material conditions of implementation, such as class size, availability of teaching and learning resources such as textbooks or the internet and teachers’ language proficiency (as discussed in [chapter 4](#)). As a result, there are often differences between how transition is perceived and implemented across the system. For example, teachers may opt to transition to L2 early if they believe this will improve learners’ success in later education.

2.4.2 Inductive language learning

Inductive language learning approaches prioritize the use of target language in contextualized and meaningful communication as a means of language acquisition.

The use of additional languages for subject teaching reflects inductive language learning principles. English Medium Instruction (EMI), Content-based instruction (CBI) and Content-language integrated learning (CLIL) are examples of such approaches, discussed in sections [3.1](#) and [3.2](#), below. Subject-lessons are seen to provide authentic contexts for communication and motivation for language use. Inductive language learning draws on the theoretical work of Krashen, who developed his ‘input hypothesis’ (Krashen, 1985) based on observations of how children learn their first language. Krashen highlighted the role of ‘comprehensible input’ e.g., the simple words, clear enunciation, body language, repetition, pictures etc. which parents use to make language meaningful for their children and involve them in language use. In the classroom, we can think about comprehensible input, in the way that teachers’ ‘scaffold’ student comprehension and use of language as part of learning (Bruner, 1974). Inductive language learning principles are influential in foreign language teaching, informing the contemporary approaches of communicative language teaching and task-based learning (Ballinger, 2015).

Evaluations of Content-language integrated learning (CLIL) and immersion education (see section [3.2](#)) indicate the potential and limitations of inductive language learning approaches. Studies show that when well supported, the use of an additional language for subject teaching and learning can lead to higher levels of language proficiency than is gained by studying language as a subject alone. In addition, evaluations in Canada have found that students achieve expected levels in their first language and across the curriculum (Genesee, 2013). However, the language proficiencies gained in the additional language reflect classroom language practices. Because classroom talk is often dominated by teachers, students develop more advanced receptive language skills than productive language skills (Erling et al., 2017). In other words, they perform better in reading and listening than writing and speaking. They also acquire more academic than everyday vocabulary and have low grammatical accuracy (Genesee, 2013; Perez-Vidal, 2013). These findings indicate important differences between first and second language acquisition and have led to the recognition of the need to include a greater focus on language teaching and learning in subject lessons as part of MLE (Ballinger, 2015).

2.4.3 Cross-linguistic transfer

Conceptual knowledge and ways of communicating acquired in one language can be transferred to an additional language.

The idea of cross-linguistic transfer was first put forward by Cummins (1980) as part of the interdependence hypothesis, which portrays different language systems as connected at the cognitive level, through what Cummins’ terms “common underlying proficiency” (Cummins, 2017, pp. 105–106). This theory suggests that concepts and ways of communicating acquired in one language can be transferred to an additional language. Cummins’ notion of separate but linked linguistic systems has been challenged by transglossic theories which portray the psycho-linguistic systems of multilinguals as singular, holistic and integrated (Herdina & Jessner, 2002). However, the notion of transfer remains valid and useful. For example, Bialystok (2001) shows that higher spoken and written L1 proficiency leads to high spoken and written L2 proficiency. Cummins defines six main types of cross-linguistic transfer which may occur:

- “Transfer of conceptual elements (e.g., understanding the concept of photosynthesis)

- Transfer of specific linguistic elements (e.g., knowledge of the meaning of photo in photosynthesis)
- Transfer of more general morphological awareness that allows learners to identify patterns across languages (so they can recognise the word ‘acceleration’ in both English and French)
- Transfer of phonological awareness – the knowledge that words are composed of distinct sounds
- Transfer of metacognitive and metalinguistic learning strategies (e.g., strategies of visualizing, use of graphic organizers, mnemonic devices, vocabulary acquisition strategies, etc.)
- Transfer of pragmatic aspects of language use (e.g., willingness to take risks in communication through L2, ability to use paralinguistic features such as gestures to aid communication, etc.) (Cummins, 2017, p. 110).”

The notion of cross-linguistic transfer indicates the importance of developing foundational literacy in L1, before using additional languages as instructional mediums at school. It is easier to learn new concepts and practices using familiar language than in an additional language, where linguistic and cognitive challenges converge (Cummins, 2000). In relation to MLE, the principle can be applied at the [macro level](#), in the delayed introduction of L2; at [meso level](#), within and between lessons and subjects to ensure that new content is approached first through L1; or within lessons at the micro level of interaction, where L1 is used in combination with L2 (e.g., [section 2.3.3](#)) to enable learners to access meanings and participate in practices.

2.5 Academic language

Academic language includes language skills (i.e., collaborative, creative and critical speaking, listening, reading and writing skills), subject-specific terms and genres, and language learning strategies.

Subject specialism begins in upper primary school and intensifies in secondary education, so that alongside and as a part of subject learning, students learn academic language. Academic language differs from other forms of language (e.g., the language used in the playground, or at home) and therefore must be learnt, even by students whose main language is the same as the language of instruction. Learning academic language is additionally challenging for marginalized students, including students who speak minoritized languages outside of school (Beacco et al., 2016). Marginalized students therefore face a double challenge in acquiring academic language (Kerfoot & van Heerden, 2015). The explicit teaching of academic language benefits all students, and especially marginalised students (WIDA, 2020).

In section 2.2., we noted that the term ‘language’ as in Kiswahili or English medium education, is too general to usefully describe the various functions of language in education. Moreover, it does not account for the [multimodal](#) nature of communication in specific subject-disciplines and classrooms. We referred to a functional view of language, and the metaphor of a [language toolbox](#), to describe language for distinct contexts of communication. In this section, we begin by outlining two dimensions of academic language in relation to LOLT transitions: 1) cognitive development of young learners; and 2) functional language. We then refer to two recent frameworks for defining academic language in multilingual contexts, South Africa’s English Across the Curriculum (EAC) strategy (2013), and the WIDA consortium’s English Language Development Standards Framework (2020). We summarise the section by identifying distinct language skills, forms and functions which are central to learning processes and outcomes at upper-primary and secondary level.

2.5.1 Cognitive-linguistic development

Language use and cognitive development are inter-connected processes; the language children and young people use both reflects and shapes their cognitive development (Halliday, 1995; Schaffer and Kipp, 2013). The beginning of secondary education roughly corresponds with an increased ability for abstract thought, which is in turn associated with certain features of academic language such as nominalization and generalization of familiar processes. For example, the familiar processes of eating and drinking are referred to as nutrition.

The meaningful use of academic language is dependent upon the cognitive readiness of learners, and therefore dense and abstract academic language maybe inappropriate at lower secondary, in L1 or L2. Put differently, the limits on learning academic language are not purely linguistic but cognitive-developmental. European teachers surveyed in a recent effort to develop subject-specific CEFR descriptors for secondary school (CoE, 2016), reported expecting 12 – 13-year-old students to be at B1 level, and 15-16-year-old students' language skills to be at B2 level in their main languages. This suggests that academic language in L2-medium subject lessons should not exceed these levels.

2.5.2 Functional language: Genre and register

It is useful to break down the concept of academic language into more specific categories to inform curriculum, syllabus, textbook and examination design and classroom teaching (WIDA, 2020). Recent work on genre and register is informed by Halliday and others who apply Systemic Functional Linguistics (SFL) (Halliday & Matthieson, 2014; Polias, 2016). From this perspective, the goal of education is to support students to use a wide range of genres and registers, in relation to communicative purposes and contexts. This can be supported by explicitly teaching students to recognize and apply different genres and register conventions.

Genre refers to widely applicable, predictable and relatively stable forms of behavior. For example, scientific genres include laboratory reports, classifications, theoretical explanations and arguments (Polias, 2016, p. 12).

Polias (2016) presents a typology of the genres constituting school science (reproduced in Table 1, below).

Table 1: The genres constituting school science (Polias, 2016 p.12)

Scientific processes	Genres	Purposes
Doing things scientifically	Experiments and protocols	To instruct someone what to do to achieve a certain outcome
	Laboratory reports	To provide a recount of the method taken, as well as the results, discussion and conclusions
	Investigations	To set out the design and decisions behind students' attempts to behave scientifically
Describing and organizing	Descriptions	To describe multiple aspects/features of a natural or physical phenomenon
	Comparisons	To compare features of two or more natural or physical phenomenon
	Components	To present (describe and/or define) component parts of a natural or physical phenomenon
	Classifications	To present different types (classes) of a natural or physical phenomenon

Explaining phenomenon	temporal Sequential explanations	To explain a natural or physical phenomenon by linking causally the chain of events producing the phenomenon
	non-temporal Factorial/consequential explanations	To explain the multiple factors or consequences that contribute to or are a result of a particular phenomenon
	non-temporal Theoretical explanations	To define a theoretical principle and provide examples of its applications
Arguing	Arguments	To persuade to agree with a particular point of view on an issue- two sub-types: agree-with-me arguments and agree-with-me-and-take-some-action arguments
	Discussions	To present the case for more than one point of view
Acknowledging scientists	Biographies	To recount major events in a famous scientist's life

WIDA define four key language uses, from a review of subject-specific genre. These are: narrate, inform, explain and argue. The four language uses are understood to recur and differ across subjects, and may combine in particular texts and activities (WIDA, 2020 p.26-7).

Register

Register is more specific than genre and distinguishes one example of a genre from another. Three variables constitute register (field, tenor and mode) and these are understood as occurring along continuum (Polias, 2016).

Field refers to the perspective of representation: from every-day, common-sense and concrete to technical and abstract. Tenor describes the interpersonal aspect: from personal and informal to impersonal and formal. Mode refers to the role of language: from language accompanying action (oral and body language) to language constituting meaning (written and subject-specific symbols and images) (Polias, 2016, p. 72). The register continuum is present in Table 2, below. The arrows above and below the table, indicate that movement along the register continuum occurs in both directions.

Table 2: The register continuum (Polias, 2016 p.73)



Concrete Everyday Common sense	FIELD	Technical abstract
Informal Subjective novice	TENOR	Formal Objective Expert
Language accompanying action spoken	MODE	Language as reflection Written



In secondary education, the classroom talk of teachers and learners tends to move back and forth between every-day, concrete and personal register to more abstract, formal and impersonal registers (Halliday 1995). Learning materials and teaching can support learners to move from spoken outputs

in an informal register to spoken and written outputs in an appropriate formal register. Teachers may also support learners to interpret texts written in a formal register by switching to an informal register or encouraging students to express their understanding in an informal register. For multilingual learners, the movement between less and more formal registers may be a movement between or across languages. The multilingual pedagogies, discussed in [chapter 4](#), are attentive to this movement. Polias (2016) employs Bruner's (1974) concept of 'scaffolding' to describe how learners' can be supported to access and apply genre at curriculum level (macro-scaffolding), at activity level (meso-scaffolding) and at the level of classroom interaction (micro-level).

2.5.3 Defining academic language for multilingual education systems

There have been a number of efforts in recent years to define academic language for multilingual education systems, across diverse contexts. For example, there have been a number of projects to extend the Common European Framework of Reference (CEFR) (CoE, 2001) for this purpose. The CEFR is a measure of language proficiency, which was not designed to take account of the cognitive development of young learners at different ages, or for the functional demands of distinct subjects. Recent work defines CEFR descriptors for young learners (aged 11-15) in CLIL contexts across Europe (CoE, 2016); provides detailed CEFR descriptors for plurilingualism and mediation (CoE, 2018); and CEFR descriptors for mathematics and science (CoE, 2015). The CEFR reflects a [pluriglossic](#) perspective on multilingual communicative competence.

The WIDA English language development standards framework (WIDA, 2020) is targeted at content and language integrated learning in mainstream education. That standards reflect a [functional view](#) of language, a [pluriglossic](#) view of holistic multilingual competence, and a [multimodal](#) perspective on language. These perspectives are evident in ten principles of language development for multilingual learners, defined by WIDA:

1. "Multilingual learners' languages and cultures are valuable resources to be leveraged for schooling and classroom life; leveraging these assets and challenging biases help develop multilingual learners' independence and encourage their agency in learning.
2. Multilingual learners' development of multiple languages enhances their knowledge and cultural bases, their intellectual capacities, and their flexibility in language use.
3. Multilingual learners' language development and learning occur over time through meaningful engagement in activities that are valued in their homes, schools, and communities.
4. Multilingual learners' language, social-emotional, and cognitive development are inter-related processes that contribute to their success in school and beyond.
5. Multilingual learners use and develop language when opportunities for learning take into account their individual experiences, characteristics, abilities, and levels of language proficiency.
6. Multilingual learners use and develop language through activities which intentionally integrate multiple modalities, including oral, written, visual, and kinesthetic modes of communication.
7. Multilingual learners use and develop language to interpret and access information, ideas, and concepts from a variety of sources, including real-life objects, models, representations, and multimodal texts.
8. Multilingual learners draw on their metacognitive, metalinguistic, and metacultural awareness to develop effectiveness in language use.
9. Multilingual learners use their full linguistic repertoire, including translanguaging practices, to enrich their language development and learning.
10. Multilingual learners use and develop language to interpret and present different perspectives, build awareness of relationships, and affirm their identities (WIDA, 2020 p.12)."

WIDA define five standards, which can be understood as different sets of language tools related to different aspects of schooling. These five standards are:

1. Language for Social and Instructional Purposes
2. Language for Language Arts
3. Language for Mathematics
4. Language for Science
5. Language for Social Studies

The inclusion of social language as the first standard challenges the notion that every day and academic language are distinct. The framework is responsive to the cognitive capabilities and curriculum demands for different age groups and clusters materials for grade 1, grades 2-3, grade 4-5, grades 6-8 and grades 9-12.

English Across the Curriculum (EAC) is a South African strategy for integrating language learning with L2-medium subject teaching, with the dual aim of improving language proficiency and understanding of academic content (Department of Basic Education, 2013). EAC draws on CLIL and language across the curriculum (LAC) to see language use as vital for language learning; and language development as prerequisite for cognitive development and learner autonomy (Mpofu & Maphalala, 2021). The strategy defines academic skills and sub-skills related to the four main language skills (i.e., reading, writing, listening and speaking) and promotes the explicit teaching and learning of these generic “learning skills” across language and content curriculum subjects. Under the slogan, “all teachers are language teachers” the EAC outlines language teaching strategies for use by all subject-teachers. Subject teachers are asked to model the language of their subject, and teach language skills, integrating language and content. English language teachers are asked to teach language skills, grammar and vocabulary, and language learning skills to assist the acquisition of academic language. They are also asked to use texts from content subjects as much as possible. School leaders are asked to provide organisational structures and support and to enable collaboration between English language teachers and subject teachers (Department of Basic Education, 2013). The Department of Basic Education has published two manuals for teachers with scripted lesson extracts to illustrate EAC strategies. However, in 2017, the South African Department of Basic Education reported that high school teachers were not implementing EAC (Mpofu & Maphalala, 2021). Mpofu and Maphalala (2021) investigated the views of 15 high school teachers about EAC for content teaching. The teachers expressed support for EMI policy, citing the importance of English as a global language, but did not see the benefits of EAC for subject content learning. The teachers said they needed additional support to implement language and content integrated pedagogy, which they had not experienced as learners. Specifically, teachers asked for textbooks, with activities that integrate EAC in order to provide them with activities and minimise extra planning time, and to help students understand the English of textbooks. They also asked to observe lessons of other subject-content teachers using EAC. To strengthen the implementation of EAC, the authors recommend additional CPD for content teachers and strengthened collaboration between teachers of English as a second language and content subject teachers. The EAC strategy has been criticised for not referring to the role of learners’ L1 in relation to teaching and learning (Probyn, 2021). This marks a distinction in [linguistic ideology](#) between EAC (monoglossic) and the CEFR and WIDA (trans/pluriglossic).

There are widespread efforts to define academic language in ways which reflect research-based insights about child development, multilingualism and subject-specific competences. We close the section, with a summary of three dimensions of academic language in *Table 3*, below These are:

1. Academic language skills- listening, reading, writing, speaking, and sub-skills e.g., guessing meaning from context

2. Academic language forms – the specialist vocabulary, genres of writing and formal registers of the language that are associated with different subjects
3. Language learning strategies – techniques for learning academic language

Table 3 Academic language dimension³

Academic language dimensions	Examples
Academic language skills: collaborative, creative and critical speaking, listening, reading and writing	<p>Discussions: presenting opinions, facts and examples, asking for clarification, turn-taking strategies, expressing degrees of agreement and disagreement.</p> <p>Writing to plan, record and reflect on learning, writing notes and summaries, writing academic and creative texts (e.g., essays, summaries, narratives, poems).</p> <p>Listening and reading for general meaning and specific detail.</p>
Academic language forms: subject-specific terms, genres and registers	<p>Terms: types of living things, and biological processes (biology).</p> <p>Genres: i.e., types of text e.g., laboratory reports, sequential explanations, causal explanations (science).</p> <p>Registers: i.e., every-day, common-sense and concrete to technical and abstract (field); personal and informal to impersonal and formal (tenor); accompanied by action (oral and body language) to language constituting meaning (written and subject-specific symbols and images) (mode)</p>
Language learning strategies	<p>Recording and revising vocabulary: Lists, translations, example sentences, mind maps, collocations (words commonly used together e.g., waste management); listing root words with pre-fixes and suffixes (e.g., metre, centimetre, millimetre);</p> <p>Comprehension: Predicting meaning from context, asking for clarification.</p> <p>Using dictionaries to identify meaning, usage, part of speech, pronunciation.</p> <p>Meta-linguistic strategies: describing parts of speech (i.e., pre-fix, suffix; verb, noun, adjective; subject sentence; heading, sub-heading); genres and registers (see above)</p>

³ Adapted from (Beacco et al., 2016; Department of Basic Education, 2013)

2.6 Literacy

Literacy refers to ways of obtaining and applying knowledge through different sources, contexts and practices.

Within education, the term literacy is often used to refer to basic reading and writing skills that should be mastered in the early years. Green and Beavis (2013) refer to this as the operational dimension of literacy and identify two further dimensions, the cultural dimension and the critical dimension. The cultural dimension goes beyond a focus on reading and writing to include a wide range of situated language practices, which reflect identities, values, knowledge and practices. For example, the Council of Europe describes subject literacy as:

“Getting acquainted with and feeling at home in ways of thinking and communicating in the respective subject discourse communities and becoming new members of these communities (for example as a young physicist, biologist, artist, musician, historian or foreign language expert) and participating in the relevant discourse, at least to some extent” (Beacco et al., 2016, p. 25).

The cultural dimension of literacy can also be applied to out of school language practices. Proponents of New Literacy Studies approach literacy “(...) not as an issue of measurement or of skills but as social practices that vary from one context to another”, with questions of identity and power central to their analyses (Street, 2009, p. 21). The third dimension identified by Green and Beavis (2013) is critical literacy. Critical literacy is concerned with asking questions about the values and assumptions that are carried by texts by both deconstructing, as well as authoring texts that imagine alternative possibilities.

Several authors point to disparities between students’ home and school literacy practices, through studies which inform understanding of multilingual communication and transglossic perspectives. For instance, Cruickshank (2004) details literacies that first-generation Lebanese-Australian students engage with in their daily lives, often using technology, to support their parents in Australia and to communicate with family and friends elsewhere. In SSA, Prinsloo and Breier (1996) investigate literacy as social practice, demonstrating how South African adults make meaning from texts for purposeful participation in their social worlds and challenging value-laden distinctions between educated and uneducated (in Shank-Lauwo, 2021, p. 212). Stein and Prinsloo (Stein & Prinsloo, 2017, p. 369) define literacy as “a multiple semiotic practice, used, inserted and transformed by agentive human beings across local and global sites, contexts and spaces, discourses, languages and genres”. Prinsloo (2019) highlights convergences between multiliteracies and translanguaging (Garcia & Li, 2014) which both challenge ‘Anglo-normative’ ideologies and deficit assumptions about the language and literacy resources of children and young people. These arguments highlight the potential of multilingual education to develop all three dimensions of literacies as well as multiliteracies.

2.7 Conclusion: Monoglossic objectives and transglossic methods

This section has sought to introduce key theoretical ideas from the sociolinguistic literature on language in education and so set out a conceptual vocabulary for research on LOLT transitions. It has identified two contrasting ideas about language cognition that underpin discourse on language in education. Monoglossia treats languages as bounded and stable lexical and syntactic systems. It assumes a goal of formal education is to learn a standardized language system. We have seen that to an extent this does describe the goal of language learning within secondary school subjects, where students are expected to learn established subject specialist genres of a standardised language. By contrast, pluri- or transglossia views language as a series of situated practices within which meaning

depends on social context. In certain contexts, language practices span languages considered discrete and separate within the monoglossic view. In multilingual subject classrooms, translanguaging practices have been used as a pedagogic strategy, to allow students to draw on their full linguistic resource (e.g., McKinney & Tyler, 2019) and to make connections between school subjects and their knowledge from out of school (Barrett & Bainton, 2016).

The description of language in subject learning that we have arrived at resonates with the notion of 'functional multilingualism' that Heugh & Stroud (2020) retrieve from debates on multilingual education from the 1990s. Functional multilingualism understands language practices from the perspective of the purposes for which language is used. Heugh & Stroud (2020) contrast horizontal fluid communicative practices to vertical standardised written versions of language but assert that both have a place within "equitable and meaningful education" (2020, p. 222). In the next section, we turn our attention to policies and practices that surround LOLT transitions to evaluate their success in enabling learners to acquire the different dimensions of academic language competencies.

3. Subject learning across LOLT transitions

The last section identified two contrasting views about language, monoglossia and transglossia. Monoglossic perspectives portray languages as separate and stable systems, independent of users and contexts. In contrast, transglossic perspectives locate language as part of social behaviour, embedded in contexts of use. Monoglossic perspectives are associated with official and/or national languages and academic languages (i.e., subject specific terms, register and genre). Transglossic perspectives highlight the hybridity of language in use, when verbal and non-verbal, every day and academic and different named languages may be integrated.

These two perspectives are associated with different approaches to MLE, and LOLT transitions, which we explore in this chapter. Monoglossia is associated with *subtractive* MLE, where the objective is to replace L1 with L2 for subject learning. Traditional forms of additive multilingual education also separate L1 and L2 e.g., for different time periods and/or subjects, a so-called diglossic perspective. However, in contrast to subtractive models, *additive* approaches provide support for learners' language learning needs. For example, through incremental transition and the integration of language teaching and subject learning. A further vital distinction is that additive approaches provide for ongoing development of L1 academic language (see section 2.5), through learning L1 as a subject and a LOLT, along with L2. Transglossic perspectives underpin *flexible* additive approaches to LOLT transition, where L2 is progressively added to learners' main language and other languages used in education. The objective is for learners to master formal registers and subject genres in two or more languages, and learners' full linguistic repertoires are employed as resources for learning. Transglossic perspectives are increasingly integrated into additive models, which recognise the value of both language separation and language hybridity/integration for distinct pedagogical purposes (Cenoz & Gorter, 2017; Cummins, 2017).

In this chapter, we review evidence on the impact of subtractive MLE and specifically English Medium Instruction (EMI) on education. We then turn to additive MLE, including Content-Based Instruction (CBI), Content-Based Language Teaching (CBLT), Content and Language Integrated Learning (CLIL) and Immersion education. Finally, we look at two approaches to additive MLE that have been developed and applied within sub-Saharan Africa. The first, L1-based multilingual education, also called mother tongue based multilingual education (MTB-MLE) focuses on securing literacy in L1 before introducing an L2 and is used across a range of contexts. The second, flexible MLE, has emerged more recently. Flexible MLE draws on [transglossic perspectives](#) to emphasise the use of learners' linguistic resources, including non-standard languages and multimodal literacy practices, to support subject learning and mastery of the formal registers of standardised languages.

3.1 Subtractive MLE

Subtractive MLE models remove learners' main language and/or previous language of instruction (L1) and replace L1 with L2 as the LOLT. Subtractive LOLT transitions can occur at the point when learners begin their education, during or between pre-primary, primary, secondary, or tertiary education. The terms early-exit and late-exit refer to the point at which LOLT transition is officially prescribed.

3.1.1 Comparing early and late-exit transitions

Early-exit transitions

The 'switch' to an additional, international/European language of instruction is made in the first four years of primary (lower primary).

Late-exit transitions

The 'switch' to an additional, international/European language of instruction occurs between primary and secondary school, or during the secondary phase.

In most education systems in SSA, official policy prescribes the use of a local and/or national language as the medium of instruction in the early years. This practice reflects colonial language in education policies, and advocacy for L1 early literacy and the use of indigenous African languages in education (Bunyi & Schroeder, 2017). Trudell's (2016) study of language in education policy and practice in SSA, includes 21 countries (Angola, Botswana, Burundi, the Comoros, Eritrea, Ethiopia, Kenya, Lesotho, Madagascar, Malawi, Mozambique, Namibia, Rwanda, Somalia, South Africa, South Sudan, Swaziland, Tanzania, Uganda, Zambia, and Zimbabwe). Of these, only four countries (Angola, Comoros, Mozambique, and Rwanda) officially promote education in an international language from grade 1 of primary school. The remaining countries have some form of exit policy.

Subtractive MLE models assume that time spent using (or being exposed to) 'a language' leads to learning 'the language.' This assumption is challenged by studies which demonstrate that quality rather than quantity is decisive for language learning (Genesee, 2013). The language that students acquire reflects the language they are exposed to and use at school. In marginalised communities and low resource contexts, language is likely to be non-standard (Blommaert et al., 2005). Moreover, in contexts where the target language is an additional language for teachers, which is not widely used outside of education, students' exposure and practice may be extremely limited (Erling et al., 2017).

A related assumption is that the earlier the transition is made the better. McEachern (2019) queries this, citing studies from Spain (Cenoz, 2009; Egiguren, 2006; Munoz, 2006) and Canada (Genesee, 1987 and Harley, 1986), which demonstrate that students who begin learning L2 later achieve at the same or higher levels than those who start learning earlier. In addition, he cites several studies which indicate that hours spent learning languages in the early years are less effective than hours spent later in education (see Collins, Halter, Lightbown, & Spada, 1999; Lightbown & Spada, 1991, 1994; Cenoz, 2003; Garcia Lecumberri & Gallardo, 2003; Lasagabaster & Doiz, 2003; Perales, 2004 in McEachern (2019).

The main argument against subtractive language transitions in the early years is that they undermine the extent to which learners can acquire literacy, which is best acquired through languages in which learners have substantial oral competence (Pinnock & Vijayakumar, 2009). At upper-primary and lower secondary, subtractive transition risks undermining the development of academic [cognitive – linguistic competence](#), by conflating linguistic and cognitive challenge (Cummins, 2000). Further, subtractive approaches which undermine the status of L1, can negatively impact learners' self-esteem, and relationships between the school, home and the local community (Milligan, Desai and Benson, 2020).

There is robust evidence that additional years spent learning through L1 lead to better subject learning outcomes. The late-exit MLE model in Ethiopia, where the national policy since 1994 is that students learn through L1 for 8 years, has provided ample data for comparison between learning

outcomes of students learning through English and L1 medium because different regions choose the extent to which the regional language is used in schools. Heugh and Skutnabb Kangas (2010) cite post-primary assessment data gathered in 2000, 2004, and 2008 for English, mathematics, biology, and chemistry (with Physics added from 2004). The data show that students who had 8 years L1-medium instruction and who are assessed in L1, outperform students who switch to English medium earlier. The assessment scores of these students were high enough to predict successful entry into secondary school. The next highest scores were from students with six years of mother tongue-medium learning, along with some subjects taught in the L1 in Grades 7– 8 (Heugh & Skutnabb-Kangas, 2010). Ramachandran (2012, 2017) reviews the natural experiment of different MLE models in Ethiopia and confirms these earlier findings.

Another large-scale natural experiment, this time from South Africa, is reported by Heugh, Prinsloo, Makgamatha, Diedericks and Winnaar (2017), where from 1910 until 1994 the education system aimed to develop biliteracy in Afrikaans (or Dutch up to 1925), English, and an African language (for speakers of African languages). Seven African languages were used as LOLT for eight years of primary schooling and continued as subjects for 13 years of school education. Students with African languages were required to complete an extra preparatory year of primary school. The policy was associated with elevated retention and achievement levels, including English proficiency. It was changed due to strong opposition from African parents who objected to Afrikaans (as a language of apartheid), and the extra year of primary schooling which they saw as a disadvantage. Parents insisted on an early transition to EMI, in the fifth year of primary school, based on the belief that late-exit would delay English acquisition. As the authors note: “from this point onwards, school-based literacy development for African language speaking students’ achievement in English language proficiency and overall achievement across the system declined rapidly” (Heugh et al., 2017, p. 206).

Both early and late-exit *subtractive* models are seen as weak, compared to additive and flexible models. Subtractive transitions undermine the development of students’ literacy in their existing languages, and their achievement across the curriculum (Collier & Thomas, 2017; May, 2017; Thomas & Collier, 1997). ‘Removing’ learners’ L1 from classroom communication undermines their ability to connect new and previous learning at school, and to connect out of school and academic knowledge and practice (Bialystok, 2001). Furthermore, encountering new concepts and practices through an additional language conflates linguistic and cognitive challenge and undermines learning of language and subject-content (Cummins, 2000). Finally, subtractive models undermine the effectiveness of L1-based education, through restricting the perceived value of L1 as a learning resource and reinforcing ideas about language separation. As a result, parents, communities, school leaders and teachers often opt to introduce English earlier than policy prescribes (Bunyi & Schroeder, 2017; Schroeder et al., 2021).

3.1.2 English medium instruction

EMI is a form of subtractive multilingual education where English is introduced as the medium of instruction for all non-language subjects, during basic education, after which the use of other languages is not officially allowed.

A broad definition of EMI is provided by Macaro, as “the use of the English language to teach academic subjects (other than English itself) in countries or jurisdictions where the first language of the majority of the population is not English” (Macaro, 2018, p. 35). Milligan (2020, p.2) distinguishes between EMI in international higher education, and EMI in basic education in the global south, where EMI is both widespread and “uncritical”. As Milligan, Desai and Benson (2020) note, several factors combine to make EMI highly problematic when it is part of the basic education cycle in low and middle countries. These include:

- The introduction of EMI in basic education means that it impacts literacy and [cognitive-linguistic development](#) as opposed to EMI in higher education where students have already progressed through primary and secondary levels:
- The linguistic distance between local and official, ex-colonial and/or international languages is far smaller between most European languages than between African and European languages
- Patterns of socio-linguistic inequality, where elite groups have historically greater access to official (ex-colonial and/or international) languages and where access to these languages is limited in relation to intersecting characteristics such as poverty, rurality, gender, ethnicity and disability (see [Myers-Scotton, 1993](#) on elite closure).
- Systemic factors related to poverty including health and safety issues for staff and students, lack of basic facilities in schools (e.g., safe and hygienic toilets, electricity, water), content heavy curricula and stressful working conditions for teachers

McKinley and Thompson (2018) and Richards and Pun (2021) classify different models of MLE in relation to the relative emphasis they place on subject and language learning, which are presented as two ends of a continuum. In both papers the authors place EMI at the far end of the content focus continuum, indicating that there is no explicit support for language learning outside of language subject lessons.

3.1.3 The negative impacts of subtractive LOLT transitions

The negative impact of subtractive MLE in basic education in low- and middle-income countries on educational quality and equity is widely recognized (The World Bank, 2021). Subtractive MLE reduces the numbers of students who remain in education to upper-primary and lower-secondary level, according to studies which investigate the prolonged use of L1 at primary level. Laitin et al. (2019) report that students in Cameroon taught in their L1 were 22 percent more likely to be in school in grade 3, and 14 percent more likely to still be in school in grade 5. In Ethiopia, Seid (2019) finds that L1 based-MLE in Ethiopia increases the likelihood of enrolment in primary school and of attending the right grade for age. Also in Ethiopia, Ramachandran (2017) reports that L1 instruction in the early grades leads to an additional half year of completed schooling and a five percent increased chance of finishing primary school. Trudell (2016) concurs that using children's home languages in education reduces school dropout rates, and Schroeder et. al. (2021) assert that education through L1 for at least 6 years increases children's chances of attending secondary school.

Subtractive MLE is associated with reduced learning outcomes. Heugh et. al. (2017) show the dramatic down-turn in student achievement which occurred in South Africa when the transition to EMI was brought forward from secondary to upper primary, and written African languages were removed from formal education from grade five onwards. Milligan, Desai and Benson (2020) present case studies of Cambodia, Rwanda and South Africa, to show the positive impact of additive MLE or an L1-supported approach on subject learning. In all three countries, science and mathematics results were higher where learners' languages were used as part of instruction. This finding is consistent with studies in Cameroon (Laitin et al., 2019), Ethiopia (Seid, 2019) and Cambodia (Benson & Wong, 2019). Brock-Utne (2017, p. 73) describes learners losing on three fronts, as EMI interferes with learning subject matter, developing the L1 and learning English.

Subtractive MLE undermines classroom communication. While communication in most classrooms continues to be multilingual past the official point of transition (Probyn, 2021), subtractive policies restrict the ease with which teachers and learners interact and reinforce practices such as rote-learning, memorization and copying written texts from the board (Ouane & Glanz, 2011; Manocha &

Panda, 2015). Classroom L1 use is restricted, because it is seen to contradict official policy and undermine student access to English (Altinyelken et al., 2014; Probyn, 2009; L. Webb & Webb, 2008). Teachers' ability to describe and develop their practice is also limited. Bowden et. al., (in press), report that while a secondary Rwandan mathematics teacher employed a range of language supportive strategies, he did not talk about them and identified as a mathematics and not a language teacher. Spontaneous, oral L1 is widespread, but purposeful and planned approaches to integrated L1 and L2 instruction are rare (Makalela, 2015; Probyn, 2015). Heugh et al., (2017) report that following the switch to subtractive EMI, previously effective practices of using written translation disappeared, and oral code-switching, translation and other multilingual practices which remained were stigmatized.

Subtractive MLE additionally disadvantages marginalized students who have less access to English than peers (Spowage, 2018). Sah and Li (2018, p. 120) critique EMI in Nepal, juxtaposing the widely held belief that EMI will enable quality education and economic empowerment with the reality of EMI in classroom practice. They argue that:

“(...) the rosy picture of EMI education as an equalizing tool for the poor and marginalized populations was a superficial promise with a subtractive process of language education. In fact, switching the MOI [medium of instruction], without enough preparedness, contributed to a comprehension crisis in content learning, low proficiency in both English and Nepali, and loss of mother tongue for the students, resulting in wider achievement gaps between the rich and the poor.”

Benson and Wong (2019) assert that subtractive MLE leads to additional educational disadvantage for language minority students in Cambodia. Manocha and Panda (2015) discuss how LOLT and the cultural practices of school combine to disadvantage socially marginalized groups in India. Benson (2004) describes how L2-medium undermines the educational participation and achievement of girls. Hovens (2002) finds that rural children and girls gain most from participating in bilingual programs in Guinea-Bissau and Niger. Milligan, Desai and Benson (2020, p. 119) cite studies which indicate the negative impact of EMI on children from lower socioeconomic groups (Fleisch, 2008; Smith, 2011), poor urban areas and remote rural areas (Benson & Wong, 2017; Evans & Cleghorn, 2012; Milligan, Clegg, & Tikly, 2016), nondominant groups (Benson & Wong, 2017), and conflict-affected areas (Dryden-Peterson, 2015).

Subtractive MLE is recognised to undermine the effectiveness of financial investment in education systems (The World Bank, 2021). For example, textbooks which reflect subtractive language policy are often inaccessible to students (Milligan & Tikly, 2016) and underused (Clegg & Milligan, 2021). In subtractive MLE contexts, teacher education and CPD do not prepare subject-teachers to support LOLT transitions (Lin, 2019). A further issue is that monolingual L2-medium teacher education inhibits teacher participation and learning, and therefore extent to which teacher education impacts on classroom practice (The World Bank, 2021).

Subtractive MLE inhibits the validity of examinations, because in monolingual examinations, “learners are denied the opportunity to show what they know” (Rea-Dickins et al., 2013, p. 135). Student answers are marked against the grammatical standards of native speakers of English (Luckett et al., 2019, p. 37), a practice which additionally discriminates learners in rural rather than urban areas who use ‘non-standard’ English (Early & Norton, 2014). Further, national assessments have a substantial ‘wash-back’ effect on classroom teaching and learning. For example, Bunyi and Schroeder (2017) find the Kenyan policy to use mother tongue through pre-school to primary 3 is undermined because mother tongue is not assessed in national exams. Barrett et. al. (2014), describe how Tanzanian mathematics teachers focus the English students need to pass exams, i.e., reading and not writing or speaking. May (2017, p. 95) notes the “deleterious” impact of monolingual assessment for

bilingual students who are routinely assessed as if they were monolingual in the L2 or target language. He recognizes that research on effective forms of multilingual assessment is “nascent” and reflects on the symbiotic challenges of the development and implementation of adequate multilingual education policies, and multilingual approaches to assessing both content knowledge and language competences.

The SPINE (Student Performance in National Examinations) study in Tanzania investigated the use of English and Kiswahili for mathematics, biology and chemistry examinations at the end of Basic Education and the impact on student achievement. The study found that students had problems understanding instructions and providing answers in English, and that children with less exposure to English in and out of school do less well on examinations through the medium of English and perform significantly better on the Kiswahili or bilingual versions (Rea-Dickins et al., 2013). Results showed that no single language approach (i.e., Kiswahili or English) benefitted all students, indicating the need for flexible and context-sensitive approaches to multilingual assessment.

3.2 Additive MLE

Additive multilingual education refers to programmes which systematically provide for the progressive development of two or more languages, in addition to cognitive and academic development and achievement across the curriculum, over a prolonged period of time in the school setting (Abello-Contesse, 2013)

In additive multilingual education, both languages are used to deliver curriculum content. Additive MLE therefore does not include situations where L2 learning occurs only in language-subject lessons or where L1 continues as a separate subject only (May, 2017, p. 83). Abello-Contesse (2013, p. 9) defines characteristics of additive multilingual education, which apply across educational levels and institutional types and locations. These are:

- A dual and integrated focus on content and language learning, where the emphasis between language and content may shift.
- The language focus follows curriculum demands and there is no specific language syllabus outside of language subject classes.
- It is assumed that the content learnt through language is useful for students; and that learning language through subject lessons is motivating and provides an ‘authentic’ context for language acquisition (see inductive language learning, above).

The continued use of L1 as a LOLT in additive MLE models reflects the theory that different language systems are connected at the cognitive level, through aspects of what Cummins’ terms “common underlying proficiency” (Cummins, 2017, pp. 105–106). This theory is supported by evidence that literacy in L1 transfers to literacy in L2 (Bialystok, 2001; Benson, 2021). Traditional additive MLE prescribes the separation of L1 and L2, which reflects the view that languages exist psychologically and *ought to* exist socially as separate systems (i.e., a diglossic perspective). However, [transglossic perspectives](#) have been influential in recent years, with recognition of the pedagogical potential of translanguaging and discussion of when to translanguange and when to separate L1 and L2 (Cenoz & Gorter, 2017; Cummins, 2017). A further contrast between additive and subtractive models is the recognition of ongoing language learning needs of students in L2-medium subjects past the point of LOLT transition in additive models.

Several terms are used to describe additive multilingual education models in distinct socio-linguistic contexts. There has been some debate as to the purpose and validity of distinguishing between models which reflect similar language learning theories and practices (Dalton-Puffer et al., 2014). We

take the view that it is worth situating models in their contexts of development, to understand their emergence and potential application elsewhere. In this section we look at models that were developed in Western contexts of North America and Europe, and have spread across the Middle East, Latin America and Central Asia. We divide these into a group of content-based models described in [3.2.1](#) and immersion education described in [3.2.2](#). In section [3.3](#) and [3.4](#) we review the evidence on two models of additive multilingual education that have been developed in the context of sub-Saharan Africa, L1-based MLE and Flexible MLE.

3.2.1 CBI, CBLT and CLIL

Content-based language teaching (CBLT) and content-based instruction (CBI) emerged from North America in the 1980s, influenced by communicative language teaching. The terms have been used to refer to *integrated* content and language teaching (Cenoz, 2015a) whilst others emphasize their origins as a content-based approach to language teaching (Dalton-Puffer et al., 2014; Thompson & Mckinley, 2018). The term content and language integrated learning (CLIL) was first used in Europe in the 1990s by researchers who aimed to promote multilingualism in regions where this was not on the political agenda, and to promote innovative pedagogies in subject and language teaching (Dalton-Puffer et al., 2014). CLIL programs range from pre-school to higher education (Cenoz, 2015). The model has been popular with policy makers, educators, and the public across Europe (Perez-Vidal, 2013). CLIL is mainly associated with international languages such as English and French, although it can include other foreign, second and minority languages (Cenoz, 2015; Dalton-Puffer et al., 2014). Its emergence can be traced back to the earlier movements of CBI in the USA and immersion education in Canada, and associated theories of language learning (Perez-Vidal, 2013). Coyle, Hood and Marsh (2010, p. 1) define CLIL as a dual-focused educational approach “in which an additional language is used for the learning and teaching of both content and language”. A key feature of the CLIL approach is the range of pedagogical techniques that have been developed and spread by networks of innovative teachers (Perez-Vidal, 2013).

CLIL is sometimes extended to language teaching so that CLIL becomes a coherent cross-curricular approach to developing academic language where curriculum subjects are taught through L2 and subject content themes are used in L2 language lessons (Cenoz, 2015; Massler et al., 2014). Some researchers argue that the term CLIL should be reserved for integrated subject and language teaching in subject lessons, and not language teaching alone (Dalton-Puffer et al., 2014). As we noted in section [2.6](#), the literacy practices targeted in language teaching may extend beyond developing academic language to include creative and critical literacies.

3.2.2 Immersion education

Immersion education was first established in Montreal, Quebec, to enable English-speaking Canadian students to develop advanced proficiency in French (the official language of Quebec). Other aims were to develop age-appropriate English proficiency and academic achievement across the curriculum, and an appreciation of French-Canadian culture (Genesee, 2013). Richards & Pun (2021) use the term immersion to describe two-way bilingual programs in the USA (English -Spanish and Spanish-English), and language maintenance programs in Spain, New Zealand and Wales.

Genesee (2013) defines immersion education as including:

- At least 50% of academic instruction delivered through the target language in at least part of primary and/or secondary school.

- Timetabled target language lessons, with formal language instruction, combined with ‘incidental language instruction’ in subject classes (with moves to increase and systematize the language focus in subject lessons).
- The use of the target language for social interaction in the classroom and other school spaces (e.g., the playground) and for extracurricular activities.

He describes four different immersion models: 1) either total or partial early immersion, from kindergarten on; 2) early double immersion, where students learn two additional languages from kindergarten onwards (e.g., French and Hebrew); delayed immersion, from upper-primary onwards; and late immersion, from the first year of secondary school (Genesee, 2013, pp. 28–29).

Evaluations of immersion education consistently show learners develop higher levels of L2 proficiency than peers studying an additional language as a subject, and each age-appropriate levels for L1 and subject learning (Genesee, 2013). There are indications that students studying through an additional language develop superior problem-solving skills (Cammarata & Tedick, 2012; Genesee, 1994 in Richards and Pun, 2021). In addition, immersion programs do not appear to additionally disadvantage socio-economically disadvantaged learners (Genesee, 2013). Evaluations of immersion education and CLIL show that learners acquire the language used in classrooms and at school. Thus, students’ academic vocabulary exceeds vocabulary in other social domains, and their receptive skills are higher than productive, and accuracy is low (Ballinger, 2015; Genesee, 2013). As a result, subject teachers are increasingly encouraged to focus on students’ L2 knowledge and production (Richards & Pun, 2021).

While these findings indicate the potential of additive MLE, as Perez-Vidal (2013) points out, they need to be treated with caution in relation to less well-resourced contexts. In contrast to state-wide L2-LOLT policy, teachers and families often opt into additive MLE programs, Additive MLE has been criticised by sociolinguistic researchers holding a transglossic view of language learning (see section [2.3.2](#)), who do not agree that is necessary or feasible to develop ‘whole’ competence in two or more languages (García & Li, 2014). The notion of language separation, which has been central to many additive models, is also critiqued by those who perceive L1 as a learning resource for subject and additional language learning (Cummins, 2017; García, 2013). There is increasing recognition of the pedagogical value of translanguaging (Cenoz & Gorter, 2017; Cummins, 2017). Language separation is also seen as important to ensure that students acquire heritage, high status and academic language (Cenoz & Gorter, 2017; Heugh & Stroud, 2020).

3.3 L1- based MLE

We now turn to the first of two approaches that have been developed mainly in low- and middle-income countries, where there is a system level transition in the LOLT.

L1-based MLE or mother tongue based multilingual education (MTBMLE) aims to support learners to develop basic literacy and other foundational skills in the language they are most proficient in, before introducing official and/or national languages, and/or international languages as additional languages of instruction (Benson, 2021).

L1-based MLE (Benson, 2021), or mother tongue based multilingual education (MTBMLE) describes multilingual education programs, predominantly in low- and middle-income countries, which aim to consolidate the importance of L1 and demand for international languages as LOLT (Trudell & Young, 2016). L1-based MLE is presented in a category of its own here because these models often sit between the additive aspirations of advocates, and the subtractive realities of implementation.

Trudell (2016) presents a review of language policy in 21 countries in Eastern and Southern Africa. While most national education policies favor the use of local languages of instruction during early primary education, classroom implementation of policy is at best uneven. Bunyi and Schroeder (2017) report that “discontinuity between policy and practice is the norm from Mozambique to Nigeria and the DRC” (Bunyi & Schroeder, 2017, p. 323). Policy is undermined by the popularity of international languages combined with limited opportunity to use and learn them outside school, and the assumption that L1 undermines L2 learning (Trudell, 2016). A further factor is systemic incoherence e.g., the use of L2 for assessments, and language insensitive teacher postings (Bunyi and Schroeder, 2017). Recommendations to improve policy implementation include community participation in school language policy language decisions and activities, along with the message that education in African languages does not undermine access to powerful international languages (Bunyi & Schroeder, 2017; Trudell, 2016). Trudell (2016) suggests that L2 can be introduced through oral activities as part of L1 LOLT, to challenge the perceived need to choose between either L1 or L2. Bunyi and Schroeder (2017) call for robust, long-term data on the benefits of MTBMLE for student achievement.

Schroeder et al. (2021) review MTBMLE programs in sub-Saharan Africa to identify factors that facilitate successful transition from L1 use at primary to L2-medium secondary education. They use two indicators of effective transition; 1) student assessment results across the curriculum (L1 medium) and for the L2 subject; and 2) seven factors which the authors identify from a review of the literature as necessary for transition. These are:

1. Years of L1-medium instruction
 2. L1 language of instruction across the curriculum
 3. Teacher training
 4. Textbooks in L1, with textbooks for L2 acquisition available
 5. L1 reading is taught for at least four years
 6. Systematic oral L2 skills development for all subjects
 7. The L1 is used for examinations
- (Schroeder et al., 2021, pp. 35–36)

In total, 50 MTB MLE programs were identified, of which only nine met the requirements for review. Of the nine, four programs were judged effective in preparing students for transition, and five ineffective. The four effective programs were: a late-exit MLE program in Ethiopia, Bambara-medium MLE programming in Mali, Yoruba- language late-exit MLE programming in Nigeria and the Écoles Bilingues programme in Burkina Faso. Common features were the use of L1 as LOLT for at least 6 years along with L1 textbooks, and pedagogical material and teacher training for L2 acquisition. The five ineffective programs were undermined by limited time using the L1 as LOLT (3-4 years), which was not sufficient to develop transferable literacy skills for learning in L2, and a lack of investment in teacher training, teaching, and learning materials.

The review indicates that while several MTBMLE programs exist, few prepare learners for L2-medium education at secondary level. The authors conclude that more research is needed to better understand how to enable effective transition. This includes systematic tracking of learner achievement at primary and secondary level, and across curriculum subjects (with L1 used as a medium to assess subjects taught in L1); identifying L2 language competences to be acquired at primary level, based on analyses of L2 textbooks; pedagogical strategies to facilitate transfer of L1-L2 literacy practices; and the use of dual language textbooks. Insights from such research can help to inform the design and implementation of MTB MLE programs, before and after transition, to enable successful learning at secondary level.

MTBMLE has staunch support from scholars who insist that learning in a mother tongue is a linguistic human right (LHR), and a means to address the exclusion of marginalised groups in formal education and society (e.g., Benson & Kosonen, 2013; Prinsloo, 2007; Skutnabb-Kangas, 2017 in Milligan, 2020, p. 5). The movement has been criticized for essentializing language and indigenous communities (Banda, 2009; García, 2013). For example, García (2013) highlights the distance between local language practices and standard Quechua used in MTBMLE schools in Peru (see section 2.2). Erling et al. (2021) note that the promotion of indigenous African languages in schools has often failed to account for the rich multilingual repertoires of learners. Shank-Lauwo (2021) points out that for many translanguaging scholars, the idea of ‘mother tongue’ reflects the idea that everyone has, or should have, a single, standard language which is disempowering for multilingual and marginalized students. García and Otheguy (2020) ask readers to look beyond additive understandings of multilingualism, to recognize the dynamism of multilingual communication. In response to these critiques, Stroud and Heugh present an alternative to linguistic human rights (LHR), in the concept of linguistic citizenship “(...) which aims to make visible the sociolinguistic complexity of language issues” (2004:192), including the political and economic dimensions of language use and acquisition, and respect for diversity and difference (2001:35 in Rampton, Cooke and Holmes, 2018, p. 70). Other challenges associated with MTBMLE include the complexities and cost of developing local languages and associated teaching and learning materials for use in schools (Simpson, 2019). Nevertheless, there is growing consensus that the standardization of a restricted number of indigenous languages would improve educational quality and equity for many learners currently learning through L2 (Brock-Utne, 2017; The World Bank, 2021).

3.4 Flexible MLE

Flexible multilingual education refers to additive multilingual models that validate and build on learners’ linguistic resources, including non-standard language forms and varieties (Erling et al., 2017, pp. 22–23).

For Erling et al., (2017), flexible MLE includes the development of learners’ linguistic resources and the guided acquisition of standard language forms. The approach responds to critiques that additive multilingual models, such as MTBMLE, position L1 and L2 in opposition (Adamson, 2021), and misrepresent learners’ L1 as standard language (García, 2013). Flexible MLE recognizes translanguaging as a potentially beneficial pedagogical practice. In addition, metalinguistic awareness is seen as a resource for language and subject learning. Meta-linguistic activities, such as comparison, contrast and translation exercises facilitate the transfer of skills between languages (Cummins, 2017; Jessner, 2017). The notion of flexible multilingual education resonates with Heugh and Stroud’s (2004) concept of functional multilingualism which allows for both “(...) horizontal multilingual capabilities (multi-directional communication through porous linguistic borders) and vertical multilingualism (developing expertise in writing at an academic level in at least one, usually two, or sometimes three standard written languages)” (Heugh et al., 2017, p. 205; Heugh & Stroud, 2020). In addition, the approach recognises the political dimension of language and the potential for social division and inequality in language hierarchies (ibid.).

3.5 Summary

Large-scale longitudinal studies and meta-analyses consistently show the importance of additive MLE for L1, L2, and L2-medium language learning (Collier & Thomas, 2017; May, 2017). Foundational learning through L1 for around the first 8 years of formal education is shown to strengthen learning outcomes and home-school relationships (Trudell, 2016) and is a prerequisite for effective transition to learning through an additional language (Schroeder et al., 2021; The World Bank, 2021). The

ongoing use of L1 across the curriculum is shown to have substantial benefits for literacy in L1 (Pinnock & Vijayakumar, 2009); the learning of L2 (Taylor & von Fintel, 2016); learning across the curriculum (Heugh & Skutnabb-Kangas, 2010); the development of general cognitive abilities (Trudell & Piper, 2014); and school access and retention (Laitin et al., 2019; Ramachandran, 2017; Seid, 2019). There is robust evidence that subtractive MLE undermines subject learning, in addition to limiting learning of L1, L2 and reducing access and retention at school (Milligan et al., 2020; The World Bank, 2021).

The experience of multilingual education in different socio-linguistic settings, and in relation to distinct policies indicates where the problem lies. Multilingualism, which is associated with cognitive, social, personal, academic and professional benefits is not the problem (Herzog-Punzenberger et al., 2017). Neither is the use of an additional language for subject teaching, which *can* lead to high levels of proficiency in the additional language, and grade-level achievement in learners' L1 and other curriculum subjects (Genesee, 2013). The problem is the subtractive orientation to MLE reflected across education systems across SSA, which fails to recognize the language learning needs of learners and undermines the use of learners' linguistic and cultural resources for learning throughout education (Benson, 2021; Trudell, 2016). Improving language of instruction transitions relies upon strengthening additive and flexible orientations to MLE across education systems, and making these aspects coherent (Schroeder et al., 2021). In the next section we consider measures to support effective LOLT transitions in relation to different aspects of education.

4. Multilingual pedagogies for LOLT transitions

In the previous section we established the role of flexible and additive multilingualism to support LOLT transitions. In this section, we outline three pedagogical strategies shown to strengthen learning across LOLT transitions: genre-based pedagogy, language supportive pedagogy and translanguaging pedagogy. Following Schweisfurth (2013, 2015) and Schweisfurth and Elliot (2019), we view pedagogy as an interactive phenomenon which occurs between teachers and learners, teachers and contexts, and teachers and interventions and observers.

4.1 Genre-based approaches

Genre-based approaches involve the explicit definition and teaching of subject-specific genres. Subject teachers' overt focus on subject specific language forms benefits all students, especially marginalized and multilingual learners (Beacco et al., 2016). Various initiatives with a theoretical basis in systematic functional linguistics (SFL) have developed genre-based pedagogic approaches in both multilingual and predominantly monolingual contexts, such as the professional development programme for science educators in Australia, described by He & Forey (2018). Some of these are focused on specific subject areas (Forey & Cheung, 2019; Forey & Polias, 2017), and some take a whole-school approach to strengthening academic language across the curriculum (see Forey's description of an initiative in a UK secondary school, 2020).

Kerfoot and Van Heerden (2015) describe an intervention using genre-based pedagogy, involving 72 learners and two teachers in a low socio-economic neighborhood of Cape Town. They found that all learners in the intervention group improved control of staging, lexis, and key linguistic features. Students designated 'not competent' by their teacher made the greatest gains. Polias (2016) proposes that science teachers scaffold students' command of genres from concrete, familiar, and personal forms of register to abstract, impersonal and formal (see discussion under [2.5](#), above). He distinguishes between macro, meso and micro-scaffolding, which exist on a continuum. Macro scaffolding refers to planned sequences of activities at the level of lessons or curriculum units. Meso scaffolding refers to the movement between different registers as part of classroom activities. Micro scaffolding occurs as part of classroom interaction and is contingent on interaction rather than planned. In addition to pedagogy, genre-based approaches can be used to inform curricula, textbooks, and teacher education (e.g., WIDA, 2020).

4.2 Language supportive pedagogy

Language supportive pedagogy (LSP) refers to classroom strategies which support the learning of content through an additional language (Erling et al., 2017 and 2021). It was developed in Tanzania and Rwanda as a pragmatic initiative to strengthen teaching and learning in contexts where a change from EMI policy seemed unlikely (Milligan & Tikly, 2016). The goal was to promote relevant and sustainable pedagogical innovations, which enable students to understand the subjects being taught in English and improve their English proficiency (Rubagumya, 2021). A defining characteristic of LSP is that there is no single prescribed pedagogical practice although the approach does draw on ideas from CLIL, principally those set out by Coyle (2007) and Polias' (2016) work on genre-based science writing (Barrett et al., 2021). The language supportive teaching and textbooks (LSTT) project has focused on "endogenous" pedagogical approaches (Rubagumya, 2021), with innovation led by teacher educators (Barrett et al., 2021). This allows teachers to develop distinct subject based LSPs, which may also be adapted to context (Barrett & Bainton, 2016). Some general pedagogical

strategies are introducing topics through informal activities aimed at making connections with students' previous learning. At this stage learners may discuss informally using Kiswahili and other familiar languages. Later, students are provided with structured support to produce written English. There is also an attention to new vocabulary, use of translation and visual meaning making resources (Barrett & Bainton, 2016; Opanga & Nsengimana, 2021; William & Ndabakurane, 2017). In an intervention study with 250 lower secondary (Grade 8) students and 36 Biology teachers, Opanga et al. (2021) found LSP increased student interactions and strengthened content learning. A criticism of LSP is that by innovating within the parameters of EMI policy it fails to question how appropriate that policy is for two contexts (Tanzania and Rwanda) where a much more widely spoken African lingua franca is available for use as the LOLT (Rubagumya, 2021). As Rubagumya reflects:

“LSP should not be taken as an opportunity to sweep this question under the carpet. We still need to ask ourselves, is the current language policy informed by research evidence? Is it the right policy given the current linguistic environment in our country? Ultimately, we need to ask ourselves, whose interests does the current language policy serve? Does it help learners to learn English and to learn other subjects on the curriculum effectively?” (Rubagumya, 2021, pp. 18–19).

4.3 Pedagogical translanguaging

There has been considerable attention to the potential of translanguaging as a pedagogical approach for multilingual education. ‘Pedagogical translanguaging’ has emerged from South Africa as a planned and purposeful use of learners linguistic and metalinguistic resources for learning (Makalela, 2015; Probyn, 2015). It is distinct from code-switching in the classroom, which is described as the reactive and ad hoc switching between languages (Poo & Venkat, 2021). In contrast to the single, integrated perspective on multilingual competence presented by García and Li (2014), pedagogical translanguaging refers to the use of two or more standard languages with the aim of developing bi or tri-literacy (Heugh et al., 2019; Hornberger & Link, 2012). There are some overlaps between LSP and pedagogical translanguaging. For example, Probyn (2015, p. 221) proposes the term ‘pedagogical translanguaging’ for the combined pedagogical and linguistic strategy of using learners’ home language for exploratory talk and the LOLT for presentational talk, both of which are strategies used within LSP.

In contrast to LSP, pedagogical translanguaging is sometimes used to describe existing classroom practices, based on researcher observations (e.g., Msimanga, 2021; Probyn, 2015). For example, Probyn’s (2015) study of classroom talk in grade eight science classes identified the sustained and systematic translanguaging practice of one of the teachers, who used more isiXhosa than other teachers, but also more English. Likewise, his learners spoke more isiXhosa, and more English than learners in other classes. However, several initiatives also promote and evaluate translanguaging pedagogies. For instance, Makalela (2019) describes the requirements for teachers on an in-service training program targeted at pedagogical translanguaging:

“The teachers had to develop teaching philosophies that included statements around the value of more than one language (...). They had to demonstrate the simultaneous use of more than one language and sustain this throughout the lesson phases. The basic criterion was that each learner would re-tell or rewrite the texts in a different language from the language of input. Meanings generated through these exercises were discussed with the learners in order to reinforce comprehension” (Makalela, 2019, p. 243).

Banda (2018) demonstrates how translanguaging in a Black township secondary school in Cape Town enables learners to achieve power, agency and voice as consumers and producers of English texts. McKinney and Tyler (2019) present an example from a Year 9 Science class in a South African high school, designed to move beyond language ideologies and enable bilingual isiXhosa/English students to use their full semiotic repertoires for learning Science. Charamba (2020a) explores translanguaging practices used with form one General Science students in a rural secondary school in Zimbabwe. He finds that the use of instructional materials written in home languages and translanguaging practices affect learners' performance in science tests, creates a comfortable learning environment for all learners, and enables them to consider the stratification of languages and scientific knowledge. These studies share an emphasis on enabling flexible multilingual communication, and the use of standard indigenous African languages and English for oral and written, receptive and productive tasks. They indicate the pedagogical value of enabling learners to use their full linguistic and cultural resources for learning, and the political value of critiquing established linguistic and academic hierarchies using African language academic genres (Probyn, 2021). However, translanguaging does not elide socio-linguistic hierarchies. In Nepal translanguaging classroom practices have been observed to favor the dominant languages of English and Nepali whilst excluding other local languages (Sah & Li, 2020).

4.4 Conclusion

Genre-based approaches, language supportive pedagogy and pedagogical translanguaging offer teachers and teacher educators diverse ways of thinking and talking about pedagogy in L2 LOLT contexts and indicate a range of potential strategies which they can develop (Heugh, 2015). LSP and translanguaging both have their origins in African classrooms and seek to build on and systematise existing practices. There is as much to learn from the process of their development as endogenous innovations as there is from the specifics of the theory and practices associated with them. This draws attention to how the education systems support effective language transitions.

5. Systemic approaches for language transitions

LOLT transitions are strengthened by coherent approaches to MLE between different elements and levels of education systems, and are undermined when this is not the case (Bunyi & Schroeder, 2017; Schroeder et al., 2021). In a systematic review of the literature, Kirss et. al. (2021, p. 16) suggest that “consistency through all different levels of education may be the key aspect to effectiveness” in multilingual education systems.

In the previous section, we outlined pedagogical approaches which support LOLT transitions. In this section, we look to measures for strengthening LOLT transitions in the wider education system. These measures build on the core principles identified in the review so far:

- LOLT transitions can be improved by shifting from monoglossic and subtractive to multilingual, additive and flexible perspectives and practices, which recognise learners’ cognitive-linguistic resources as the basis for language and subject learning.
- Educational quality and equity can be strengthened by explicit teaching and learning of academic language skills, the language of distinct subject-disciplines (terms and genres) and language learning strategies across curriculum subjects.

5.1 Policy

In international education discourse, sustained advocacy has increased recognition of LOLT as central to educational quality and equity (Benson, 2021; The World Bank, 2021). There remains a need for stronger international commitment and specific targets, for example in the Sustainable Development Goals (SDG) (Milligan et al., 2020). The majority of policy advocacy to date has focused on the role of L1 as an instructional language in primary education. There is a need for greater recognition and support for additive, multilingual approaches in upper-primary and secondary education (Schroeder et al., 2021). In this section, we make three recommendations for policy to strengthen LOLT transitions.

5.1.1 Support additive multilingual teaching, learning and assessment

At national level, policy support for the use of learners’ linguistic and cultural resources for language and subject learning has an impact on provision in curricula, textbooks and classrooms and on tacit attitudes to multilingualism (Herzog-Punzenberger et al., 2017). In contexts where the LOLT is an additional language for most learners, education policy should define the education system as multilingual, and support additive, multilingual teaching, learning and assessment across the curriculum. Policy should highlight the vital role of learners’ linguistic and cultural resources for educational quality, equity, and sustainable development.

5.1.2 Engage education stakeholders at all levels

Policy needs to be accompanied by stakeholder engagement to ensure meaningful implementation (Altinyelken et al., 2014; Bunyi & Schroeder, 2017; Herzog-Punzenberger et al., 2017). In South Africa, additive bilingual approaches have been promoted in official policy since the late 1990’s but entrenched linguistic ideologies have meant that most schools opt for an early transition to English by grade 4 (Probyn, 2021), (see [5.7](#) below).

5.1.3 Monitor implementation and learning outcomes

Policy has a role to play in defining clear targets related to LOLT at primary and secondary level. Such targets help to raise awareness of key issues, strengthen implementation, and enable monitoring and evaluation (Benson, 2021; Schroeder, 2020). Key indicators could include: 6-8 years of L1-based instruction supported by provision of L1 materials and L1 examinations; the incremental addition of L2 as a LOLT beginning with oracy and moving to written literacy; ongoing strategic use of L1 for L2 and L2-medium subject learning and assessment, which allows teachers to adapt to the linguistic resource students bring to the classroom; and teacher CPD which prepares teachers as multilingual educators (e.g., multilingual teaching competences). Policy development can be strengthened through ethnographic studies of policy implementation in distinct school settings and longitudinal assessments of student L1 and L2 proficiency and subject-learning achievement. Inequalities can be identified by disaggregating data by student characteristics (e.g., socio-economic status, rurality, gender, ethnicity).

5.2 Curriculum

We use the term ‘curriculum’ to refer to national curriculum documents, curriculum frameworks and subject curriculum (or syllabus). Internationally, and in Tanzania specifically, there is a trend towards ‘competence-based curricula’ which emphasize the active role of learners in learning processes, communicative competences, higher order thinking skills and the need to bridge academic and out of school knowledge and experience. Subtractive LOLT policy undermines competence-based curricula by limiting student participation, their psycho-linguistic development, and the extent to which they can apply out of school knowledge and experience to new learning. There are concerns that ‘content-heavy’ curricula at upper primary and lower-secondary hinder transitions from knowledge-based to competence-based pedagogies, and the inclusion of learners’ languages and out of school experiences (Milligan et al., 2020). Our review indicates the following five key principles of curriculum which support effective LOLT transitions.

5.2.1 Strong connections across grades, levels, subjects and languages

The first principle builds on the recognition of learners’ cognitive-linguistic resources as a single, integrated system, and learning as expansion of the system. This transglossic perspective is evident in the Council of Europe’s extended CEFR descriptors (2018) and the WIDA framework (2020). Lin (2019, p. 14) proposes a “continuous and expanding” rather than a “replacement and hierarchical” curriculum model, where previous learning and out of school experience are related to new knowledge and practice. This means building strong connections between learning at various levels of the education system (i.e., between primary and secondary, and between grades), through the recycling and development of key concepts and practices within and across subjects. LOLT transition presents a potential break between learning before and after transition, which can be mitigated through strategic use of L1 in L2 medium classes. Teachers and learners can use L1 to connect to previous learning, and to access new language, concepts, and practices. Glossaries can be provided, to support consistent use of equivalent L1 and L2 terms by teachers across school levels with opportunity to identify further equivalent terms in local languages.

5.2.2 Literacy in L1 leads literacy in L2

High levels of L1 spoken and written literacy transfer to L2 (Bialystok, 2001; Cummins, 2017). Therefore, literacy in L1 should lead literacy in L2, and oracy should come before written literacy (Trudell & Young, 2016). L2 can be introduced from as early as grade 1, led by “meaningful, unthreatening and enjoyable” oral activities (Malone, in Trudell & Young, 2016, p. 16). L1 should continue as a LOLT alongside L2, to ensure ongoing cognitive-linguistic development; to enable access to cognitively challenging concepts and practices in L2; and to support L2 learning.

5.2.3 Do not conflate cognitive and linguistic challenge

A further principle to inform curriculum design, is that linguistic and cognitive challenge should not be conflated (Cummins, 2000). This means, when learners encounter a new genre, concept or practice and the cognitive demand is high, the linguistic challenge should be reduced through use of L1, spoken and multimodal language, translanguaging and language supportive pedagogies. Conversely, when the focus is on linguistic features and accurate linguistic production the cognitive demand should be lower. For example, expressing familiar concepts through less familiar language forms.

5.2.4 Provide opportunity for meaning making using students’ full linguistic and cultural repertoire

Learners’ linguistic and cultural resources have a vital role for language and subject learning (Wei & Lin, 2019). Curricula should provide opportunities for learners to make sense of academic knowledge and practice using their linguistic and cultural resources and apply academic learning to their lives outside of school. Malone uses the metaphor of a bridge to conceptualize the relationship between L1 and L2 language and social practice, which “forms a two-way link between the learners’ heritage language and culture and their participation as members of a larger multilingual and multicultural society” (in Trudell & Young, 2016, p. 16). Links between familiar and academic knowledge are often included in curricula (e.g., Tanzania, biology form 1 and 2), but are undermined where the use of local languages and translanguaging are not recognized as legitimate.

5.2.5 Explicitly target academic language learning across the curriculum

Strengthening and harmonizing approaches to teaching and learning language between primary and secondary and across the curriculum benefits all learners, and especially marginalized learners (Beacco et al., 2016; Department of Basic Education, 2013). This includes actively teaching academic language skills (i.e., collaborative, creative and critical speaking, listening, reading and writing) using similar approaches, across all subjects; actively teaching academic language (i.e., subject-specific terms and genres) across subjects; and actively teaching and encouraging learners to apply language learning strategies across subjects. Herzog-Punzenberger et al, (2017) recommend that learning outcomes in all subjects be written to reflect the language dimension, which both aim to develop academic literacy and build on the multilingual resources of the classroom.

5.3 Textbooks and other TL resources

In multilingual education systems the usefulness (and therefore the return on investment) of textbooks and other TLS could be enhanced through effective LOLT policy (The World Bank, 2021). Three targeted recommendations are drawn from this review.

5.3.1 Ensure equitable access to teaching and learning resources

Textbooks are the most widely available teaching and learning resource across sub-Saharan Africa (Milligan et al., 2019). Digital resources are gaining in importance, but there is still huge disparity in access between rich and poor, urban and rural, and girls and boys (Webb et al., 2020). This was made particularly visible by the Covid-related school closures in 2020-2021 (ACPF, 2020). In a recent paper, Milligan, Koornhof, Sapire and Tikly (2019) reflect on growing interest in textbooks and other teaching and learning resources. They emphasize the potential of textbooks as cost-effective inputs for improving learning outcomes but point out that at present the benefits are associated with learners with higher socio-economic status. Students with lower socio-economic status may fail to benefit because they are less likely to own textbooks, and/or face linguistic challenges using textbooks.

5.3.2 Design language supportive textbooks for LOLT transitions

Textbooks in subtractive MLE systems are commonly written as if for monolingual users and as a result are inaccessible for many students (Milligan et al., 2016). Milligan, Desai and Benson (2020) point to the need for teaching and learning materials in learners' (and teachers') main languages before and beyond LOLT transition. Most of the teaching and learning resources which have been developed in response to LOLT issues focus on early years and primary education and the task of strengthening literacy in L1 (see World Bank 2021 p.35 for a summary). Far less attention has been paid to resources which support subject learning through an additional language at upper primary and lower-secondary.

The Language Supportive Textbook and Teaching (LSTT) project in Rwanda and Tanzania indicates that L1 and L2 can be integrated in textbooks to allow subject and language learning (Barrett et al., 2021; Barrett & Bainton, 2016; Milligan et al., 2016). William and Ndabakurane (2017, p. 100) summarize key features of the language supportive textbooks. They include simple vocabulary and sentences; extensive visuals; English-Kiswahili glossary; activities to support content and language knowledge and skills; activities which promote the use of Kiswahili for pair and group discussions, and English for presentations and writing with language support cues to guide reports in English. In addition, textbooks take account of social justice issues through emphasis on gender equality and by enabling learners to take textbooks home for self-study. This latter strategy responded to the pilot study, which indicated some students were unable to afford their own dictionaries and textbooks (Barrett, Kajoro, et al., 2014; Barrett, Mtana, et al., 2014).

Probyn (2019) suggests that textbook activities can allow learners to communicate in their language/s of choice, even when these are not known by their teachers, as well as engaging learners in using target instructional languages. This would enable the same textbooks to be used with linguistically diverse learners, but miss the opportunity of legitimising local languages as part of academic texts. Textbooks can support the development of metalinguistic competence, through the provision of comparative lexicons, grammars and other reference material (Jessner, 2017). L1 and L2 language subject textbooks can be produced to support language of instruction transitions. For example, subject themes and genre can be used in language learning materials (Thompson &

McKinley, 2018). In addition, language learning skills and strategies can be included in textbooks across subjects. For example, encouraging students to identify and note down unfamiliar words, word patterns (e.g., pre-fix and suffixes), and words which are commonly used together.

5.3.3 Model multilingual pedagogies through textbooks and other TLMS

Textbooks can provide teachers with subject-specific examples of multilingual and language supportive practice, linked to curriculum learning objectives. Subject teachers in South Africa suggest textbooks would help them to integrate language teaching and learning strategies in their lessons, in addition to addressing the language barrier that students face in reading traditional textbooks (Mpofu & Maphalala, 2021a). Heugh et. al. (2019) present a resource book for English and subject teachers in postcolonial and low resource EMI contexts. The authors describe the pedagogical approach as ‘purposeful translanguaging’, with the aim of developing bi/tri literacy. The booklet is presented in an accessible format, with pictures and diagrams and each activity is accompanied by the reflections of a teacher who has tried it out with a class. Activities focus on multilingualism, including language profiles and surveys, linguistic landscape, and out-of-school cultural artefacts and practices. Other activities are subject-specific, e.g., science and maths. The booklet shows teachers and other education stakeholders what multilingual pedagogy can look like. However, the international scope of the resource may make it too general to be used by teachers (Mpofu & Maphalala, 2021b).

5.4 Assessments and examinations

Assessments and examinations exert considerable influence on classroom teaching and learning. Formative assessments allow teachers to evaluate student competence and identify priorities for further teaching and learning. Summative assessments and examinations measure achievement for students and their teachers and may be a gateway to future opportunity (Elks, 2016). Three recommendations for assessments and examinations which support LOLT transition are presented below.

5.4.1 Promote L1 use through ongoing L1 assessments

Bunyi and Schroeder (2017) and Benson (2021) discuss how high-stakes L2-medium examinations lead to L2 teaching before the official point of transition, which undermines the effectiveness of L1-based education (see 3.3, above). Benson (2021) and Benson and Wong (2019) suggest it is important to systematically assess L1 competence at primary and secondary in order to promote L1-based instruction and gain an accurate picture of the gains for L1 literacy which result. They recommend that L1 and L2 should be used to assess non-language subjects, to narrow the gap between the languages used for teaching and learning and those of assessment.

5.4.2 Provide flexible, multilingual and language supportive examinations

Subject examinations, which enable students to read and respond to examination papers using their main languages, help to mitigate the negative impact of LOLT transition on assessment validity (Heugh, Prinsloo, Makgamatha, Diedericks and Winnaar (2017) describe multilingual examination practices in South Africa during the apartheid era, where students of all language backgrounds received examination papers in Afrikaans and English for content subjects and could read questions in either or both languages and use their bilinguality to clarify meaning. Makgamatha, Heugh,

Prinsloo and Winnaar (2013) report on a study conducted in South Africa in 2006, in which 75 000 Grade 8 learners were assessed in mathematics and language. They find that use of the home language improves student achievement, in comparison to assessment through an additional language. In addition, achievement increases where the language of assessment is made accessible through language supportive strategies such as graded language and use of visuals. The SPINE data from Tanzania also indicate that providing language support for students, in the form of visuals, additional context and simplified English improves student response rates and achievement. The study found that different student groups within and across schools did better with English, Kiswahili and bilingual versions of examination papers, with some variation between subjects. The authors conclude that a simple ‘switch’ in language of assessment policy would not improve performance for all students. Instead, they recommend “(...) providing students with an opportunity to be tested through more than one language and giving them a choice as to which language they can use to write their examinations (...)” (Rea-Dickins et al., 2013, p. 136).

5.4.3 Align assessment with curriculum goals and learning outcomes

A final point is the need to ensure coherence between the language and literacy practices assessed in examination and curriculum approaches and goals. Examinations often favor single-response questions, such as multiple choice, true-false, or gap-fill. This approach tends to promote lower order thinking skills, such as memorization, and drive transmission-oriented teaching and learning (Elks, 2016). In 4.2. (above) we highlighted the importance of including learners’ linguistic and cultural resources as part of the curriculum. To ensure that this recommendation is implemented in practice, it is necessary to assess the application of local linguistic and cultural knowledge in relation to academic knowledge. Formative assessments, conducted by teachers during lessons are a means to encourage and assess more complex and open literacy practices (Elks, 2016). Teachers should be encouraged to make flexible use of L1 to assess subject-specific knowledge and competences, to ensure that student competence is not obscured by their L2 proficiency.

5.5 Teacher education and CPD

Teachers are crucial to effective language in education policy, and they interpret and adapt official language policy as part of classroom teaching and learning and assessment (Hornberger & Johnson, 2007). Rubagumya (2021) reports that teacher education can be a ‘safe space’ for teachers to develop language supportive pedagogical approaches, even within a subtractive MLE system. Teacher education and CPD can have a positive impact on teachers’ beliefs and practices, but this is not always the case. In this section, we highlight four aspects of effective teacher CPD indicated by the literature.

5.5.1 Every teacher is a language teacher

Explicit focus on language teaching and learning across all subjects benefits all learners, particularly marginalized and multilingual learners (Beacco et al., 2016). Writing from Tanzania, Rubagumya (2021, p. 4) asserts that “every teacher should also be a language teacher” and this has been promoted in South Africa since the mid-1990s (Probyn, 2021). In subtractive MLE systems, secondary level subject-teachers rarely consider language teaching to be part of their role (Richards & Pun, 2021). Therefore, substantial re-orientation of teacher education and CPD are needed, to broaden teachers’ professional identities as language and subject teachers and to equip them with appropriate knowledge and skills.

Herzog-Punzenberger et al, (2017) propose that initial and in-service teacher education should promote teachers' linguistic awareness, including the language demands of their subjects and strategies for supporting multilingual learning such as translanguaging. They suggest that teachers should acquire the macro-scaffolding skills to plan subject literacy instruction over a series of lessons, and micro-scaffolding strategies for classroom interaction. They also point to the cultural dimension of education, and the need to include learners' cultural resources as well as their languages for learning and the political and pedagogical dimensions of language in education. Finally, they note the need to formally recognize and support the development of teachers' own multilingual competences, and the active recruitment of linguistically and culturally diverse workforce. Other authors recommend matching the languages spoken by teachers and students, where possible and this implies language sensitive teacher deployment (Bunyi & Schroeder, 2017; The World Bank, 2021).

5.5.2 Teachers develop and spread pedagogical innovations

Effective teacher CPD integrates theory and practice, engages teachers as professionals and is specific to teachers' subject and school contexts (Walter & Briggs, 2012). For example, the Hub for Multilingual Education and Literacies in South Africa (HUMEL), provides professional development for in-service teachers (Makalela, 2019). Makalela (2019) reports that HUMEL activities include theoretical sessions about translanguaging, the creation of teaching and learning materials, and guided cycles of planning, teaching, and reviewing model lessons and ongoing support at school. Similarly, the LSTT project employed the CPD model of lesson study to guide teacher educators through cycles of planning, teaching and reflection. Barrett et. al., (2021) highlight the need to allow time for professional learning, which developed over annual cycles across successive years of the LSTT project. Further, they recommend maintaining a focus on student learning to ensure the relevance and effectiveness of innovations. Finally, they recommend engaging teachers as professionals, which involves building upon their theories of learning and ensuring they have the autonomy to interpret new learning and make changes to their practice. Also reflecting on LSTT, Rubagumya (2021) notes the importance of demonstrating how language supportive pedagogies enable English learning and EMI subject learning to allay teachers' concerns that they are going against national policy. He lists characteristics of teacher CPD that enables teachers to integrate language supportive pedagogies:

- Teachers try out new approaches in the context of their subject and schools
- Teachers see others implementing new approaches
- Teachers explore the assumptions behind new approaches
- Collaboration between subject and language teachers

In Europe, teachers have been leading the development and spread of CLIL pedagogies through face to face and online networks (Perez-Vidal, 2013). This indicates the value of establishing communities of practice within and between countries and providing opportunities for teachers to connect and share ideas.

5.5.3 Language and subject teachers collaborate

Collaboration between language and subject teachers is a recurrent theme in literature, as stated in the WIDA framework:

“It is crucial for the academic success of multilingual learners that both language and content teachers and administrators see themselves as responsible for fostering the language development of multilingual learners, and for systems to move away from the idea that

language specialists alone should assume sole responsibility for students' language development (WIDA, 2020 p.19)"

Barrett et. al., (2021) describe how language and science teacher educators combined their expertise to develop language supportive textbooks and lessons during training, and how pedagogical innovations have spread through networks of teachers and teacher educators. They recommend collaboration between language and subject teachers, between teachers in different institutions, and between researchers, teacher educators and teachers to generate and spread pedagogical innovations. Thompson and McKinley (2018) propose that language teachers should learn about subject- knowledge and practices, for use in language lessons, and subject teachers should learn language teaching strategies. From the USA, Meskill and Oliviera (2019) report how pairing language and science teachers positively impacts teachers' pedagogical expertise in both language and science teaching and learning.

5.5.4 Language use in teacher education

The World Bank (2021) highlights the importance of using languages which teachers know well in initial teacher education and CPD to ensure the maximum impact of investment in teacher CPD on classroom practice and student achievement. Indeed, teacher education is an opportunity for teachers to experience purposeful, multilingual and language supportive pedagogical approaches, which they may not have experienced at school. Teachers in Mpofo and Maphalala (2021) reported that a barrier to them implementing the EAC strategy was not having experienced similar approaches themselves. Teacher education and CPD can equip teachers with the language (vocabulary and discourse) to talk about, reflect upon and develop their multilingual competences and pedagogical strategies.

5.6 Informal education and digital learning resources

In this section, we draw on research which suggests that informal education and digital resources enable multilingual and multimodal communication beyond the limits prescribed by the formal curriculum and examinations (Prinsloo, 2019).

5.6.1 Opportunity for multilingual and multimodal learning

Kendrick, Early and Chemjor (2019) report on an after-school journalism club in rural Kenya, where adolescent girls blend their social, cultural, and linguistic repertoires innovatively whilst designing videos. Guzula et. al. (2016) describe an after-school literacy club in a Cape Town township, and a mathematics holiday camp in a rural area in Eastern Cape Province where students were encouraged to draw on their linguistic resources and transgress normative views of language separation. McKinney and Tyler (2019) report on an after-school science study group in South Africa, where students draw on their multimodal and multilingual resources to produce scientific explanations in everyday and academic registers and deepen their understanding of science concepts, while questioning what counts as legitimate language for science learning.

5.6.2 Digital learning resources support multilingual learning

Olivier (2021) shows how self-directed learning in multilingual information technology (IT) classrooms in a South African high school allows individual language planning. Similarly, Pitchford et al. (2021, p. 136) describe how interactive mathematics learning apps offer a “unique, cost-effective opportunity to support children in multilingual contexts to learn elementary math's in their home language, and/or language of instruction”. They conclude that the app was most effective when:

- Children are able to access the math’s curriculum in their home language(s).
- Children are able to interact with the math’s curriculum in a way that allows them to rehearse skills at an individualized pace.
- Children are enabled to select their preferred language of instruction for learning.
- Teachers and parents develop a shared knowledge of the child’s proficiencies in the languages understood and spoken, and in which contexts.
- Teachers and parents develop a shared knowledge of the child’s cognitive skills in their home language(s), and provide appropriate scaffolding in the language of instruction (Pitchford et al., 2021, pp. 148–149)

The World Bank (2021, p. 50) recommends the use of learning technologies to “provide tailored resources for diverse educational needs”.

5.7 School and community engagement

Effective LOLT transitions depend upon the engagement of stakeholders across education systems (Bunyi & Schroeder, 2017; Schroeder et al., 2021; Trudell, 2016). WIDA (2020) propose coordination between “district and school leaders, content and language teachers, specialists, support personnel, students, families” (WIDA, 2020 p.19). Here we draw out two key elements: strong school leadership, and grassroots engagement through whole school language policy.

5.7.1 Strong school leadership

Kirss et. al. (2021) conducted a systematic literature review to identify factors explaining student success in multilingual education programs. The review confirms the importance of established school effectiveness factors (i.e., effective leadership, effective teaching, a pervasive focus on learning, a positive school culture, high expectations for all, student responsibilities and rights, progress monitoring, developing school staff skills, and involving parents).

5.7.2 A whole school language policy

A whole school language policy is a process for engaging school and local community stakeholders in learning LOLT transitions. School language policies that are inclusive of languages spoken by parents and the community can strengthen relations between school and community. Community participation in school governance builds relationships of trust and contributes to local accountability and strengthening school quality (Prew & Quairain, 2010; Mitchell, 2015; Nishimura, 2017).

Herzog-Punzenberger et. al., (2017) suggest that schools and teachers should build partnerships with families and local communities to help them learn about, acknowledge and value the linguistic and cultural practices families and communities and enable transfer between home and school

languages. They find that positive attitudes of teachers and school leaders towards pupils' languages and cultures increases students' motivation and feeling of school belonging and recommend that non-dominant languages are included into school contexts, formally and informally.

The South African Department of Basic Education (DBE, 2013) recommend the development of a school language policy that recognizes the centrality of language and literacy for all subjects and guides a systematic and coherent approach to language support across the curriculum and for assessment of learning. They propose that policy should be initiated by school leadership and coordinated by language teachers and provide a framework for formal and informal collaboration between subject and language teachers. However, the EAC strategy does not address the central role of L1.

Trudell (Trudell, 2007, 2016) recommends involving community stakeholders in language decisions and activities, such as the creation of local language resources. Bunyi and Schroeder (2017) conclude that greater community participation is needed in order to ensure that policies are implemented. They assert the need to communicate that education in African languages does not undermine access to powerful international languages, supported by robust, long-term data on the benefits of the use of L1 for student achievement. Milligan, Desai and Benson (2020) indicate that parents and community members are integral to effective MLE, and that collaboration across government, NGO, and community actors is not only desirable but also necessary. Forey (2020), reports from the UK on a whole school approach to teaching academic language across the curriculum.

5.8 Summary

This section outlined system-wide measures to strengthen LOLT transitions. These measures need to be critically and creatively implemented, in ways which reflect underlying principles and are adapted to the material and social realities of distinct contexts, by stakeholders across the education system. We close this section by pointing out that changing language policies alone may not be sufficient to strengthen teaching and learning where schools are ineffective for other reasons such as inadequate resourcing, unacceptable teacher working conditions, oversized classes and low levels of accountability (Rubagumya, 2013).

6. Conclusions

In this final chapter, we conclude the review by returning to the guiding research questions set out in the [introduction](#), in the light of the literature and discussion presented above. This chapter is structured into three main sections. In 6.1, we summarise the evidence concerning the influence of LOLT transitions on subject learning in diverse socio-linguistic contexts. In section 6.2, we present four key recommendations for strengthening LOLT transitions at scale. Finally, in section 6.3, we highlight priorities for further research.

6.1 The influence of LOLT transitions on subject learning

The review identified large differences in the influence of LOLT transitions on subject learning between distinct socio-linguistic contexts. These differences are attributable to diverse material and socio-linguistic factors, including beliefs about language, multilingualism and MLE.

We find robust evidence that subtractive LOLT transitions in basic education in low- and middle-income postcolonial countries have a negative influence on educational quality and equity across instructional subjects. This includes reduced years of schooling and progression to secondary school, lower achievement in L2 and across the curriculum, and restricted classroom interaction (Seid, 2019; Laitin, Ramachandran, & Walter, 2019; Ramachandran, 2017; Schroeder, Mercado, & Trudell, 2021). These impacts are more severe for students who are already marginalised due to gender, ethnicity and/or rurality, and so L2 LOLT reinforces existing social inequalities (Milligan, Desai, & Benson, 2020). In contrast, there is considerable evidence that additive multilingual education, where the use and development of learners' full linguistic resource is systematically supported, leads to higher levels of learning in the target language than learning language as a subject alone, and at-grade level achievement across the curriculum, with no additional negative impact for marginalised students (Collier & Thomas, 2017; May, 2017; Genesee, 2013).

It is important to recognise the range of factors, in addition to [language ideology](#), that contribute to the different influence of LOLT transition on subject learning in distinct contexts. Additive multilingual education tends to be restricted to a limited number of schools and/or school districts, and often involves self-selected teachers, students and families (Perez-Vidal, 2013). This contrasts with contexts where the decision to use an L2 as LOLT is decided at national level, and prescribed for all state schools. A further significant factor is resource-scarcity in education systems in low- and middle-income countries, where subtractive LOLT policies are the norm. Resource scarcity is associated with stressful living and working conditions for teachers and students, and associated physical and mental health problems; large class sizes, a lack of teaching and learning materials and equipment, and limited access to running water and electricity; and scarce resources for academic literacy out of school, such as books, technology, museums etc. (Milligan, Desai, & Benson, 2020). Another significant factor is the historical association between privileged elites and international languages, rooted in the colonial era across SSA and other postcolonial contexts (*ibid*; Myers-Scotton, 1993). An additional factor to bear in mind, is the linguistic distance between European and non-European (e.g., indigenous African) languages, which limits linguistic transfer (see [2.4.3](#)).

Thus, we conclude that reorienting perspectives, policy and practice from subtractive to additive and flexible multilingualism and multilingual education may have a substantial positive impact on subject learning. At the same time, it is important to recognise and address the other material factors which undermine educational quality and equity in education systems in postcolonial and LMIC contexts.

6.2 Strengthening LOLT transitions at scale

In this section, we distil insights from chapters 4 and 5 on pedagogies and systemic environments for additive MLE into four principles to guide policy and practice around LOLT transitions. They are written with low- and middle-income contexts in mind, where transition occurs at scale.

6.2.1 Draw on and develop learners' full linguistic resource

Learners' L1 is a vital resource for additional language and L2-medium subject learning, throughout education. This assertion has a sound theoretical basis (see 2.4.3 and 2.3.2), and an evidence-base in studies which show the positive influence of additive MLE (see 3.2), and the positive impact of L1-based education (see 3.3). This review has considered how L1 can be used to strengthen L2-LOLT, in curriculum (see, section 5.2), in classroom practice (see chapter 4), in textbooks (see 5.3), and for assessment (see 5.4). Hence, the vital role of L1 for teaching, learning and assessment should be officially recognised, and reflected throughout curriculum, pedagogy, assessment and teaching and learning resources. It should also be recognised that how different languages are used may depend on subject, age, grade and language proficiencies within a particular class.

6.2.2 Distinguish between language proficiency and subject knowledge

Subtractive MLE programmes are justified by the presumption that monolingual subject teaching strengthens language learning. In such programmes, subject curriculum, and teaching and learning resources assume that students are already proficient in L2 at the point of transition. Thus, the distance between students' actual L2 proficiency and the assumed monolingual proficiency is a barrier to students' accessing teaching and learning resources, participating in classroom interaction and performing in examinations. Instead, we recommend that the design of curriculum, pedagogy, and teaching and learning resources reflect a realistic evaluation of students' emergent language proficiency and include structured support for acquiring subject-specific genres, vocabulary and practices (Polias, 2016).

In the classroom, both language learning and subject learning present cognitive challenges for students. Where possible these two sources of challenge should not be combined (Cummins, 2000). New or complex ideas and practices may be explored through familiar language, while at other times learners are encouraged and supported to express simple or familiar ideas in accurate written and spoken L2. It is also important to distinguish between L2 and subject competences for assessments and examinations, in order to provide useful and valid results. For example, where the focus is subject competence subject teachers can encourage students to express themselves using familiar language so the teacher can judge what students understand. Likewise, examinations may use parallel or combined languages, to enable students to access and express meaning. When the focus is L2 accuracy (i.e., normally after students are familiar with new content and practices) students may be required to access and produce L2 texts.

6.2.3 Promote language learning across the curriculum

Language is central to all academic learning. Strengthening and harmonising approaches to teaching and learning language between primary and secondary and across the curriculum benefits all learners, and especially marginalised learners (Beacco et al., 2016; Department of Basic Education, 2013). This includes teaching academic language skills (i.e., collaborative, creative and critical speaking, listening, reading and writing) using similar approaches, across all subjects; teaching academic language (i.e., subject-specific terms and genres) across subjects; and teaching and encouraging learners to apply language learning strategies across subjects e.g. strategies for learning vocabulary, extracting meaning from texts and recognizing meta—linguistic features that span languages) (for further detail see section [2.5](#)).

L1, L2 and foreign language subjects should contribute to academic language learning but are also spaces in the curriculum where learners develop other forms of language and literacy such as communicative competence and critical literacies, including for creative expression. Digital learning resources and after school clubs can be important spaces for creative expression critical engagement with language issues and multimodal literacies (see section [5.6](#)).

6.2.4 Strengthen coherence across the education system

LOLT transitions can be strengthened by coherent understanding and practice across the education system (see section 5). A central factor undermining LOLT transition at present is the mismatch between the assumption of monolingualism, reflected in teacher education, teaching and learning resources, and assessments and examinations and the multilingual realities of students and teachers and classroom interaction. Coherence across education systems may be enhanced through accessibly communicating current evidence-informed insights about LOLT transitions to ensure that practitioners across the system are empowered to develop flexible pedagogical strategies, in relation to their subjects, school contexts and individual learners (see [chapter 4](#)). Similarly, through developing a whole school language policy, local communities can be engaged with research-based insights and take an active role in the creation of locally appropriate practices and resources (see, section [5.7.1](#)).

6.3 Research priorities for additive, multilingual LOLT transitions

Chapters [2](#) and [3](#) reviewed theoretical literature which conceptualise language in education and multilingual learning and models for multilingual education. We found a strong research evidence basis from across low-, middle- and high-income contexts in the global North and South for additive models of MLE, which are conceptually consistent with a [transglossic](#) view of language and learning. [Chapter 4](#) focused on pedagogic approaches to additive MLE, whilst [chapter 5](#) reviewed research evidence on the system level arrangements that enable these practices at scale. It is in respect to these areas that we identified some limitations to the existing evidence base. In other words, there has been far more research describing what MLE should look like than there is research offering policy makers guidance on how to establish quality and inclusive MLE at scale. In this section we identify some priorities for research that makes an active contribution to strengthening learning across LOLT transitions. Although we are mainly interested in sub-Saharan African contexts and exclude education system serving elites, research in the areas set out below is likely to strengthen the implementation of MLE across a range of contexts.

6.3.1 MLE policy, practices and outcomes

More systematic research around LOLT transitions at upper primary and secondary will support decision-making across education systems. As policies shift towards transglossic perspectives, the impact of policy changes on practices and outcomes should be monitored. There is a need for accurate information about learners' linguistic repertoires, including L1, L2 and plurilingual competences (CoE, 2018) leading up to and beyond the point of transition. The influence of policies and other systemic changes (e.g., language supportive textbooks and examinations) on subject and language learning should be tracked over time. To assess the impact on students with diverse characteristics, outcomes should be tracked across school levels, and disaggregated by gender, socio-economic status, ethnicity, rurality and disability (Benson, 2021). Large-scale, longitudinal, quantitative studies are vital to identify trends, whilst small-scale ethnographic studies can reveal how policies and models operate in practice, in distinct socio-linguistic contexts. Schools should be aware of and responsive to the linguistic and cultural resources of the learners they serve. Information about teachers' linguistic resources can be gathered to promote a more diverse workforce and match teacher and local community languages where possible (Bunyi & Schroeder, 2017; Herzog-Punzenberger et al., 2017; World Bank, 2021).

6.3.2 Pedagogical strategies

It is clear that across SSA teachers have a vital role in mediating linguistically inaccessible textbooks for students, and enabling them to access subject and L2 competences (e.g., Bowden et. al. (in press). At the same time, Lewis, Jones and Baker (2012, p. 113) note that "there is a dearth of research that examines typical teachers in ordinary classrooms and maps their use of two languages" (p.113). More detail is needed around the strategies which teachers employ in relation to specific subjects (e.g., history, mathematics, English, science), and in different school contexts (i.e., rural/urban) and with students of differing socio-economic and linguistic backgrounds. The majority of studies focus on mathematics and science subjects, and there is a need for more research relate to other subjects (e.g., history, geography, civic education). Situated studies of classroom practice which capture the complex and often competing priorities that teachers negotiate, can illuminate the resources available to teachers and learners and the constraints within which they operate (Jaspers, 2018).

In [chapter four](#), we described three pedagogic approaches each of which have been developed through classroom research. Although the contribution and relations between practitioners and university-based researchers differed with respect to each, they have all proved powerful for progressing pedagogical theory and practice. They suggest two types of research can contribute towards development of multilingual pedagogies:

- i. detailed classroom studies at upper-primary and secondary level, observing and describing practices that teachers have developed in different contexts and for different subjects (Benson 2010); and
- ii. action-oriented teacher research that engages teachers and teacher educators in professional inquiry and theory-building with respect to their own and their colleagues practice (Barrett et al., 2021). This includes action research that is directed towards development of materials (Murphy, P. Wolfenden, 2013; Osaki & Mtana, 2017) and teachers' formative assessment practices (Rea-Dickins et al., 2013).

The experience of developing LSP in Tanzania indicates the importance of collaboration between language and subject specialist. Given the need to adapt pedagogies for different contexts, we advocate endogenous models for knowledge creation through the creation of networks or communities of practitioners with a shared interest in developing MLE. This may involve allowing teachers and teacher educators time for collaboration and ensuring access to spaces where they can meet and network such as teacher resource centres. Teachers may also need clear signals from

quality assurers, managers and policymakers that pedagogical innovation is valued and recognised and they will not be penalised for experimenting beyond established norms.

6.3.3 Teaching and learning resources

Textbooks are still the main resource for teaching and learning in much of sub-Saharan Africa where access to the internet, digital technologies and mains electricity remains uneven. At present monolingual L2 textbooks are inaccessible to many/most learners without the mediation of teachers, representing a massive waste of investment (the World Bank). To be accessible, textbooks should be appropriate to learners' cognitive-linguistic competences and reflect their multilingual and multimodal repertoires. Too often textbooks are created over a short time span of a just a few months, which allows little time for authors to experiment with new types of design and hence the reproduction of established types of texts. There is also a need for research that engages publishers, subject and language educators in developing and trialing subject textbooks that target all three dimensions of academic language learning as an integral part of subject learning (Clegg & Milligan, 2021).

6.3.4 Curriculum design

Key questions remain for the design of additive MLE curricula. Research is needed that can offer guidance on how to plan for academic language learning across the curriculum. This work can be informed by emergent definitions of academic language in relation to distinct functions and academic disciplines (e.g., CoE, 2018 and WIDA 2020, see [2.5.3](#), above). The point at which new languages are introduced as subjects or as languages used in learning and teaching depends on contextual factors, such as the language proficiencies of learners, their access to English outside of school, the proximity of home languages and languages used in education and the capabilities of teachers. Hence, curriculum design needs to be informed by research monitoring learning at different levels of the education system and classroom research, as detailed above. Curriculum design should engage with practitioners from across the full range of diverse contexts that are served by an education system as well as curricular theory.

6.4.5 Assessments and examinations

There is very little evidence on the design of national assessments and examinations for multilingual education systems but what literature does exist strongly suggests that monolingual examinations, designed with no regard to learners' language proficiencies, are very poor measures of subject learning (Gorter & Cenoz, 2017; May, 2017; The World Bank, 2021). A stronger evidence basis is also needed for formative assessments, that will develop knowledge and tools for teachers to evaluate and develop learners' academic language skills. Multilingual formative assessment tools and strategies will enable teachers to evaluate and engage with learners' prior knowledge from outside school and to build continuously on learning across a transition in LOLT.

6.5.6 Language practices in post-compulsory education and the workplace

Finally, we observe that much of the academic debate about EMI is directed towards preparing learners to access post compulsory education or workplaces where standardised registers of a European language are assumed to be the main form of communication. The linguistic citizenship literature draws attention to variety and hybridity of language practices in multilingual societies (Heugh & Stroud, 2020). In Tanzania, much vocational education, including primary school teacher education, uses Kiswahili as the main LOLT. Across sub-Saharan Africa, clinicians, agricultural extension workers and others work every day with patients, customers, clients or students, who have

little or no knowledge of English. There is need therefore for sociolinguistic research into language practices in different workplaces and how these contribute to professional capabilities to contribute meaningfully to community and national development (Walker, 2008). Such research might usefully inform language policies and curriculum design across different levels of an education system.

7. References

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