



Does the use of learners' first languages as a pedagogical tool result in improved English vocabulary acquisition for EAL learners in a linguistically diverse classroom?

Gemma Boskovic

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1 Abstract

The use of learners' first languages within teaching has been promoted as best practice in relation to multilingual learners, argued to improve educational outcomes in addition to broader social justice benefits. However, existing evidence is unclear as to the substantive outcomes of a pedagogical translanguaging approach, particularly in relation to EAL learners who are a heterogeneous group within linguistically diverse classrooms. Therefore, the study aimed to investigate whether the use of learners' first languages as a teaching tool results in improved English vocabulary acquisition. To achieve this, a quasi-experimental intervention study was conducted in a primary school, involving both EAL and non-EAL learners in years 3 and 4. Additionally, a survey, observation, and focus group were used to assess how learners and teachers respond to a multilingual teaching approach in a whole-class setting.

Whilst findings showed no significant advantage in English vocabulary learning resulting from the use of first languages as a teaching tool, descriptive analysis suggested that a multilingual teaching approach was beneficial for a sub-group of EAL learners who extensively engaged in peer L1 discourse. Furthermore, the inclusion of first languages was positively received, and findings suggest this may have improved intercultural awareness and positive identity development among learners. Significantly, the study demonstrates there are EAL learners with a strong desire to use their L1 socially within the classroom, which may be key to implementing and benefiting from a multilingual teaching approach in this context. Further, larger-scale research is needed to draw conclusions as to the academic outcomes of L1-mediated teaching, with consideration as to the role of peer interaction and broader effects on learner wellbeing.

2 Introduction

Pupils for whom English is an Additional Language (EAL) are defined as those exposed to a language at home other than English and make up 21.3% of the primary school population in England (Department for Education [DfE], 2020). The use of EAL learners' first languages as a teaching tool has been promoted as good practice, referred to as pedagogical translanguaging. However, translanguaging literature has made claims regarding a causal relationship between L1-mediated teaching and improved language development outcomes (García and Wei, 2014; García and Kleifgen, 2020). Whilst evidence supports the advantages of bilingual schools compared to English-only education in countries such as the US (Krashen and McField, 2005), the extent to which similar outcomes can be assumed in British mainstream classrooms in Britain is unclear, as they are characterised by extensive linguistic diversity (Chalmers and Murphy, 2022).

Subsequently, questions are raised regarding the feasibility of L1-mediated teaching in this context, due to an absence of multilingual teachers and enough shared language speakers in any given classroom with the proficiency to leverage their L1 in learning, described as a 'critical mass' (Slavin and Cheung, 2005; Chalmers, 2017). Furthermore, research into pedagogical translanguaging and the use of learners' L1 as a learning tool is equivocal, and there exists a lack of empirical evidence to support the claims made (Huang and Chalmers, 2023). Therefore, the study seeks to address the need for empirical research into the substantive outcomes of an L1-mediated teaching approach, investigating whether the use of learners' first languages as a teaching tool results in improved vocabulary acquisition in a linguistically diverse context.

Additionally, pedagogical translanguaging is promoted as a transformative approach for empowerment and positive identity development among multilingual learners (García and Lin, 2017; Cummins and Early, 2011), suggesting broader benefits to a multilingual approach beyond assessment outcomes. Previous research has suggested that

multilingual teaching may improve EAL learner wellbeing and promote intercultural understanding (Kenner et al., 2018). However, the effects of multilingual teaching are also evidenced to be impacted by sociocultural and sociopolitical context (Charalambous et al., 2016; Allard, 2017). Therefore, it is important to investigate the effects of L1-mediated teaching on both pupils and practitioners within a whole-class setting, particularly as there may be negative attitudes towards L1 use within school (Chalmers, 2014, 2019). Therefore, the study also aims to explore how learners and teachers respond to the use of first languages as a teaching tool within a linguistically diverse classroom.

This study thereby adopts a mixed methods approach, integrating quantitative and qualitative methods to best address these questions (Greene, 2007). A quasi-experimental intervention study was used to compare the vocabulary learning outcomes of a multilingual group with a control group, collecting empirical data to address the primary research question. This was complemented using a participant survey, observation, and a focus group to explore responses towards multilingual teaching and generate rich and meaningful data regarding the broader effects of an L1-mediated teaching approach (Cresswell and Clark, 2017).

3 Literature Review

3.1 Introduction

This literature review will critically examine the current debate surrounding EAL learners, discussing theory and research relevant to this study. First, key contextual considerations will be explored, highlighting the heterogeneity of EAL learners before examining current approaches and the shift towards multilingual teaching approaches. Following this, relevant theoretical frameworks will be evaluated, particularly crosslinguistic transfer in L1-mediated teaching, and how this compares with theoretical translanguaging. It will then be useful to investigate empirical research, examining studies that have measured substantive outcomes relating to L1-mediated teaching. The review will highlight a current lack of evidence to support current claims, demonstrating the need for experimental research such as intervention studies to better understand the outcomes of a multilingual approach.

3.2 Contextual background

3.2.1 EAL learners as a heterogenous group

The significant number of EAL pupils reflects increasingly 'super-diverse' classrooms and communities with a complex social and demographic landscape (Vertovec, 2007). Therefore, despite falling under a single label, EAL learners are a diverse group speaking more than 300 languages within the UK (Bailey and Marsden, 2017). EAL learners also range in English proficiency from being fluent multilinguals to having very limited English (Hutchinson, 2018), and may not necessarily be fluent bilinguals or literate in either language (Hall et al., 2001). The use of the term has been criticised as 'reckless' given its failure to indicate either English or home language knowledge and proficiency (Murphy, 2018).

The diversity of EAL learners was highlighted in a report by Strand et al. (2015), which, based on variability in achievement, described the heterogeneity within those classified as EAL to be so large that comparison between EAL and non-EAL pupils is almost meaningless. Instead, individual background variables including age of arrival into UK

education and pupil mobility in combination with EAL status were significantly associated with academic achievement (Strand et al., 2015). Cross-sectional analysis showed that, fundamentally, English language proficiency is the major factor indicating a pupil's risk of low attainment and need for support (Strand et al., 2015). Consequently, educators must assess and address the specific needs of these learners if they are to alleviate the risk of an achievement gap. This demonstrates that further research is needed so that policy and intervention may be effectively targeted towards improving academic outcomes and better-equipping practitioners (Chalmers and Murphy, 2021).

3.2.2 Mainstreaming

Policy responses to multilingualism among pupils in Britain have been characterised by a tension between recognising pupil diversity while simultaneously upholding a 'universal model of language development and assessment' (Safford, 2003, p. 8). However, it is argued that this represents an ideal of universalism that conflates equality with adopting the same approach with every pupil, thereby inherently promulgating an ethos of monolingualism (Heller, 2007; Conteh et al., 2014). An assimilationist approach regarding EAL learners stems from the influential Swan Report (DES, 1985), which stated that schools must prioritise equal opportunities for all, and that the maintenance of home languages was the responsibility of outside communities.

Thus, the assimilation of EAL learners into English-speaking classrooms is perceived as inclusive (Foley et al., 2013), despite criticism that bilingualism among learners is disregarded as a result (Bourne, 2001; Conteh, 2012a). Since then, EAL learners' needs have received limited attention within the national curriculum, which briefly states that teachers must provide the support needed for pupils to take part in subjects (DfE, 2013a). Scholars generally describe England as adopting a 'mainstreaming' approach towards EAL learning (Leung, 2016), which presumes English to be non-consciously

acquired by pupils through participation in mainstream, English-only classes (Leung, 2005).

3.2.3 The 'multilingual turn' in Education

Early theories on bilingualism assumed language to exist as isolated systems, in competition for cognitive resources (Darcy, 1953). Despite a significant body of empirical research to support the linguistic, academic and cognitive benefits of bilingualism (Cummins, 2010; Baker, 2011; Garcia, 2009), a so-called 'subtractive' view of bilingualism in which favour for the majority language dominates to the exclusion of another, has been argued to pervade policies and attitudes towards the presence of first languages within the classroom (Conteh et al., 2014). Furthermore, a deficit view of bilingualism is often portrayed through the problematisation of multilingualism and linguistic diversity within schools (Drury, 2013), with EAL learners being characterised by having 'barriers to learning' (DfE, 2011b). Much work has been done to counter deficit views of bilingualism as being detrimental or unimportant, instead promoting an additive view of bilingualism (Lambert, 1981), which advocates that multilingualism is an asset due to the existing linguistic resources which should be maintained during second language development.

Attention towards the sociocultural implications of linguistic diversity led to 'The Multilingual Turn' (May, 2014; Conteh and Meier, 2014) in which scholars argued for the reframing of multilingual pupils as possessing rich competencies from which academic development should be built. Furthermore, increased focus on the language rights of multilingual learners has popularised the concept of 'translanguaging' (Wei, 2018; Garcia and Li Wei, 2014). Coined from classroom observation in Wales (Williams, 1994), translanguaging originally referred to language alternation for the purpose of learning in classrooms (Baker, 2011). Since then, the term has been extended upon by scholars as referring to the complex discursive practices of multilinguals and pedagogical approaches that embrace the complexity of language as a process (Conteh and Meier, 2014; Blackledge and Creese, 2010; Otheguy et al., 2015; Garcia

and Kliefgen, 2020). Subsequently, languages are not conceptualised as discrete entities, but viewed as dialogic, meaning that language is both context-bound and formed through the process of social interaction (Bakhtin, 1981). Therefore, translanguaging advocates for multilingual learners to be able to dynamically use their entire communicative repertoire, without adherence to externally named languages (Garcia and Kleifgen, 2020).

Translanguaging emphasises the importance of pupils' first languages being legitimised and valued within the classroom environment, to the extent that L1-mediated teaching is no longer considered controversial within research (Macaro, 2018). However, teachers find themselves conflicted between calls promoting multilingual pedagogy as effective practice and concerns about the appropriacy of anything but exclusive target language use, prevalent throughout policy (Chalmers and Murphy, 2021). Therefore, research must respond accordingly to establish and understand the academic and language developmental outcomes of a multilingual teaching approach, ensuring that effective, evidence-based practice is adopted (Chalmers, 2017).

3.3 Theoretical overview

3.3.1 Introduction

Before critically evaluating empirical research regarding the effects of L1-mediated teaching, it will be useful to examine relevant theories which underpin the argued cognitive and developmental advantages of bilingual teaching, as these are relevant to the current study. Additionally, it will be necessary to discuss translanguaging, which relates to the notion that pupils should be allowed to dynamically draw on their entire language repertoire in learning (Wei, 2018). Current debate relating to translanguaging will be evaluated, before considering the pedagogical and research implications of relevant theories.

3.3.2 Common Underlying Proficiency

Cummin's (1981a) Linguistic Interdependence Hypothesis and the related theory of Common Underlying Proficiency (CUP) (Cummins, 1979a; 1980b) remain influential today in understanding the relationship between L1 and L2 proficiency and its pedagogical implications. Both constructs underpin an additive perspective of bilingualism, arguing that multilingual learners can expand their competence in an additional language whilst simultaneously developing their academic capabilities in the L1 (Cummins, 2010). The core principle of the interdependence hypothesis is that the L1 and L2 are interrelated; to the extent that when instruction in one language effectively develops language proficiency, transfer of that same proficiency to the other language will occur as long as there remains sufficient exposure and motivation to maintain the other language (Cummins, 1981a). Therefore, expanding proficiency in one language will also be developing an underlying conceptual and linguistic proficiency linked to their literacy development in the other language (Cummins, 2008).

The theory of Common Underlying Proficiency extends upon the Interdependence Hypothesis (Cummins, 1979a, 1980, 1981a), positing that whilst external aspects of a bilingual speaker's languages such as lexis and grammar may appear separate, they share an underlying cognitive and academic proficiency. This is visualised as a dual-peaked iceberg to represent both surface language features and the concealed, cognitive resources that inform them. Subsequently, this 'central engine' of cognitive and linguistic resources shared by both languages (Chalmers and Murphy, 2022) allows for two-way crosslinguistic transfer between them. One relevant example is the potential for crosslinguistic transfer of conceptual understanding and the meaning of specific linguistic elements (Cummins, 2021a). Due to language interdependence, it is claimed that skills surrounding meaning-making in one language can be extended to the other, meaning that if a pupil already knows a concept, such as 'time' in one language, they do not need to re-learn it but can instead identify the semantic referents for it in the other language (Cummins, 2001).

3.3.3 Theoretical translanguaging

Whilst Common Underlying Proficiency and linguistic interdependence are well established within research (Cummins, 2021a), the theoretical development of translanguaging has generated much debate. From a pedagogical perspective, translanguaging is an approach facilitating pupils' ability to draw upon their entire linguistic repertoire without regard for politically and socially defined language labels (Wei, 2018). Thus, translanguaging does not view bilingualism as the command of separate, autonomous language systems, but as the dynamic use of a unitary linguistic repertoire that includes socially constructed, named language features (Garcia and Wei, 2014). Therefore, translanguaging is posited as a transformative practice that challenges the monoglossic ideology argued to underpin traditional ideas of bilingualism and exacerbate the minoritisation of bilingual pupils (Garcia, 2009; Garcia and Leiva, 2014). Translanguaging thus centres the voice of marginalised students and disrupts structural inequalities perpetuated by the framing of pupils as successful learners or not based on language and race differences (McDermott, 2015).

Stringent denial that languages possess psychological reality results in the rejection of concepts such as crosslinguistic transfer and 'codeswitching' (Otheguy et al., 2015), which refers to the practice of language alternation. This has spurred criticism that a unitary model of bilingualism in which languages are undifferentiated fails to align with theoretical understanding and evidence supporting the reality of discrete, cognitive language features, such as rule-adherence and systematicity in code-switching (Riegelhaupt, 2000; Cook, 2001; MacSwan, 2017; Rampton, 2007; Fuller, 2009). Furthermore, Translanguaging characterises concepts such as additive bilingualism and CUP as pertaining to 'monoglossic' language ideology (Garcia and Li, 2014; Garcia et al., 2021). Translanguaging scholars argue that these constructs reduce bilingualism to a merely transitional stage and thereby maintain colonial language hierarchies (Otheguy et al., 2015). However, Cummins (2022) strongly refutes what he describes as ideological assertions, highlighting that research supporting the concepts of additive bilingualism and codeswitching stem from a long-standing campaign for sociopolitical

change through the promotion of learners' rights to develop in both their languages (Lambert, 1974; May, 2011, 2014; Nieto and Bode, 2018).

Cummins (2022) also highlights inconsistencies within translanguaging literature, including Garcia's (2009) endorsement of the term 'codeswitching', before later denouncing its legitimacy (Otheguy et al., 2015). Additionally, crosslinguistic approaches to teaching such as translation exercises are found within prominent pedagogical translanguaging guides (Garcia and Kliefgen, 2020), leading to the argument that developmental advantages to such approaches rely on cognitive interdependence between languages. Consequently, translanguaging proponents contradict their claim that languages possess no cognitive or linguistic reality (Otheguy et al., 2015), resulting in an 'incoherent logic' (Cummins, 2022; MacSwan, 2017). It is claimed that shifting theoretical perspectives regarding bilingualism relate to emergent deconstructive ideology among scholars (Pennycook, 2006; MacSwan, 2022), leading to calls to prioritise an evidence-based approach to teaching multilingual learners (Cummins, 2022).

A complex picture emerges. The credibility of an undifferentiated, unitary model of bilingualism is undermined by a lack of supporting evidence and its inability to theoretically define the concept of crosslinguistic transfer (Cummins, 2022; MacSwan, 2017, 2022). Despite this, translanguaging proponents (García and Otheguy, 2014; Otheguy et al., 2015) continue to make claims concerning a causal link between the translanguaging approach to pedagogy and improved academic outcomes (Garcia and Wei, 2014). Furthermore, pedagogical translanguaging has been defined and operationalised inconsistently within research literature (Huang and Chalmers, 2023). Indeed, the term 'translanguaging' can be said to encompass cognitive processing theory, dynamic language use, a multilingual pedagogy, and a process of social and individual transformation (Ballinger et al., 2017), leading to the concept being likened to a 'terminological house with many rooms' (Jaspers, 2018, p. 2).

Whilst translanguaging may be suffering from ‘discursive drift’ (Cameron, 1995, p. 127; Jaspers, 2018), it is possible to distinguish between two main strands of translanguaging theory. One strand is unitary translanguaging theory (UTT) (Cummins, 2022), which incorporates Garcia et al.’s (2021) position on a unitary mental grammar and the perspective that bilinguals ‘do not speak languages’ (Garcia and Lin, 2017, p. 126). The other is Crosslinguistic Translanguaging Theory (CTT) (Cummins, 2022), which recognises the psychological existence of language-specific features within the cognitive system of bilinguals, thereby giving credibility to the empirically supported concepts of CUP and additive bilingualism (Cummins, 2022). Whilst these strands contrast in their perspectives towards language as a construct, both UTT and CTT reject a monolingual teaching approach and the devaluation of bilingual pupils’ language practices (Cummins, 2021b, 2022).

3.3.4 Translanguaging and Sociocultural Theory

As discussed, translanguaging pedagogy centres the speaker, rather than the language. Thus, it accounts for sociocultural facets of learning, such as intercultural awareness and identity development (García and Kleyn, 2016; García and Kliefgen, 2020).

Translanguaging subsequently focuses on social interaction between multilingual speakers, described as the leverage of their linguistic repertoire within impromptu interactions to create meaning (Li, 2011). This has led some to call for conceptual integration between translanguaging and sociocultural theory, which prioritises the role of social language use as a semiotic resource for the communication of meaning, integral to cognitive learning processes (Vygotsky, 1987; Mercer, 2004; Swain et al., 2015; Smith and Robertson, 2019). Therefore, by viewing pedagogical translanguaging through a sociocultural lens, which places significance on the L1 as used in peer interaction, it may be possible to better understand and implement its underpinning learning tools and theory (Duarte, 2019).

It has been suggested that centring the use of learners’ L1 within classroom peer interaction may be an effective way to implement pedagogical translanguaging in

linguistically diverse classrooms (Smith and Robertson, 2019), as this doesn't necessarily require a teacher who is able to provide L1 input. However, it has been highlighted that the feasibility of an advantageous multilingual teaching approach is likely to rely on the existence of a 'critical mass' of language users (Slavin and Cheung, 2005, p. 250; Chalmers, 2017), which describes an (unspecified) proportion of L1 speakers willing and able to utilise their L1 in the classroom. The educational context of mainstream British classrooms is characterised by extraordinary diversity, making it unlikely that this critical number of L1 users required to benefit from multilingual teaching occurs (Chalmers, 2017). Furthermore, previous research has suggested that EAL learners may be impacted by negative attitudes regarding L1 use within the classroom (Chalmers, 2014, 2019), and L1 use among EAL learners in the classroom environment has not been observed (Bailey et al., 2017).

3.3.5 L1 use and identity

An important concept within both translanguaging and sociocultural theory is the role of identity in learning, described as a higher-order psychological function which is continually formed through social interactions (Vygotsky, 1987). The impact of multilingual teaching on learner identity relates to the social justice aspects of pedagogical translanguaging, described as playing a role in the struggle for linguistic determination of minoritised pupils whose language practices are delegitimised through monolingual education (Flores and García, 2013; Flores, 2014). As a result, the inclusion of learners' first languages within the classroom is claimed to promote equity for marginalised students by way of empowering them through positive validation of their L1 knowledge as a linguistic and cultural resource (Bartlett and García, 2011; Cummins et al., 2015).

Observational research has suggested that being provided opportunities to use their L1 in school has a positive effect on multilingual learners' well-being, identity, and the school's relationship with EAL learners' parents whose cultures are valued (Parke et al., 2002; Duarte, 2011; Gazzard, 2018). A research project in London investigated how

pupils' identities as learners were affected by using their L1 within the classroom (Kenner et al., 2008). Pupils reported improved confidence as a result, feeling culturally validated through using their first language in school (Kenner et al., 2008). Similarly, Cummins and Early (2011) emphasise the significance of teacher-pupil interactions in both generating knowledge and negotiating pupil identities. The authors argue that when teachers positively engage with and value learners' first languages, there is a positive impact on learner identity and both cognitive and literacy engagement (Cummins and Early, 2011). Evidence shows that literacy engagement is a primary factor in determining literacy attainment (Guthrie, 2004). Therefore, the incorporation of pupils' first languages in teaching may play a significant role in fostering identity-affirming, active engagement with literacy that fosters a sense of competence among EAL learners (Manyak, 2004). As a result, L1-mediated teaching is argued to positively impact children's individual and academic development (Norton, 2000; Cummins and Early, 2011).

Such research promotes the use of EAL learners' L1 as a transformative pedagogical tool not only in relation to learner wellbeing and identity formation (Cantle, 2012; Li, 2014; Woodley, 2016), but academic development. However, these effects cannot be automatically assumed, as L1 use within schools is highly impacted by the sociocultural and sociopolitical context in addition to the local ecologies of classrooms and schools (Creese and Blackledge, 2010). This is demonstrated by studies which found translanguaging to be rejected by pupils as a positive or empowering tool, as it may be perceived as detrimental to English development (Allard, 2017), or in another case, pupils did not want to be perceived as 'Turkish' through using their L1 in school due to societal stigma (Charalambous et al., 2016). Furthermore, a critical discourse analysis undertaken in Nepal found that uncritical adoption of translanguaging may result in unequal language practices that privilege some languages above other, indigenous languages, thereby reproducing language hierarchies in multilingual classrooms (Sah and Li, 2022).

In the context of EAL learners, Chalmers (2014, 2019) highlights an associated stigma in relation to L1 use within schools, somewhat attributed to sociopolitical prejudices regarding ethnic minorities and immigration. Chalmers (2014, 2019) suggests that negative attitudes towards L1 use may impact on pupils' willingness to engage with their L1 in this environment, due to a lack of parental support and ongoing beliefs that bilingualism hinders English language development. Therefore, it is necessary to take a critical approach when investigating the effects of a pedagogical translanguaging approach, rather than making assumptions (Jaspers, 2018), making empirical research crucial to elucidating the outcomes of an L1-mediated teaching approach, which will now be critically evaluated.

3.4 Empirical research

3.4.1 Introduction

There exists a long-standing body of empirical research to demonstrate that minority language pupils in bilingual education perform as well or better academically compared to those attending monolingual, majority language schools (Lambert and Tucker, 1972; Krashen and McField, 2005; Rolstad et al., 2005; Slavin and Cheung, 2005; Reljić et al., 2015). However, much of the existing research occurs within contexts such as the US and Canada, which possess a 'critical mass' (Slavin and Cheung, 2005, p. 250) of bilingual speakers. Whilst this supports the potential developmental advantages of L1-mediated teaching, these findings cannot simply be generalised to the context of EAL learners in mainstream schools, as Britain is characterised by linguistic diversity, and teachers are unlikely to possess knowledge of the multiple L1s which may be present. Therefore, further research is required to determine whether a multilingual teaching approach is both feasible and beneficial in a linguistically diverse context.

First, research on linguistic interdependence will be evaluated, as crosslinguistic interdependence and common underlying proficiency represent the theoretical basis for presuming that L1-mediated teaching results in improved L2 development (Cummins 1980b, 2010). Then, evidence concerning the substantive language and

academic outcomes of an L1-mediated teaching approach will be explored, with a particular focus on studies investigating vocabulary acquisition in similar contexts. Finally, systematic reviews of pedagogical translanguaging research will be examined, highlighting the need for more experimental, intervention-based studies to assess whether a causal relationship exists between L1-mediated teaching and improved L2 development.

3.4.2 Research on linguistic interdependence

As discussed, linguistic interdependence and CUP (Cummins, 1980b, 2010) provide a theoretical framework to understand the ‘central processing system’ (Cummins, 2000, p. 191) supporting a learner’s ability to build upon existing linguistic knowledge in the L1, thus facilitating crosslinguistic transfer across languages to the advantage of L2 acquisition (Cummins 2021a). A recent large-scale study examining EAL learners in the UK provides evidence to support the interdependence hypothesis and CUP (Daller and Ungun, 2018). The study involved a correlational analysis of data from 100 Turkish-English bilingual children aged between 7-11, using data from receptive and productive vocabulary test scores in both languages, an intelligence test, and a parent questionnaire regarding home language use. Findings showed a significant correlation between languages for both the receptive and productive vocabulary scores, indicating an inter-relationship between the two languages through simultaneous development, as described by both CUP and the Interdependence hypothesis (Daller and Ungun, 2018). Additionally, significant relationships were found between parental support for L1 use at home and vocabulary development in both English and Turkish, suggesting that parental support and language attitudes play a role in children’s lexical and cognitive development (Daller and Ungun, 2018).

Whilst the study involved children from a middle-class demographic only, limiting its generalisability, and the bilingual group demonstrated greater standard deviation scores across tests, indicating a greater range of variance (Daller and Ungun, 2018), its findings are strengthened by a body of empirical evidence to support an

interdependence between skills across languages (Lindsey et al., 2003; Sparks et al., 2009; Preevo et al., 2016). A synthesis conducted by the National Academies of Sciences, Engineering and Medicine (NASEM, 2017) also concluded that there are significant positive correlations between learners' L1 literacy skills and literacy development in the L2 (English), resulting in an L2 developmental advantage for learners receiving systematic L1 educational support (NASEM, 2017). Therefore, empirical evidence supports the basis for an interdependence between bilingual pupils' languages, and shared cognitive and linguistic resources which can be utilised to the advantage of academic and language development (Cummins, 2021a).

Although crosslinguistic relationships are shown to be generally stronger between typologically similar languages, research also supports linguistic interdependence between languages with few typological commonalities (Cummins, 2021a). Chuang et al. (2012) examined test score data from 30,000 ninth-grade students in Taiwan, using regression analysis to examine reading scores in both Mandarin Chinese (L1) and English (L2), finding that L1 reading proficiency significantly predicted L2 reading proficiency within the sample. Whilst the findings support the existence of crosslinguistic transfer between alphabetic and non-alphabetic languages (Chuang et al., 2012; Wang et al., 2005, 2006), the use of assessment scores alone limited the independent variables accounted for such as cognitive ability, parental support, and L2 input and length of exposure. Additionally, whilst cross-sectional analysis was able to take advantage of a large sample size, longitudinal studies are required to better illustrate the relationship between L1 and L2 development over time.

Empirical evidence consistently supports both the CUP and linguistic Interdependence hypotheses (Cummins, 1980b, 2010; Chuang et al., 2012; Preevo et al., 2016; Daller and Ungun, 2018), suggesting that the use of learners' L1 as a pedagogical tool may be advantageous in relation to English development. However, research of this kind does little to elaborate on the pedagogical implications of a multilingual teaching approach, particularly in relation to EAL learners within diverse, mainstream schools (Chalmers and Murphy, 2022). To investigate the potential advantages for EAL learners in this

context, it is necessary to examine research assessing educational and language development outcomes resulting from multilingual pedagogy.

3.4.3 L1-mediated instruction

There is a clear need to determine whether an L1-mediated teaching approach is likely to result in improved English acquisition for EAL pupils, enabling them to better access and engage with the curriculum (Chalmers, 2017). Particularly due to causal claims that have been made in relation to L1-mediated pedagogy and improved language development outcomes (García, 2009; Cummins and Early, 2011; Garcia and Klieffen, 2020), without reliable and robust research to support them (Chalmers and Murphy, 2022). This was highlighted in a systematic review of the studies that had utilised an experimental or quasi-experimental design to measure the effects of L1-mediated teaching on academic outcome assessments within the target language (Chalmers, 2019). Only 11 eligible studies were identified, including just one which was conducted in a linguistically diverse classroom (Chalmers, 2014). Various strategies and assessments were utilised in the studies, including systematic language comparison which found a reduction in errors within written and oral L2 production due to L1-mediated teaching (Yiakoumetti, 2006). Three studies assessed L2 reading outcomes with equivocal results, including one finding an advantage to use of the L1 (Huennekens, 2013), one which found there to be no difference between L1-mediated teaching or not (Walters and Gunderson, 1985) and another which found that an L1 paired-reading intervention did not significantly improve reading performance (Sánchez, 2004).

Of particular interest are studies examining the effects of using the L1 on L2 vocabulary acquisition. Four studies used the L1 as an aid to improve vocabulary acquisition of keywords within a shared text, finding mostly that an L1-mediated intervention resulted in improved receptive knowledge of English vocabulary (Lugo-Neris et al., 2010; Lee and Macaro, 2013; Sieh, 2008). However, one of Sieh's (2008) two experiments, which used flashcard English translations as an intervention for 4th grade Mandarin pupils, found no

statistically significant difference in the outcome measure between groups. Codina Camó and Pladevall Ballester (2015) conducted a similar study involving 34 fifth grade Catalan pupils learning English, in which 20 target English vocabulary items were shown to participants as part of an animated adaptation of Peter Rabbit. Flashcards were shown for the target words, with the control group being shown only the English word and the intervention group also provided with its Catalan translation. The intervention group had statistically significantly improved receptive knowledge in the post-test assessments both one week and one month post the intervention. They also had faster response times within the computerised post-test (Codina Camó and Pladevall Ballester, 2015). These findings suggest that the use of L1 translations as a teaching tool may result in improved receptive L2 vocabulary acquisition, retention, and lexical access, aligning with other research (Lotto and de Groot; 1998; Takac, 2008; Sieh, 2008; Liu, 2009; Lee and Macaro, 2013).

However, whilst the use of a control group increased the study's ability to attribute the improved outcome measure to effects of the intervention, it had several limitations. One limitation was the use of intact classes, rather than randomised allocation which helps to avoid comparator groups being systematically different prior to the experiment, thereby hindering the study's reliability (Campbell and Stanley, 1963). Consequently, the study had a higher risk of bias resulting from class-specific differences, limiting its ability to solely attribute findings to the presence of the L1 within the intervention. In evaluating the methodological rigour of the 11 studies within his review, Chalmers (2019) noted a lack of experimental designs such as randomised trials, which are considered the most reliable in attributing causal inference.

This systematic review (Chalmers, 2019) highlights a paucity of empirical evidence from which to draw reliable conclusions regarding the academic outcomes of L1-mediated teaching. There are just two known experimental studies which have included EAL learners in a linguistically diverse context (Chalmers, 2014, 2019). One investigated the effects of L1-mediated reading with parents on the completeness and quality of learners' written re-telling of a story (Chalmers, 2014). Participants included 25

linguistically diverse EAL pupils who were randomly allocated to either the English-only or L1-mediated condition and provided with a storybook to read at home with their parents for one week. The findings showed no difference in the quality of the writing between learners who had read and discussed the story in English and those who had used their L1 (Chalmers, 2014). However, post-assessment questionnaires indicated limited adherence to the experiment conditions, hindering the reliability of findings as it cannot be said that participants in the L1-mediated condition received systematic L1-mediated input of the amount and quality needed to result in an advantage (Chalmers, 2014).

Of further interest is the follow-up study which utilised a randomised crossover trial involving 40 EAL learners between the ages of 8-11, speaking 14 different L1s (Chalmers, 2019). Participants were taken out of lessons to watch videos explaining the meaning and key characteristics of target English vocabulary, before discussing each target word with a teacher and completing a concept map according to either English-only or L1-mediated conditions. Findings from the post-tests, which assessed receptive and productive knowledge of the target words revealed no statistically significant difference between groups, indicating there was no advantage to the use of EAL learners' L1 as a teaching tool for English vocabulary acquisition (Chalmers, 2019).

The study was highly controlled due to the use of a randomised crossover trial with blind allocation and assessment, strengthening its internal validity and statistical power (Chalmers, 2019). Whilst taking participants out of the classroom for solo research activities before individual discussion allowed for greater control of potential confounding variables, it hindered the study's ecological validity, as it did not reflect a naturalistic classroom learning environment. Chalmers (2019) justified this decision based on feasibility: the intervention had to incorporate 14 different L1s and there was not a multilingual teacher equipped with the required knowledge of those L1s to provide input in the classroom.

Due to the comprehensive L1 input involved in Chalmers' (2019) study and the linguistic diversity of participants, the decision to conduct the experiment in this way is understandable. However, previous studies used flashcards to provide the L1 translation (Sieh, 2008; Camó and Ballester, 2015), suggesting that the translation alone may be sufficient in facilitating crosslinguistic transfer, rather than comprehensive L1 input being wholly necessary. Another point of interest is that, in having participants complete activities alone (Chalmers, 2019), they were unable to engage in social interaction and discussion in the L1, argued to be instrumental in language development (Cummins and Early, 2011; Smith and Robertson, 2019; Duarte, 2019; García and Kleifgen, 2020). The lack of multilingual teachers that mainstream education in Britain is characterised by could potentially be countered through utilising existing L1 knowledge among pupils themselves, depending on sociocultural and classroom context.

3.4.4 Translanguaging research

Whilst translanguaging is posited as a transformative pedagogy for multilingual learners, robust evidence is needed to clarify its causal developmental outcomes (Chalmers and Murphy, 2022). Current research into the effects of pedagogical translanguaging consist of mostly qualitative studies, as shown in a systematic review by Prilutskaya (2021) whose synthesis of 233 studies found that only 3% utilised designs suitable for collecting quantitative data regarding educational outcomes. This aligns with another comprehensive systematic review (Ozkaynac, 2023), which found that only 2% of studies were quantitative.

Qualitative research such as ethnographies and case-studies suggest that pedagogical translanguaging may enable learners to engage in acts of meaning-making (Bauer et al., 2017) and improve metalinguistic awareness (Leonet et al., 2017). Whilst this is encouraging, a systematic review by Huang and Chalmers (2023) identified only 10 recent experimental studies that assessed the effects of pedagogical translanguaging on English language development in an EFL context. The authors concluded that there

exists not only a lack of reliable evidence to draw firm conclusions about a causal relationship between translanguaging and improved English development, but also detected inconsistencies in its operationalisation, further impeding the route to clear and consistent findings regarding the effects of a translanguaging approach (Huang and Chalmers, 2023).

Of existing research, few studies have been robustly designed in a way that controls for potential bias and effectively compares L1-mediated teaching to a monolingual teaching approach (Chalmers, 2019). Additionally, the two studies conducted in the context of EAL learners found no statistically significant advantage of using EAL learners' L1 as a teaching tool (Chalmers, 2014, 2019). Whilst there is a theoretical rationale and empirical evidence to support potential developmental advantages to the use of learners' L1 as a teaching tool, particularly in relation to vocabulary acquisition, there exists a clear need for further understanding and research into the effects of L1-mediated teaching on academic outcomes for EAL learners in diverse, mainstream classrooms, so that empirical evidence, rather than unsubstantiated claims, can inform pedagogical practice (Chalmers and Murphy, 2022; Huang and Chalmers, 2023).

3.5 Summary

Research shows that bilingual schooling results in improved academic and language development outcomes compared to monolingual English schools (Krashen and McField, 2005), supported by a theoretical basis to suggest that learners' existing cognitive and linguistic knowledge in the L1 can be leveraged in a way that benefits the development of both languages due to their shared underlying resources (Cummins, 1980b, 2010, 2021a). However, much existing research relates to contexts with an established 'critical mass' of language users (Slavin and Cheung, 2005). Therefore, it cannot be assumed that the outcomes of research conducted elsewhere can be generalised to the educational context of linguistically diverse classrooms in Britain, where there are also feasibility concerns due to the absence of multilingual teachers (Chalmers, 2017).

Additionally, the heterogenous nature of EAL learners impedes the likelihood that assumptions regarding academic outcomes of an L1-mediated teaching approach can be relied on (Chalmers and Murphy, 2022). Particularly because EAL learners may not necessarily have literacy proficiency in the L1, without which there is little basis for crosslinguistic transfer. Thus, it is important that the effects of using learners' L1s as a teaching tool are reliably investigated, so that practitioners can take advantage of an evidence-based approach in relation to the education of EAL learners (Chalmers and Murphy, 2022).

Pedagogical translanguaging makes a convincing argument from a social justice perspective, however, claims have also been made regarding improved educational development (Cummins and Early, 2011; García and Wei, 2014). This is despite equivocal research and a limited number of studies adopting reliable designs in relation to substantive outcomes (Chalmers, 2017). It is also important to investigate responses to multilingual teaching from both a pupil and practitioner perspective. Whilst translanguaging is promoted as beneficial for student wellbeing (Li, 2014; García and Lin, 2017), research suggests this is complex and highly sensitive to sociopolitical and sociocultural factors (Charalambous et al., 2016; Allard, 2017), particularly as there is some stigma surrounding EAL learners and negative attitudes towards the use of languages other than English within society (Chalmers, 2014, 2019). Notably, there is no evidence to suggest that the incorporation of first languages as a teaching tool is disadvantageous to monolingual pupils (Cummins, 2000; Huang and Chalmers, 2023), and similar research in the UK has suggested multilingual teaching to be positively received and benefit intercultural understanding and inclusion (Kenner et al., 2008), suggesting potential broader benefits in a whole-class setting.

3.5.1 Research Questions

In response to the above, this study aims to investigate whether a causal relationship exists between an L1-mediated pedagogical approach and improved English vocabulary acquisition in a whole-class setting, using the following research question:

RQ1: Does the use of learners' first languages as a pedagogical tool result in improved English vocabulary acquisition for EAL learners in a linguistically diverse classroom?

It will also investigate both pupil and teacher responses towards the use of EAL learners first languages as a teaching tool with a second research question:

RQ2: How do learners and teachers respond to the use of first languages as a pedagogical tool in a linguistically diverse classroom?

As the study is designed to act as a 'proof of concept', it was decided that it would be best to incorporate a dynamic range of vocabulary learning techniques to answer the primary research question of whether the use of learners' L1 as a teaching tool would improve English vocabulary acquisition in a linguistically diverse classroom. Therefore, the study materials incorporated the use of translation alongside written form comparison, textual enhancement, aural input, and visual aids, all of which may aid recall and vocabulary learning for young foreign language learners (Pinter, 2006; Carpenter and Olson, 2012). Once it has been established whether the use of learners' L1 as a teaching tool in this context has a causal relationship with improved English vocabulary acquisition, it will be necessary for future studies to investigate which techniques are most effective regarding language development outcomes.

4 Methodology

4.1 Introduction

This chapter will outline the methodology used to address the study's research questions, beginning with information about the participants and school context in which it was conducted. It will also detail the materials used within the study and explain the procedures undertaken, with justification regarding the approaches and research design used. The chapter will also describe the qualitative methods used, explaining how these gathered data appropriate to the research questions. Finally, the chapter will conclude with a discussion of ethical considerations.

4.2 Research Questions

As discussed in the literature review, whilst research undertaken thus far has been compelling in urging education systems to capitalise on the existing linguistic resources of multilingual learners, there is a clear need for experimental, controlled studies to establish whether a causal relationship exists between utilising learners' home languages and improved target language proficiency outcomes in a linguistically diverse context (Chalmers and Murphy, 2022). Therefore, the study seeks to address this need and investigate the substantive linguistic outcomes of a multilingual pedagogical approach through its comparison with standard practice, to establish whether such a causal relationship exists between multilingual teaching and improved vocabulary learning (Campbell and Stanley, 1963; Chalmers and Murphy, 2022). Therefore, the study's primary research question is as follows:

RQ1: Does the use of learners' first languages as a pedagogical tool result in improved English vocabulary acquisition for EAL learners in a linguistically diverse classroom?

This question will be answered using a quasi-experimental design to address the following hypotheses:

H1: The use of learners' first languages as a pedagogical tool results in improved English vocabulary acquisition in a linguistically diverse classroom.

H0: The use of learners' first languages as a pedagogical tool does not result in improved English vocabulary acquisition in a linguistically diverse classroom.

The hypothesis is two-tailed in reflection of the lack of existing empirical research regarding linguistic outcomes of a multilingual pedagogical approach and the equivocal nature of the research that does exist (Chalmers, 2019).

Additionally, considering the study's exploratory nature and complex sociocultural and sociopolitical factors impacting attitudes towards first language use within the context of linguistically diverse classrooms in Britain, the study also seeks to answer the further question:

RQ2: How do learners and teachers respond to the use of first languages as a pedagogical tool in a linguistically diverse classroom?

This question is addressed using qualitative analysis of learner surveys, a teacher focus group following the study's conclusion, and observation which was used in triangulation with other findings.

4.3 Research Methodology: Mixed methods research

Mixed methods research can be described as the integration of quantitative and qualitative methods (Greene, 2007). An intervention study was used to systematically compare a pedagogical approach, in this case the use of learners' first languages as a teaching tool, with an alternative such as standard, English-only teaching, to assess which is most effective (Chalmers, 2017). The study utilised a pretest-post-test design, in which the experimental group underwent vocabulary instruction incorporating the use of first languages which formed the intervention. The pre-test was used to assess whether both groups were equally matched and thus suitable for comparison, followed by a post-test on concluding the teaching sessions which was used to compare the outcomes of both teaching approaches (Cook and Wong, 2008). The English-only, standard instruction group thus acted as a control group, enabling any difference in

post-test performance to be attributed to effects of the intervention, rather than maturation or other effects (Gravetter and Forzano, 2018).

The study was conducted according to a QUANT>Qual methodological framework, meaning that the primary research question was addressed using a pretest-post-test experimental design, before qualitative methods were utilised to generate rich and meaningful data (Cresswell and Clark, 2017). It is understood that the process and output of research is situated within a broader social context, and may be influenced by human, policy and discourse dimensions among others (Plano Clark and Ivankova, 2016). Therefore, whilst an intervention study was required to answer RQ1 and address the need for empirical research into the language development outcomes of L1-mediated pedagogy, the study integrated qualitative methodologies to address RQ2 and complement RQ1. Whilst an experiment may answer whether an outcome is statistically significant or not, the use of first languages within the classroom is the subject of dialogue around feasibility and social justice aspects. Therefore, the integration of qualitative methods and rich, descriptive data provides insight into both future considerations for research and pedagogy and the potential effects of multilingual teaching beyond the assessment measure of English development.

4.4 The school

The participating school is a local-authority-maintained, state primary school in rural Herefordshire, serving approximately 216 pupils between the ages of two and eleven. It is rated 'Good with outstanding features' by Ofsted and states its vision as 'Developing caring, confident and creative children who achieve excellence'. The school includes approximately 10% of EAL pupils speaking an array of languages such as Polish, Latvian, Ukrainian, Igbo, Malayalam, Bulgarian, Romanian, Hungarian and Tagalog. The school's EAL TA informed me that the school has seen an increase in the number of EAL pupils, particularly Malayalam learners arriving within Key Stage 2.

The responsibility of caring for EAL pupils is assigned to the school's SENCO and a highly experienced EAL T.A. who has been with the school for many years. The policy's mission statement cites the importance of recognising and valuing pupils' home

languages, backgrounds, and cultural and religious diversities. The EAL T.A. is highly passionate about promoting a positive view of bilingualism and the use of first languages within the school. They enjoy a positive relationship with the EAL pupils and their families and run a lunch club and a dance club for Malayalam pupils.

4.4.1 Recruitment

The participating school was recruited as part of an active effort which involved contacting a range of schools around Oxfordshire and the West Midlands. As a member of NALDIC, I made a recruitment post on the relevant forum for EAL practitioners and stakeholders who were NALDIC members, briefly outlining the study and what was required (see appendix A). From this, the school's EAL T.A. emailed me directly to express their interest in participating. This exchange developed a meeting and introduction with the school, in which I discussed the study and materials with the EAL T.A. and Deputy Headteacher, who agreed to participate.

4.5 Participants

The study was designed as a quasi-experimental study involving two intact classes of year 3 or 4 pupils. Pupils within these year groups are in the median age range of primary school, between 7-9, which was considered suitable for the study, as younger pupils were likely to find translation tasks too difficult, and older pupils would be undertaking SATS at around the same time.

After discussion with the EAL T.A., it was decided that, due to the limited number of EAL pupils, it would be best to combine both year groups for the purpose of the study sessions, resulting in two groups of mixed year 3 and 4 pupils. Parents of pupils in both year groups were provided with information sheets and consent forms, which included a home language questionnaire for the parents of EAL children to establish L1 proficiency, frequency of use, and date of arrival into UK education (see appendix D).

Once the consent forms were collected, there were a total of 34 participants, 10 of which were EAL pupils. Of the EAL pupils, there were 8 Malayalam speakers, one Polish

speaker, and one Latvian speaker. Of the EAL participants, 5 were indicated to have speaking proficiency in the L1, and 5 were indicated to have proficiency in all aspects of L1 use. 7 parents indicated that the home language was use 'always', 2 often, and 1 sometimes. EAL participants were mostly recent arrivals to the school, with 3 participants arriving within 2024, and only 2 who arrived in 2020 or earlier (see figures 1 and 2, and appendix O).

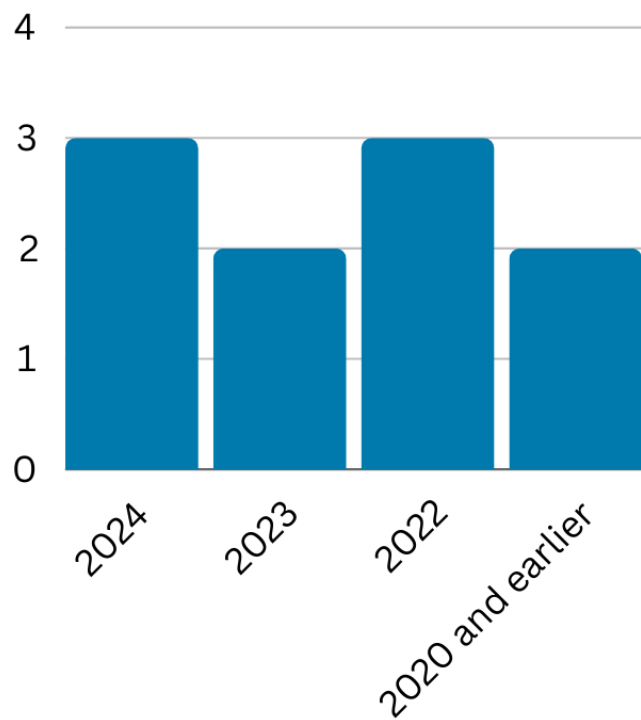


Figure 1 – EAL participants date of arrival at the school

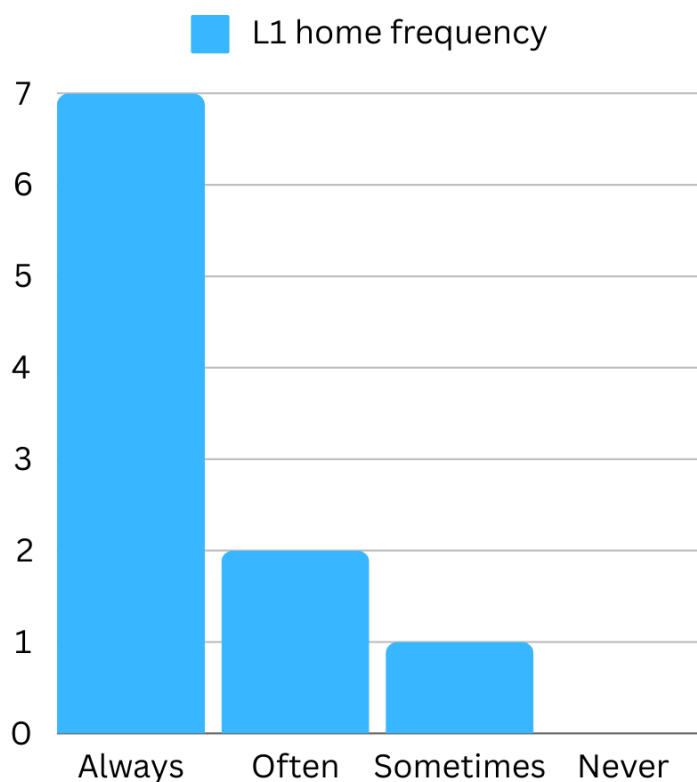


Figure 2 - Frequency of L1 use at home

4.5.1 Allocation

After discussion with the EAL T.A., it was agreed that I would initially use stratified, random allocation to divide the participants into two comparison groups. Randomised assignment is defined as the gold standard when researching causal relationships, as it helps to eliminate pre-existing, systematic differences between group participants (Cook and Wong, 2008; Plonsky, 2017). The use of stratification ensured an even division of both EAL and non-EAL participants from each year group, to ensure equal matching of the groups where possible.

A random generator was used to assign first the EAL pupils in both year groups, and then the non-EAL pupils, resulting in two groups of 17 participants, containing 5 EAL participants in each group. The EAL T.A. observed the allocation process and examined the two groups to ensure the allocation would be suitable. The EAL T.A. asked to swap one of the EAL pupils from the control group with another EAL participant in the

intervention group, as they thought that pupil would especially benefit from the cultural affirmation of first language used as a teaching tool.

Consequently, the resulting allocation, whilst initially randomised, proceeded on a quasi-experimental basis which slightly inhibited the study's internal validity and may have introduced extraneous factors less carefully controlled without true randomisation (Bloom et al., 2005). The resulting allocation is represented in table 3.

L1	Multilingual group	Control group
English	12	12
Malayalam	4	4
Polish	1	0
Latvian	0	1

Table 3 - Group allocation

4.6 Materials

4.6.1 Poems

After investigating appropriate texts, it was decided that poems would be the most suitable choice of texts from which to source the target words for the following reasons:

- The short and accessible format of poems makes them adaptable for the purpose of the study sessions, covering themes of cultural awareness.
- Poetry features a high proportion of low-frequency, novel vocabulary.
- Poetry is a form of 'rule-free' creative writing which could help to introduce and encourage the idea of language mixing, translation and language investigation.

Three poetry books were selected for use within the study:

- Courage Aloud by Joseph Coelho
- Poems Aloud by Joseph Coelho
- Courage in a Poem by various authors

These books were selected as they seemed appropriate and engaging for the age range of participants, and covered themes of courage, empowerment and cultural identity.

4.6.2 Target Vocabulary

A total of 20 target vocabulary items comprising of a mix of verbs, nouns and adjectives were selected from suitable poems within the books. As the study was designed to measure receptive vocabulary learning, I selected low-frequency, novel words that were of appropriate difficulty for pupils aged 7-9. This was established by trialling target words with year 4 pupil, using a definition matching assessment to assess the novelty of the target word meanings. The 20 target items were divided into 5 target words per session, delivered within 2-3 poems each session. The target words can be found in the appendix I.

4.6.3 Translations

Malayalam, Polish and French translations were gathered for each of the target English words, for use within the materials. Initial, forward-translations were compiled using Google Translate, which were then checked by 1-2 native speakers of each language to ensure the translations were appropriate and shared conceptual equivalence. Google Translate was only partially successful in providing accurate translations, especially for items with multiple senses (i.e. customs, exposed). Due to the age of participants, native speakers were asked to translate to the simplest, semantically equivalent option (e.g. abated – decreased).

4.6.4 Flashcards

Each session began with a slideshow presentation, in which the poems were read to the pupils. During the reading of each poem, when a target word was reached, the teacher would stop and show the pupils a flashcard (**see **appendix**). Each flashcard displayed the target word, its definition, and the line in the poem in which it occurred, with the target word in bold. Each flashcard also contained two pictures representing the word, which were a combination of graphics and photos.

The control group saw only the English flashcards, whilst the multilingual group was first shown the English flashcard, followed by a flashcard for Malayalam, Polish and French. Each of these translation flashcards showed the target word's translation in that language alongside the word in English. They each displayed the same pictures and replaced the target word in the line of the poem with the translation in bold, to introduce and encourage language mixing (see appendix L). Malayalam and Polish were chosen as they represented the first languages of EAL pupils within the multilingual group. As the experiment included both EAL and non-EAL learners, with only two L1s in the multilingual group, French was included to avoid singling out EAL learners and to act as a 'common ground' for learners as they study French as a foreign language in school.

the flashcards were incorporated within a multimodal presentation combining different colour slides with both the translation, pictures, and an audio recording of each translation using the text-to-speech function of Google Translate, to make them interesting to children who are used to technology.

4.6.5 Worksheets

After the flashcard portion, each session then incorporated worksheets to extend upon and consolidate target word acquisition. The worksheets were provided to pupils individually; however, pair work was encouraged both within worksheet instructions and through the provision of both the multilingual glossary and sense cards between

pairs. The worksheets contained a variety of vocabulary learning activities, incorporating the use of translation and language mixing in the multilingual group (see appendix M). A summary of the activities is listed below:

- **Matching exercises:** The multilingual group completed activities matching translations to both the target English word and pictures representing the target word's meaning. The control group completed the same exercise replacing translations with target word synonyms.
- **Gap-fill exercises:** The multilingual group completed translation exercises including gap-fill activities and reverse translation of the target English words. The control group completed similar activities using English-only and replacing translations with synonyms or scrambled target words.
- **Annotation:** The multilingual group completed annotation exercises relating to the target words, encouraging the use of translations. The control group in comparison utilised a 'business as usual', English-only approach.
- **Free Production:** Each worksheet incorporated 'free production' activities which centred around the meaning of a target word and asked learners to draw or write their own examples for this word (e.g. can you draw or write about a tradition or custom that you take part in?). The multilingual group were consistently encouraged to use whichever language they chose, whilst the control group utilised an 'English-only' approach to the activities.

4.6.6 Creative Translation

The Stephen Spender Trust is an organisation which conducts creative translation workshops in schools, using language and translation as a tool to celebrate heritage and enable pupils to access greater creative and educational potential. The Stephen Spender Trust conducts its workshops with KS3 pupils. Therefore, whilst their website contains many resources with useful ideas and suggestions for translation activities, it

was necessary to adapt the exercises so that they would be appropriate for KS2. I used these resources as inspiration to design materials which would align with the use of multiple languages and include a more accessible multilingual glossary with sense cards to accompany the worksheets, so that the mixed abilities of learners within the study would be catered for.

4.6.7 Multilingual Glossary

Bilingual glossaries are frequently used as a resource for learning keyword translations and making connections across languages. As the multilingual group incorporated three languages alongside English, I created two sets of multilingual glossaries to be used as a detective themed resource for the pupils to use in pairs. To avoid overwhelming the pupils and make them accessible for KS2 learners, each multilingual glossary contained 10 target words, with the 5 target words for each session highlighted (see appendix J). The inclusion of 10 target words per multilingual glossary made the resource an appropriate level of difficulty without containing too many translations. The initial sessions allocated some time to familiarising the pupils with using the multilingual glossary, such as basic exercises and a flashcard game for the whole class. The use of a multilingual glossary also helped to include all learners regardless of additional language knowledge or ability, as all learners were able to access and use translations.

4.6.8 Sense Cards

Due to both the novelty of using dynamic translation as a method to teach vocabulary and the learners' mixed abilities, including very recent arrivals to the school, I created an additional vocabulary teaching resource in the form of sense cards. These were provided alongside the multilingual glossaries to be used within pairs and presented as a 'detective tool' for language investigation when completing the worksheets.

The sense cards consisted of 5 sheets, one for each target word within a session, which were stapled together. For each target word, pupils could locate a corresponding sense

card which included the target word, its definition, and the line of the poem in which it occurred with the target word visually enhanced in bold (see appendix K). Surrounding this, four pictures representing the word's meaning were also included, expanding on the pictures presented on the flashcards. Each sense card also included four synonyms ranging from high to low frequency, as an aid to both support and expand upon participants' receptive learning of the target vocabulary. The sense cards for both groups were identical other than that the experimental group's sense cards also included the target word's translation in each language (Mayalam, Polish, French).

4.6.9 Pre-test measures

Both groups completed two pre-test assessments prior to the start of the research sessions. First, participants completed a PicLex (Alexiou & Milton, 2020), which is a 100-item receptive vocabulary knowledge test designed as a fun, online picture matching game. The PicLex test was used as a measure to ensure the groups did not significantly differ in terms of receptive English vocabulary knowledge prior to the experiment, thus accounting for potential allocation bias and ensuring their suitability for comparison. Participants completed this assessment using Chromebooks within the classroom, as it was not feasible for participants to sit the test separately which would have been ideal. Whilst the PicLex is designed for KS2 pupils, the test was of low difficulty for most participants, which resulted in a ceiling effect due to most scores being within the upper range (Koedel and Betts, 2009) (see appendix F).

Additionally, participants completed a pre-test relating to their knowledge of the 20 target vocabulary items. This was a 20-item definition matching test, which asked participants to indicate the correct definition out of three possible answers for each target word (see appendix G). The test established that the target words were novel, and ensured the groups did not significantly differ in their prior knowledge of the target words. The definition-matching test was used within the pretest-post-test design, as it was repeated immediately after the last teaching session. Thus, the post-test scores for the definition-matching test acted as the study's outcome measure and dependent variable, used to compare English vocabulary learning between groups.

4.6.10 Post-test assessment

After the final session was completed, participants in both groups completed the post-test measure. This was a repeat of the definition-matching test for the 20 target words which they completed prior to the experiment. Participants were presented with the same words, in the same order and had to choose the correct, matching definition from three possible answers. The post-tests were marked out of 20, and participants' scores were then used for statistical analysis.

4.6.11 Participant survey

To gather data relevant to my second research question, which asks how learners respond to the use of first languages as a teaching tool within a diverse classroom, I provided multilingual group participants with an additional survey, following the post-test. A brief survey was deemed appropriate to assess learner responses to the intervention, due to its efficiency and the ability to complement answers with detailed observation data.

A four-point scale Likert scale (Likert, 1932) with smiley or non-smiley faces was used, as this was most appropriate for children of the participants' ages and especially after the definition-matching test, participants may have had some test-fatigue. Participants were asked to indicate which emoticon matched their response for the following four questions: (see appendix H).

- How did you feel about taking part in the 'language detectives' research?
- How did you feel about seeing and hearing different languages in the sessions?
- How did you feel about speaking and using languages other than English in the sessions?
- How do you feel about lessons that only use English?

Following these questions, participants were provided with an optional, open-ended question asking if they had any comments on how they found the research sessions.

4.6.12 Participant observation

Participant observation was conducted during the second and third sessions as another method to investigate how learners respond to the use of first languages as a teaching tool and address RQ2. This allowed for data collection regarding the language behaviour of learners as it occurred within the classroom (Cohen et al., 2011). Data gathered from observation was also useful to triangulate with both participant questionnaire and teacher focus group responses. Observation was conducted mostly in the multilingual classroom and occurred throughout both the presentation and worksheet portions of the session. Due to the unexpected amount of L1 use within the multilingual group, the control group was also observed during the worksheet portion of the third session, to see whether this behaviour was related to the intervention.

Fieldnotes were collected through the process of systematic 'looking' and 'noting', guided by the study's research questions (Ciesielska et al., 2018). These consisted of detailed descriptions of learner behaviour and language interactions that took account of events, interactions, and key contextual aspects. The notes were then typed up and expanded upon with my reflections and interpretations (Heath and Street, 2008; Taylor et al., 2016). Thus, the immediate environment of the classroom and the actors within it were recorded and systematically observed, with a particular focus on the language behaviour of EAL pupils and behaviour of the whole class.

4.6.13 Focus group

A 30-minute focus group was used to address RQ2 and explore how teachers respond to the use of learners' first languages as a teaching tool. Information sheets were provided, and consent forms gathered from all school staff connected to the research study, although the control group teacher was unable to attend. The focus group took place after the final session was concluded, and included the EAL T.A., the year 3 class

teacher who had led three of the multilingual group sessions, and a teaching assistant who was present during the multilingual sessions. Its composition, purpose and procedure were established with a focus on exploring RQ2, aiming to understand the group's feelings regarding multilingual teaching (Krueger and Casey, 2014), and the method was used due to being a comfortable and economical method of gathering data in a short time (Kamberelis and Dimitriadis, 2005).

The focus group was semi-structured, based on a framework of questions organised in advance that focused on teachers' responses to the study, any challenges or reflections they had, feedback regarding the materials, and their opinions on a more macro-level concerning EAL learners and effective practice. The use of a semi-structured focus group allowed me to diverge into sub-questions as necessary according to the responses given by teachers. The focus group was conducted in the classroom during breaktime and recorded for the purpose of transcription. The recording was subsequently transcribed during which all participant names were pseudonymised and dysfluencies were removed unless they were considered to indicate relevant uncertainty in response.

4.7 Procedures

4.7.1 Administering the intervention

The intervention consisted of four teaching sessions, with both the multilingual and control group completing the sessions on the same schedule but in different classrooms. Although the study was ideally designed to administer each session one week apart over 4 weeks, due to SATS week and the capacity of the school, the sessions took place at different intervals over a 4-week period. The groups contained a total of 28 pupils in the multilingual group and 29 in the control group, as the groups had an equal division of the remaining, non-consenting year 3 & 4 pupils. No data was collected from non-consenting pupils.

The first session took place consecutively to the pre-test session, after morning break. The second session was the following morning, followed by the third session a week

later. There was then a week's break whilst SATS took place within the school, after which the final session and the post-tests were conducted in the 4th week. In organising the study sessions with the relevant KS2 leads, it was decided I would lead the first session to ensure fidelity to the experiment. Therefore, I led the presentation and flashcard portion of the first session before explaining and assisting with the worksheets. The year 3 class teacher, EAL T.A. and two other TAs were present. After the first session, the year 3 class teacher felt confident to lead the remaining three sessions, with the EAL T.A. reading the poems. This allowed me to conduct observation in the classroom following the first session.

4.7.2 Classroom context

Through co-ordinating with the EAL T.A., it was arranged that the multilingual group sessions would be conducted in the year 3 classroom, and that I would initially lead the session as I was familiar with the materials and the way in which the presentation should be delivered. Notably, the year 3 class teacher who led the intervention sessions thereafter had been recently qualified, and in conversation with the KS2 lead was described as having a contrasting teaching style to the teacher leading the control group. I led the first session, after which the Year 3 teacher led sessions 2-4.

The control, English-only group sessions were decided to take place in the year 4 classroom, led by the year 4 teacher. Notably, the teacher leading the English-only group is also the Deputy Head and acts as the KS2 Lead for the school. The teacher who led the English-only group thus contrasts with the one leading the multilingual group both in experience and teaching style. This resulted in contrasting learning environments between the two groups, which were noted during observation.

4.7.3 Language Detectives

To make the research sessions fun and engaging, I designed the sessions as a 'Language Detectives' training series. The presentations and worksheets each had a 'detectives' theme, using looking glass and detective graphics and addressing the

pupils as detectives each time. The theme of language detectives was introduced by explaining how we can experiment with and investigate languages connections through poetry and translation.

In line with the detective theme, the multilingual glossary and sense cards were presented as ‘detective tools’ which would help them with their investigation and completing the activities. The pupils were also told that on successful completion of the ‘language detectives’ sessions, they would receive a certificate, which acted as an incentive and helped to provide the research study with a conclusion. The sessions were thus designed to encourage pupils’ engagement with translation and the use of other languages, but this was always optional and there was no marking or threshold to receive a certificate. At the end of the last session, all 58 pupils in the two groups received a ‘language detective’ certificate for taking part (see appendix N).

4.8 Ethical issues

Ethical issues relating to the research study were carefully considered in relation to the Central University Research Ethics Committee (CUREC) guidance. A CUREC ethics application was submitted to the committee prior to data collection, as required by the University of Oxford. The CUREC 1a application was submitted and approved according to AP25 (approved procedure) guidelines – Ref. EDUC_C1A_24_052 (see appendix E).

Efforts were taken to ensure participants were protected from harm or negative impact because of the study. Only participants whose parents had provided consent undertook assessments and provided data to be used. Additionally, the pre-test session was also used as an introduction to the study, in which participants were provided with an explanation of what research is, why the study was being conducted, and what they would be asked to do. They were given the opportunity to ask questions or decline, and non-consenting pupils were provided with activity sheets during the assessment procedures.

As the control group would undertake instruction according to usual, English-only conditions, participants allocated to the control group were not considered to be

disadvantaged in comparison to the intervention group. Whilst it was acknowledged that the multilingual group participants may receive slightly reduced English input during the sessions, this was minimal enough that it would not be detrimental to English vocabulary learning, and there is no prior research to suggest they would be disadvantaged due to a multilingual teaching approach.

It was considered that, due to the recent arrival of a portion of EAL learners within the year groups, there may be some parents with limited English proficiency, which would affect the reading and understanding of information sheets and consent forms. Therefore, the EAL T.A, who enjoys a positive relationship with the EAL parents of the school, provided time to discuss the study with parents of eligible EAL learners, and ensured that informed consent was provided.

Due to the consideration that some participants may have mixed feelings about using other languages or their home languages with their peers in the classroom, the use of other languages was stated as optional, and the worksheets allowed the children to choose which language they wished to use. To protect the identity of participants, all participant data was anonymised on completion of the research sessions, prior to analysis.

4.8.1 Assessing fidelity

Fidelity to the experiment was ensured first by my leading of the initial session, with the class teacher and EAL TA present to observe. For subsequent sessions, I provided the presentation and a session guide in advance to both class teachers, with detailed instructions for the lesson. I observed the following two sessions within the multilingual group, with visits to the control group to ensure the sessions were successfully completed.

5 Findings

5.1 Introduction

This chapter outlines the results of the study according to both quantitative and qualitative data analysis. First, the pre-test PicLex scores for participants are analysed to determine whether the groups significantly differed in terms of receptive English vocabulary knowledge, prior to the experiment. Next, RQ1 (*Does the use of learners' first languages as a pedagogical tool result in improved English vocabulary acquisition for EAL learners in a linguistically diverse classroom?*) is addressed through descriptive and inferential statistical analysis to determine whether there was a statistically significant difference between outcome measures according to group allocation. Following this, qualitative analysis of questionnaire responses, observation data and the focus group are triangulated to present findings in relation to RQ2.

5.2 Missing data

Of the 34 participants, 33 completed the PicLex test during the pre-tests, due to technical difficulties with one of the Chromebooks. The data of the 1 participant was treated as missing, and the analysis was run using 33 PicLex scores. Of the 17 participants in each group, 17 in the multilingual group completed the post-test, and 16 post-test scores were collected from the control group. As the study already has a small sample size, and the post-test was a repeat of the pre-test, the missing data for this participant was substituted using the calculated probable mean (Field, 2013).

5.3 PicLex pre-test analysis

Descriptive analysis of the PicLex pre-test scores showed a non-normal distribution, involving a highly negative skew (Field, 2013) which indicates that the PicLex was subject to a 'ceiling effect' as most participants scored at the upper end of the scale range (Koedel and Betts, 2009) (see table 6).

Group Allocation		Descriptive Statistics											
		N Statistic	Range Statistic	Minimum Statistic	Maximum Statistic	Mean Statistic	Std. Error	Std. Deviation Statistic	Variance Statistic	Skewness Statistic	Std. Error	Kurtosis Statistic	Std. Error
Multilingual Group	PicLex Score	16	81	19	100	91.38	4.858	19.432	377.583	-3.907	.564	15.480	1.091
	Valid N (listwise)	16											
Control Group	PicLex Score	17	78	22	100	85.59	6.197	25.552	652.882	-2.066	.550	2.959	1.063
	Valid N (listwise)	17											

Table 6 – Descriptive statistics for Piclex scores

As normality assumptions were not met, a non-parametric test was needed to compare the PicLex scores between groups. The results of a Mann-Whitney U-test are provided below (see table 4). The test showed that the groups did not significantly differ in their PicLex scores. This means that the groups can be described as evenly matched according to receptive English vocabulary knowledge.

Independent-Samples Mann-Whitney U Test

PicLex Score across Group Allocation

Independent-Samples Mann-Whitney U Test Summary

Total N	33
Mann-Whitney U	135.000
Wilcoxon W	288.000
Test Statistic	135.000
Standard Error	27.554
Standardized Test Statistic	-.036
Asymptotic Sig.(2-sided test)	.971
Exact Sig.(2-sided test)	.986

Table 4 – Mann-Whitney U test

5.4 Experimental data analysis

5.4.1 Research question 1

Does the use of learners' first languages as a pedagogical tool result in improved English vocabulary acquisition for EAL learners in a linguistically diverse classroom?

This research question will be addressed using quantitative analysis of the experimental data collected.

5.4.2 Group analysis using a two-way repeated-measures ANOVA

Statistical analysis of the experiment outcomes was conducted using Null Hypothesis Significance Testing (NHST). The null hypothesis is that *the use of learners' first languages as a pedagogical tool does not result in improved English vocabulary acquisition in a linguistically diverse classroom*. Through statistical testing of the sampling means, it will be possible to calculate the *p* value, indicating whether any difference is likely to be resulting from sampling variation or an effect within the experiment. Therefore, a *p* value of below 0.05 is required to be able to reject the null hypothesis (Field, 2005).

A two-way repeated measures ANOVA was used to compare the pre/post-test definition matching scores between groups. As this test was delivered at two time points and participants were in one of two group conditions, the two-way repeated measure will provide analysis as to whether there was an interaction between time and group factor on receptive knowledge of the target words, thus comparing the two teaching methods (Field, 2018).

Prior to conducting a repeated measures ANOVA, it was necessary to examine whether normality assumptions were met. Descriptive statistics for the two groups showed that the skewness values are between the range of -2 to +2, and the kurtosis values are well within the acceptable range of -7 to +7, therefore the data can be considered normally distributed (Hair et al., 2020; Byrne, 2010). As there were only two levels to the repeated measures variable, sphericity assumptions are met by default (Field, 2013) (see figures 5 & 6).

		Descriptive Statistics											
Group Allocation		N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
		Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Multilingual Group	Pretest Score	17	16	3	19	8.53	1.019	4.200	17.640	1.017	.550	.942	1.063
	Posttest Score	17	12	8	20	12.41	1.122	4.624	21.382	.531	.550	-1.336	1.063
	Valid N (listwise)	17											
Control Group	Pretest Score	17	11	3	14	9.71	.741	3.057	9.346	-.502	.550	.062	1.063
	Posttest Score	17	17	3	20	14.12	1.257	5.183	26.860	-1.007	.550	.129	1.063
	Valid N (listwise)	17											

Figure 5 – Descriptive statistics for two-way repeated measures ANOVA

Mauchly's Test of Sphericity^a

Measure: MEASURE_1

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon ^b		
					Greenhouse-Geisser	Huynh-Feldt	Lower-bound
Time	1.000	.000	0	.	1.000	1.000	1.000

Figure 6 – Mauchly's test of sphericity

As normality assumptions were met, it was possible to proceed with the two-way repeated measures ANOVA. Results showed that the main effect of time between testing was significant, $F(1) = 68.82, p < 0.001, \eta^2 = 0.68$, thus indicating that all participants improved over time between the pre- and post-test.

There was no significant interaction between time and group allocation on the definition-matching scores, $F(1) = 0.28, p < 0.60, \eta^2 = 0.009$, demonstrating that group membership did not have a statistically significant effect on definition-matching test scores before and after the experiment. Thus, it is not possible to reject the null hypothesis that the use of learners' first languages as a pedagogical tool does not result in improved English vocabulary acquisition in a linguistically diverse classroom.

5.4.3 Two-way repeated measures ANOVA assessing EAL learners

Whilst the first ANOVA analysed the outcome measures on a whole group level, it was necessary to further compare the performance of EAL learners between groups, to determine whether they had benefited from the use of learners' first languages as a teaching tool. Skewness and kurtosis values were all within an acceptable range of normality, and as before, sphericity assumptions were met by default (Field, 2013).

After checking that normality assumptions were met, a two-way repeated measures ANOVA was used to test the null hypothesis. Results showed that the main effect of time between testing for EAL learners was significant, $F(1) = 8.44, p < 0.02, \eta^2 = 0.513$, thus indicating that all EAL learners improved in test score for the definition-matching test between time points, irrespective of which group they were allocated to. Similarly,

the non-EAL participants also had a significant main effect of time, $F(1) = 86.34, p < 0.001, \eta^2 = 0.797$.

There was not a significant interaction between time and group allocation on the outcome measure for EAL participants, $F(1) = 1.31, p < 0.29, \eta^2 = 0.141$, meaning that allocation to either the control, English-only group or the experimental, multilingual group did not have a statistically significant effect on EAL participants' performance on the post-test definition-matching scores. For non-EAL participants, findings also showed no significant interaction between time and group membership, $F(1) = 3.58, p < 0.07, \eta^2 = 0.140$. Therefore, it is not possible to reject the null hypothesis, as EAL learners did not have statistically significant advantage in comparison to the control group.

5.5 Descriptive analysis of EAL learners

It is important to note that, with a total sample size of 34 participants, the study is underpowered with regard to carrying out inferential statistical analysis. The difference in subgroup size ($n=10$ EAL participants and $n=24$ non-EAL participants) may also be problematic. Therefore, the findings of the experimental analysis should be interpreted with caution.

The small sample size reflects the study's design as a pilot, proof-of-concept study, in which it is possible to examine whether there are suggestive trends within the data that may indicate whether a larger-scale project would be worthwhile. Whilst it is not possible to reject the null hypothesis, descriptive analysis of the experimental data suggests trends. In turn, these suggest beneficial outcomes for some EAL learners within the multilingual group.

Descriptive comparisons of the mean scores of the EAL and non-EAL participants shows a gap between the mean pre-test scores of EAL and non-EAL participants in both groups (see figure 7). Similar analysis of the mean post-test scores indicates that EAL participants in the multilingual group appear to largely close this gap, having a mean

post-test score of 11.80 (SD=3.96) compared to the non-EAL participant mean post-test score of 12.67 (SD=4.74).

In comparison, the gap between mean-post test score increased for the EAL participants of the control group condition compared to the non-EAL participants, with a mean post-test score of 8.80 (SD=5.98), whilst non-EAL participants' mean post-test score was 16.33 (SD=2.81) (see figure 8).

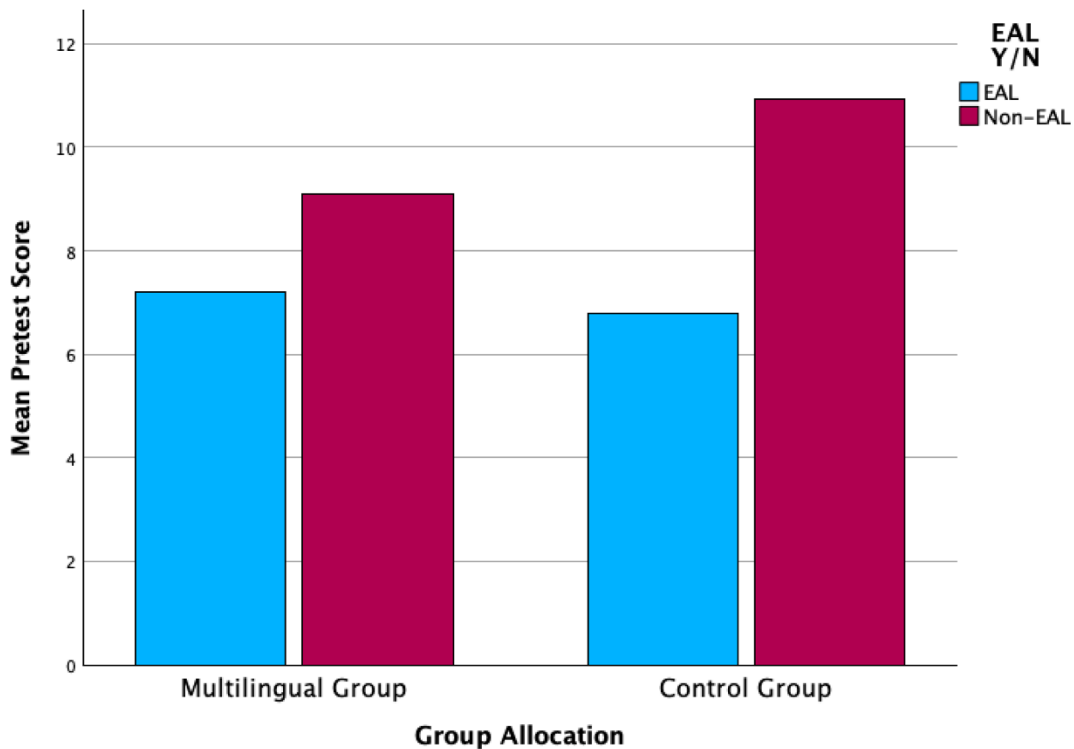


Figure 7 – Mean pre-test score comparison

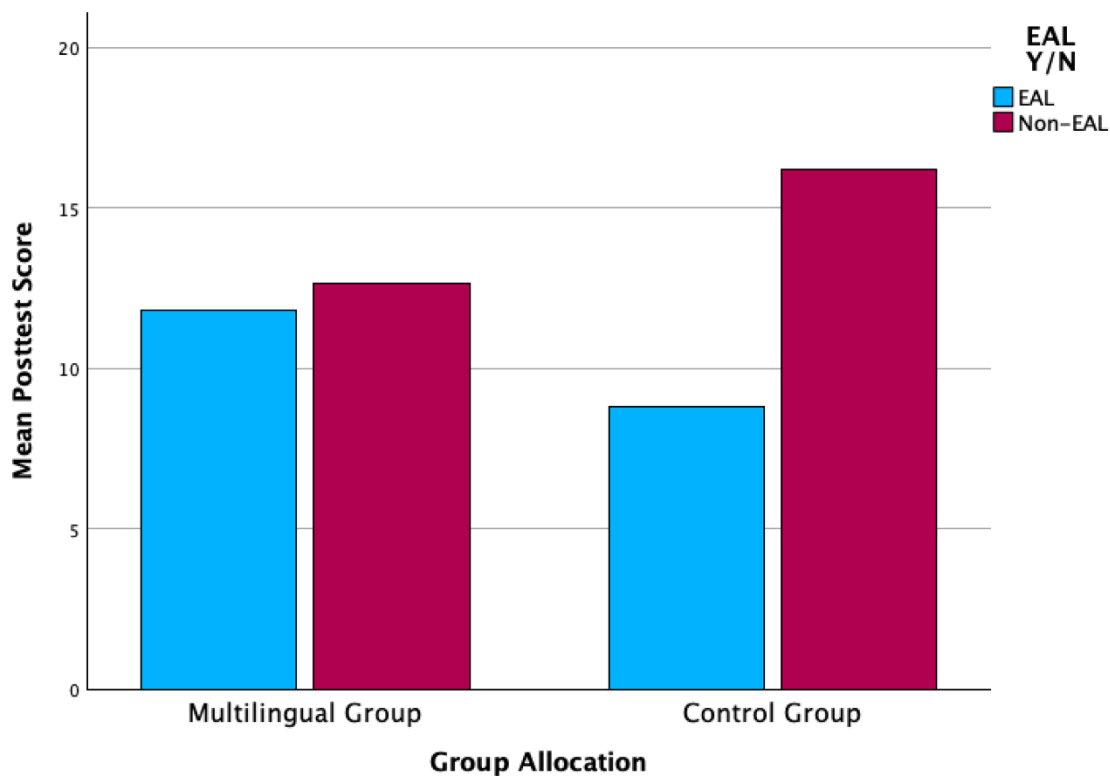


Figure 8 – Mean post-test score comparison

5.5.1 Gains analysis of EAL participants

A gains analysis was used to descriptively compare the gains of EAL participants between groups. The gain for each EAL participant was calculated by subtracting the pre-test score from the post-test score to calculate the difference. These scores were then used to calculate the mean gain score for EAL participants in both the multilingual group and the control group, so that these scores could be compared.

The mean gains score for EAL participants in the multilingual group was 4.6, compared to a mean gains score of 2 for those in the English-only, control group (see figure 9). The difference in average gains score for EAL participants between groups suggests that EAL participants within the multilingual group performed much better in the post-test compared to those within the control group.

As discussed, (see 3.8), the sample of EAL participants within the study consisted primarily of L1 Malayalam learners (n=8) with only one EAL participant in each group

having a different L1. Based on observation (see 4.7) and data from the home language questionnaire, it was found that this group shared other characteristics which differed from the non-Malayalam speaking participants. L1 Malayalam participants were all born outside of the UK and had arrived at the school between 2022-2024. Significantly, this sub-group of EAL participants (n=4 in each group) were found to consistently use their L1 within the classroom in the multilingual group and engage with the L1 throughout the sessions both verbally and using written translations. This was in contrast with the EAL participants who had either Polish or Latvian L1, both of whom were born in the UK and neither of which were observed to use or engage with their L1 within the classroom.

Descriptive analysis of the post-test scores demonstrates a difference in gains score of only 1 between the non-Malayalam EAL participants, suggesting that incorporation of the L1 or not did not make a difference for these participants. However, a comparison of the mean gains score between Malayalam L1 participants in the multilingual and control group suggests a considerable difference due to group allocation. The mean gains score for Malayalam L1 participants in the control group was 0.5, compared to a score of 4 for those in the multilingual group (see figure 10).

Whilst this suggests an advantage of being in the multilingual group, it is important to remember that statistical comparison between groups did not reach statistical significance. However, descriptive analysis indicates a trend in the data such that the EAL learners of the multilingual group made more gains (4 times that of those in the English-only, control group). This is also represented in the mean scores of the Malayalam learners in each group: whilst the control group's mean post test score increased by only 0.5 (from 6 to 6.5), Malayalam learners in the multilingual group had an increase of 5.75 (from 6.5 to 12.75) (see figure 11).

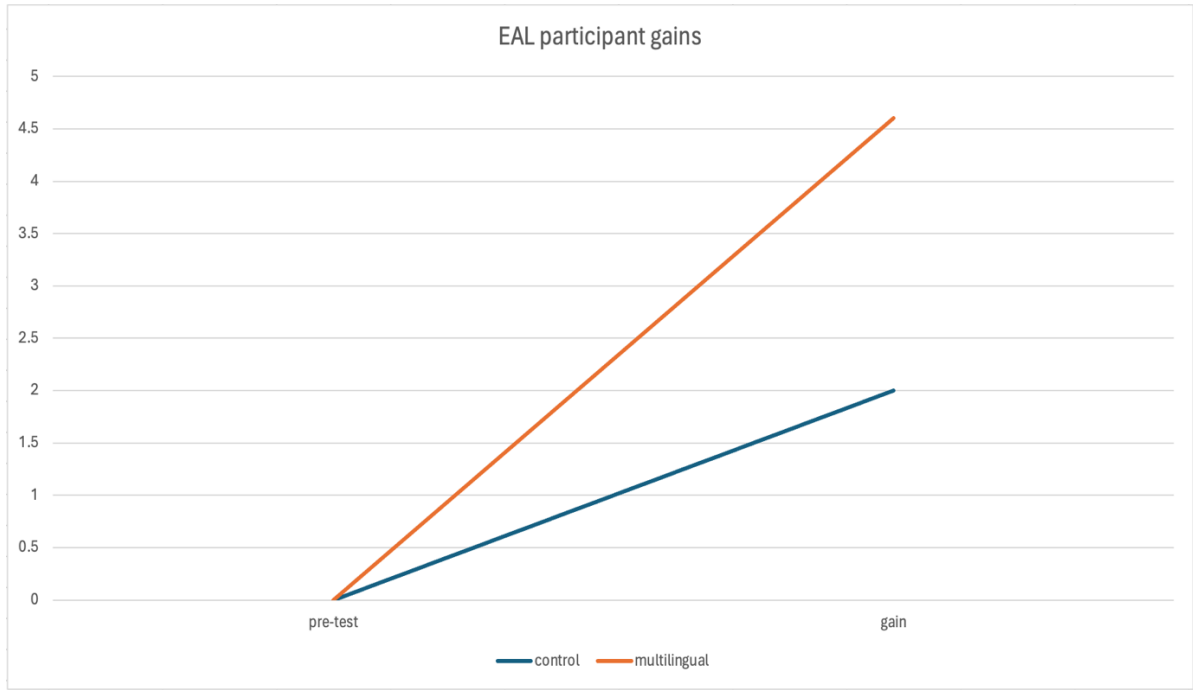


Figure 9- EAL gains comparison

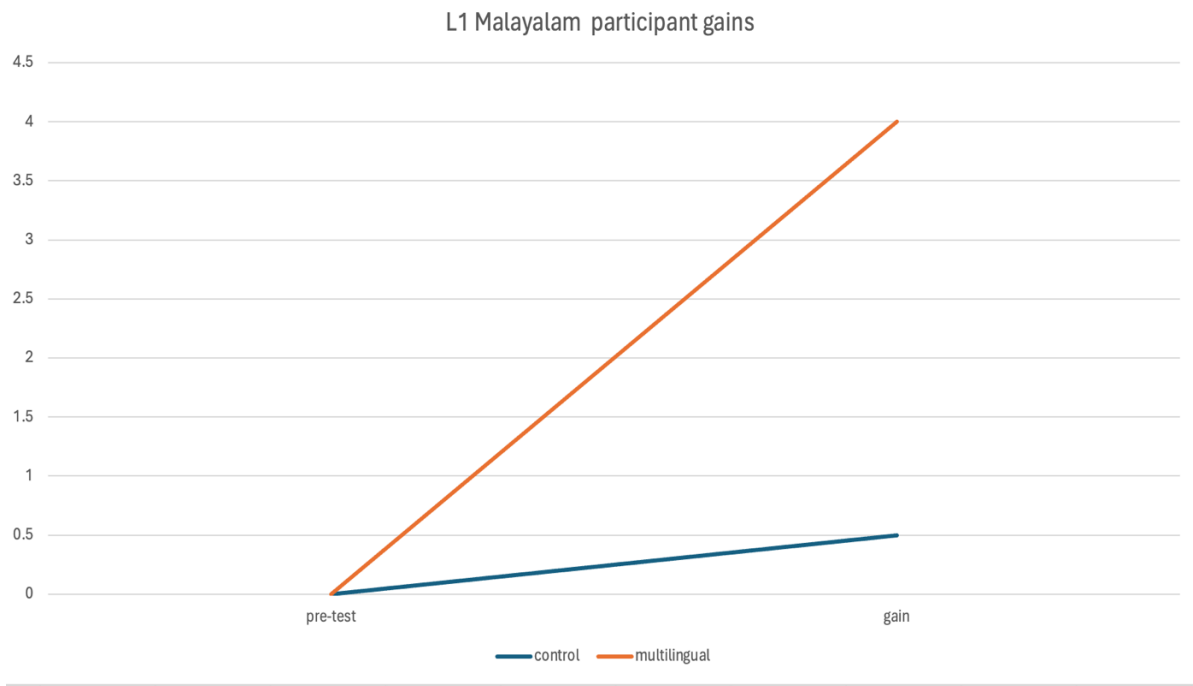


Figure 10- L1 Malayalam gains comparison

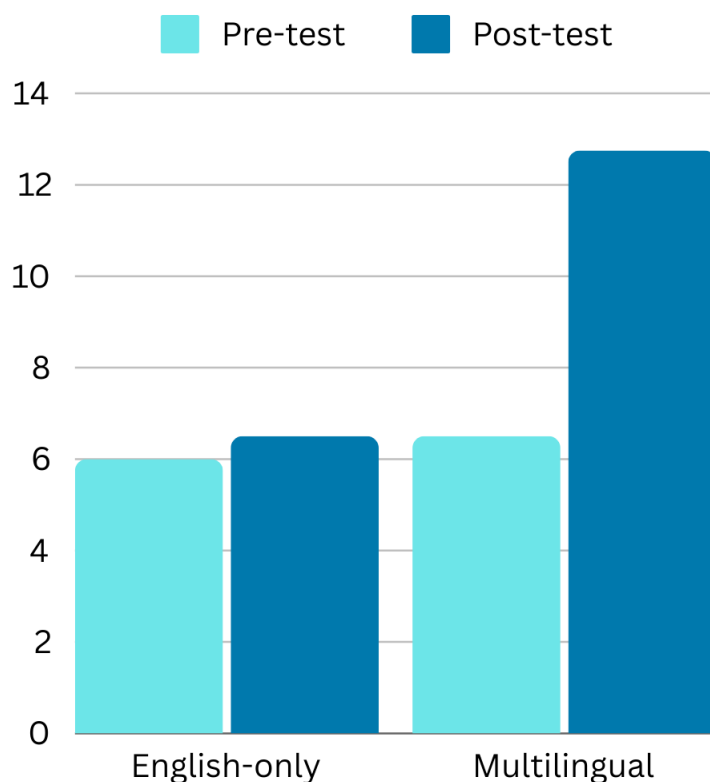


Figure 11 – Malayalam L1 mean pre-test/post-test comparison between groups.

5.6 Participant survey findings

The participants of the multilingual group completed a survey following the post-test, in which they used a smiley-face Likert scale to respond to 4 questions about the study and use of other languages within the sessions (see 3.16). Responses were coded between 0-3, with 0 representing ‘not happy’ and 3 ‘very happy’. As represented in figure 12, both EAL and non-EAL participants indicated a positive response to questions 1 and 2 (see below), with only a very slight difference for question 1.

Q1: How did you feel about taking part in the language detectives research?

Q2: How did you feel about seeing and hearing different languages in the sessions?

There was a difference between the mean scores of EAL and non-EAL participants for question 3 (see below), for which EAL participants had a mean score of 2.8 compared to 1.83 for non-EAL participants, although the responses of non-EAL participants for

this question ranged between 0-3 reflecting a different range of feeling compared to the EAL participants who all responded with either 'happy' or 'very happy'.

There was a slight difference in response to question 4 (see below), for which EAL participants had a mean score of 1.8 compared to a score of 2.17 for non-EAL participants. EAL participants' responses ranged from 0-3, reflecting varied feelings. Likewise, non-EAL participants ranged between 'I'm not sure' to 'very happy'.

Q3: How did you feel about speaking and using languages other than English in the sessions?

Q4: How do you feel about lessons that only use English?

The participant survey also included an open-ended question for participants to comment further on how they felt about the 'language detectives' sessions. 4/5 EAL participants and 7/12 non-EAL participants commented, with all except one comment of 'nothing' from a non-EAL participant reflecting a positive experience and enthusiasm for learning, hearing and using other languages during the sessions. This was particularly demonstrated in comments such as:

"It was so good to speak different languages it was good I love it thank you." (EAL participant)

"It was wonderful, because 1. We got to learn new languages and 2. Got to know other words + meanings." (non-EAL participant)

"Because it's nice to hear other's languages." (non-EAL participant)

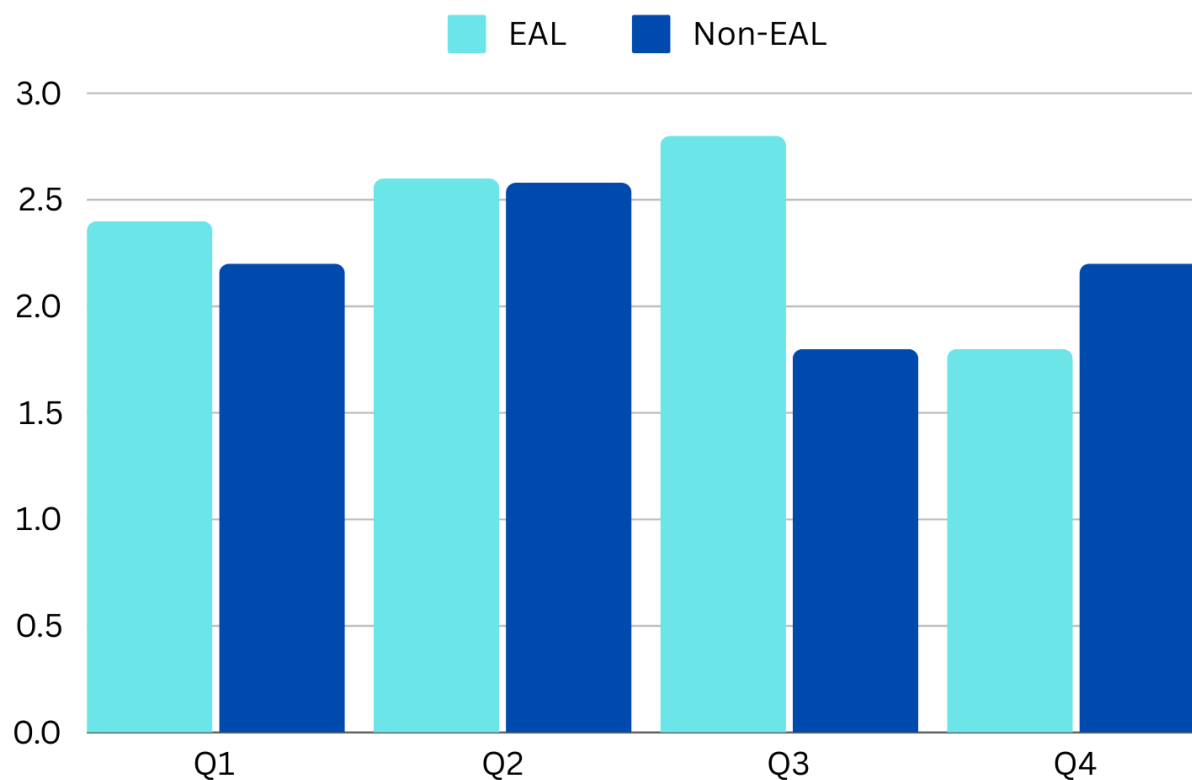


Figure 12 - Participant survey responses

5.7 Qualitative data analysis

5.7.1 Research question 2

RQ2: How do learners and teachers respond to the use of first languages as a pedagogical tool in a linguistically diverse classroom?

This question was addressed using qualitative analysis of participant observation and teacher focus group findings, in triangulation with findings from the participant survey.

5.7.2 Participant observation findings

Participant observation during sessions 2 and 3 was used to address RQ2 and investigate how learners respond to the use of first languages as a teaching tool within the classroom, providing rich, descriptive data for subsequent thematic analysis and triangulation with both the participant survey and teacher focus group.

The research question determined the focus of the observation during the sessions. Due to the novelty of the study, inductive thematic analysis was used to code the data and interpret relevant phenomena without applying researcher preconceptions or a pre-existing frame of coding; instead, themes were derived from the data itself (Braun and Clark, 2006).

5.7.3 EAL learner responses (Malayalam)

The EAL learners of the multilingual group were composed of four Malayalam L1 pupils and one Polish L1 pupil. The languages incorporated into the teaching materials included Malayalam, Polish and French which acted as a 'neutral' language as all pupils took part in French foreign language classes. The language behaviour of the Malayalam L1 pupils and the Polish L1 pupil was distinctly different, making it necessary to differentiate between these language speakers, rather than describe EAL learner responses as one homogenous group.

Despite the group being a mixture of both the year 3 and year 4 class, it became quickly apparent that the Malayalam L1 pupils were an established group, as from the first session they immediately took up the back table of the classroom and would all sit together. Somewhat surprisingly, it was observed that the Malayalam L1 pupils were very confident speaking in Malayalam in the classroom, to the extent that they conversed near exclusively with each other in Malayalam throughout the sessions. In the second session, they were initially joined by a non-EAL pupil but made no allowances for them in terms of speaking in English or involving them in group discussion. This resulted in the non-EAL pupil moving to another table during the activity sheets. In my first interaction with the Malayalam L1 pupils, one of the Malayalam L1 pupils said to me 'we're Indian', very proudly, followed by another pupil telling me where they were born.

Throughout the flashcard portion of the second session, Malayalam L1 pupils were highly engaged and became very animated when the Malayalam flashcards were

shown. They engaged in whole table discussion in Malayalam, reading and repeating the Malayalam translation amongst themselves. They were highly interested in the sense cards and multilingual glossary and completed the activity sheets using Malayalam when given the choice too, at times going beyond what the activity sheet directed and writing additional translations in Malayalam. It was observed that the pupils worked together to complete the activities and assisted those with lower English proficiency, including a very recent arrival who was engaged with the materials. At one point, a Malayalam L1 pupil asked me in English to explain one of the activities; after I did so, they immediately turned to their partner and spoke in Malayalam seemingly to translate what I had said. The Malayalam L1 group demonstrated a positive and enthusiastic response to the use of Malayalam within the lessons and engaged with the L1 as a group in reading, speaking and writing in Malayalam.

Notably, Malayalam L1 pupils wanted to sit at the back table during every session and had very little engagement with the teacher in comparison to non-EAL pupils. The only engagement observed in response to a whole-class question from a teacher occurred during session 2. A poem was shown to the class which contained the Sanskrit word 'Rani', and the class was asked if anyone knew what it meant (see appendix L.2). The Malayalam L1 pupils swapped hushed comments in Malayalam, and one put their hand up to answer correctly 'queen', and another pupil who had not before answered in front of the class also added 'goddess'. During one of the worksheets during session 3, which asked pupils to write or draw their 'capabilities', which was a target word, one of the Malayalam L1 pupils wrote 'languages' and was very proud to show this to me.

During the 3rd session, Malayalam L1 pupils were directed by the teacher to sit in pairs on different tables, rather than all sit at one table. The Malayalam L1 pupils had been very keen to sit together, even pulling up additional chairs for each other to all be at one table, so were not very happy to move to different tables. It was observed that they continued their use of L1 with each other, though it was much more covert and subdued. During the activity sheet portion of the session, one of the Malayalam L1 pupils would get out of their seat to speak in Malayalam with another pair. No interaction was witnessed between the Malayalam L1 pupils and non-EAL pupils

throughout the observation. Malayalam L1 pupils were observed combining English and Malayalam in one of the worksheets which asked about traditions and customs, writing about cultural foods they eat.

5.7.4 EAL learner responses (Polish)

There was one Polish L1 EAL pupil in the multilingual group, whose behaviour contrasted starkly with that of the Malayalam L1 pupils. The home language questionnaire for this pupil indicated that they have proficiency in reading, writing and speaking in Polish, and it is 'always' spoken at home. However, throughout the observation no L1 use or engagement with Polish was witnessed. When I sat at the table with the Polish L1 pupil, I noticed they had chosen to use French primarily, and some Malayalam on the activity sheets, seeming to use Polish last and only when prompted to find additional translations.

When asked if she recognised any of the languages the pupil answered yes but seemed quite reluctant. They said, 'my family is Polish, but I'm not so good with reading', which aligns with their comment on the participant survey, 'I felt cool when saying the new words in Malayalam and French also a little Polish because I didn't know some'.

5.7.5 Non-EAL learner responses

As indicated by the participant survey responses, all non-EAL learners responded positively to the use of first languages as a teaching tool and engaged with the materials. It was observed that during the flashcard portions, the pupils seemed to most enjoy the audio recordings of translations, and without ever being prompted, would repeat back the word. The teacher told me this is what they do in French lessons, so of their own accord pupils seemed to treat the use of other languages in the same way and enjoyed listening to and speaking new words.

One non-EAL pupil became a bit overwhelmed during the first session and was struggling to use the multilingual glossary, however, during the second session there

was a whole-group flashcard game during which the same non-EAL pupil managed to find the correct translation and shared it with the class proudly.

Many of the non-EAL pupils were very proud to show me their activity sheets and quickly became adept at using the multilingual glossary and sense cards. Despite Malayalam posing the greatest difficulty in writing due to its different script to English, many of the non-EAL pupils made an effort to write Malayalam words and were very proud to share their carefully copied Malayalam writing.

5.7.6 Contrast between groups

Due to the unexpected language behaviour of the Malayalam L1 pupils within the multilingual group, I was interested to observe whether similar behaviour was occurring within the English-only group, as that would suggest whether their extensive use of the L1 within the classroom was related to the multilingual nature of the experimental sessions and the environment of that class, or more widely occurring across the school in general without the incorporation of first languages in teaching. I observed part of the activity sheet portion of the third session to see whether there was any first language use within the control group.

Notably, the control group environment was very different to the multilingual group, which may relate to the difference in teachers and contrasting teaching styles. Whilst the multilingual group was very energetic with lots of activity and student dialogue, the control group was far calmer and more subdued, with students sat still in their seats and much lower levels of dialogue. Malayalam L1 pupils were split across two tables, with one pupil on one table among non-EAL pupils and three on the other, two sat in a pair which included one of the very recent arrivals to the school and the other sat across from them.

Despite the proximity of three of the Malayalam L1 pupils, no L1 use was observed and there was minimal dialogue with each other. Only one of the Malayalam L1 pupils was keen to speak to me and told me they were writing about Christmas for the activity

about traditions and customs, the same as other pupils on the table. This was in contrast with the 'cultural foods' that children in the multilingual group wrote about.

The pair of Malayalam L1 pupils that sat together were very passive and seemed to struggle to engage with the activities, waiting for instruction from the teacher. The teacher provided instructions very slowly and in a carefully enunciated manner, presumably due to them having lower English proficiency. The Malayalam L1 pupil on the table with other non-EAL pupils seemed to be withdrawn and did not interact much with their non-EAL peers who were talking with each other. The teacher told me that they were free to use their L1 and had the freedom to go to each other for help if they wanted it, however no movement between tables or L1 use was observed within the control group.

5.7.7 Focus group findings

The focus group was semi-structured around questions relating to RQ2 and feedback regarding the research study. The transcript was thematically analysed using an inductive approach to generate codes and interpret themes. The focus group was also analysed in triangulation with the observation and survey data to substantiate findings relevant to RQ2, regarding both teacher and learner responses to the use of first languages as a teaching tool. The focus group comprised of the EAL T.A., the year 3 and multilingual group teacher and a T.A. who assisted in the multilingual group during sessions.

5.7.8 Teacher responses

The teachers agreed that the study 'worked really well', particularly because of the consistent sequence throughout using first flashcards and then activity sheets. In alignment with the survey responses and observation findings, the participants of the focus group agreed that pupils 'really enjoyed seeing the languages' and were engaged during the sessions. P1 and P2 shared experiences of pupils sharing with them that 'it was really nice to hear other languages and it's nice [...] for other children to hear their

languages in lessons’, and that one EAL pupil ‘clearly enjoyed seeing it and recognised it’.

Teachers discussed the role that they play in facilitating first language use, with P2 commenting that due to the study, discussions had been had about where to situate EAL learners within the classroom, as this has a direct impact on pupils’ language use in lessons. P1 described this as a ‘balance’ between their mother tongue and ‘the best exposure to a new language’. P2 commented that, if EAL pupils are sat together, ‘they might understand the concept more’ if they are able to use their L1.

Teachers also raised potential challenges concerning the use of first languages within teaching, particularly the issue of accuracy when using translations and relying on software such as google translate. P2 commented that ‘as a teacher’, it is something they would have to ‘get their head around’, as they wouldn’t want to be providing pupils with something wrong. P1 commented that this had already been an issue. They had recently bought some bilingual books, but EAL pupils said, ‘I can’t understand this’ and that it was ‘all wrong’. This relates to feasibility challenges within the linguistically diverse context of UK classrooms.

5.7.9 Malayalam L1 pupils

P1 commented that the Malayalam children ‘definitely enjoyed’ [the sessions], ‘probably feeling a little bit freer to do it’. Expanding on this, P1 said that ‘they do do it’ [use the L1] and that it was encouraged as much as possible, but it was nice to see ‘yes, this is definitely where we can do this’. This corresponds with the contrasting language behaviour observed between groups, as Malayalam L1 pupils in the multilingual group used their L1 almost exclusively while the Malayalam L1 pupils in the control group did not, suggesting that L1 use within the multilingual group resulted to some extent due to the use of learners’ first languages as a teaching tool.

When asked about the Malayalam L1 pupils’ use of Malayalam at school and the extent to which it occurred generally, P3 said that ‘they often support each other using their

language'. P1 highlighted the importance of the Malayalam lunch club for those pupils as a space to encourage them being 'confident in it' [L1 use] and themselves'. P1 shared an experience where a Malayalam L1 pupil reported that two girls had told her she shouldn't eat food with her fingers and should use a knife and fork to eat her lunch. The Malayalam L1 pupil had replied '[P1] said I can eat my food with my fingers, that's how we do it in India'.

Whilst it was emphasised that a celebration of culture and language was promoted generally, challenges were raised regarding seating arrangements. P1 commented that, whilst the Malayalam pupils choose to sit together when given the choice, it can look like 'segregation' and there's a need to question 'what you're doing and why'. Their desire to sit together was attributed by P1 and P2 to the very strong 'cultural community' they'd formed within school, with P3 stating they're 'comfortable together'. The idea of comfort was also raised in relation to the Malayalam lunch club, when P1 and P2 commented that the Malayalam pupils showed a strong 'cultural' desire to learn English, even bringing their English books to lunch club. It was suggested that this related to them being 'comfortable' with the EAL T.A.. However, it is notable that the lunch club is also a space where they use the L1, thereby aligning with the observation that the Malayalam L1 pupils seek the proximity of each other and 'space' to use their L1 to engage with schoolwork as a form of support.

6 Discussion

6.1 Introduction

This chapter will discuss the findings in relation to existing research. It will address the extent to which the research questions have been answered, before assessing theoretical and pedagogical implications and recommendations for future research based on the study's purpose as a pilot. The chapter will conclude with a discussion of the study's limitations, and of how this relates to current understanding regarding L1-mediated teaching as an approach to educating EAL learners in Britain.

6.2 Intervention study findings

An intervention study was conducted with the aim to provide empirical evidence to investigate the following research question:

RQ1: Does the use of learners' first languages as a pedagogical tool result in improved English vocabulary acquisition for EAL learners in a linguistically diverse classroom?

The study did not find any statistically significant differences in English vocabulary acquisition between pupils who received English-only teaching and those who received multilingual teaching that incorporated the use of EAL learners' first languages as a teaching tool, when comparing both at a whole-class level and EAL learners alone. This aligns with previous research involving EAL learners in this context (Chalmers, 2014, 2019), and suggests that there was no advantage to the use of EAL learners' first languages as a teaching tool regarding English language development. However, it is important to note that the study was very underpowered, particularly as there were only 5 EAL learners in each group, thereby increasing the likelihood of there being a type II error which would result in a failure to reject a null hypothesis that was actually false (Field, 2013). Therefore, the findings of this exploratory study should be interpreted with caution, as the study was not sufficiently powered to provide adequate empirical evidence in relation to whether the use of EAL learners' first languages as a teaching tool benefits vocabulary acquisition.

The finding also aligns with previous research that majority first language pupils are in no way disadvantaged by the inclusion of learners' first languages within teaching (Cummins, 2000; Huang and Chalmers, 2023). Further research is required before it is possible to draw firm conclusions on whether a multilingual teaching approach results in improved academic outcomes or not. However, evidence that there is no advantage or disadvantage to the inclusion of EAL learners' first languages in teaching raises the argument that potential benefits of using the L1 (e.g., improved learner well-being, intercultural awareness, and positive identity development) may be achievable at no detrimental 'cost' to non-EAL learners within the class. It is important to note that the inclusion of other languages was well-received by all pupils.

6.2.1 Descriptive data trends

The study's sample size limited the ability to draw reliable conclusions from inferential statistics, and the null hypothesis could not be rejected. However, the study's design as a proof-of-concept study meant that it was useful to look for suggestive trends in the data that could indicate whether a larger-scale, higher powered study would be worth pursuing. With this in mind, and being cautious of making generalisations, the descriptive comparison between groups proved interesting. As discussed, (see section 2.2.1), learners classified as EAL are not a homogenous group, and likewise within the study those classed as EAL could be considered in two sub-groups which were also observed to have distinct language behaviour.

These sub-groups were Malayalam L1 learners (n=8) of whom all shared the same L1, were born outside of the UK, and had entered the British educational system within the last two years. Those EAL learners with an L1 other than Malayalam (n=2) differed at a group level as they were born in the UK and so had spent significantly longer within majority language English education. In comparing these sub-groups of EAL learners at a descriptive level, findings showed that the Malayalam L1 learners within the

multilingual group had far greater gains than Malayalam L1 learners in English-only group.

These findings suggest a trend in the data indicating that the use of EAL learners' L1 as a teaching tool may have had a beneficial effect on English vocabulary acquisition for EAL participants who spoke Malayalam, raising questions as to whether a statistically significant difference may have been detected if the study had greater power, and the intervention had been of increased length and intensity. Notably, in addition to distinct group characteristics of the Malayalam L1 learners, they also contrasted with other EAL participants in terms of their language behaviour, as those within the experimental group were observed to fully engage with and use their L1 during the sessions while reading, writing and for social interaction. From the theoretical perspective of crosslinguistic translanguaging theory (Cummins, 2022) and principles such as linguistic interdependence and common underlying proficiency (Cummins, 2010), these learners may have been able to draw on existing conceptual and semantic knowledge through using their L1, thereby aiding their acquisition of novel English vocabulary.

The extensive social interaction among Malayalam speaking pupils in the L1 relates to literature on pedagogical translanguaging and sociocultural theory that emphasises the significance of interaction in relation to learning, (Vygotsky, 1987; García and Lin, 2017) – more so than the use of the L1 as a teaching tool alone. The Malayalam L1 learners in the multilingual group were freely able to engage in natural language practices and utilise their entire linguistic repertoire whilst engaging with the learning materials. This finding also differs from the previous findings in studies which utilised learners' L1 as a teaching tool but without the opportunity for L1 discourse (Chalmers, 2014, 2019), further strengthening the suggestion that this was a significant factor in improved learner engagement and vocabulary learning for this group. The fact that EAL learners in the context of a diverse mainstream classroom in Britain were willing to fully engage with the use of their L1 in the classroom, particularly during social interaction and discussion of the learning materials, lends weight to the idea that L1-mediated

instruction may potentially be both feasible and advantageous in the context of EAL learners in Britain.

Therefore, the findings of the intervention study can be interpreted as encouraging in demonstrating a suggestive trend: for EAL learners with certain characteristics, situated in contexts where they are willing and able to engage in L1 discussion with other pupils, the use of learners' first languages as a teaching tool may result in improved vocabulary development. Yet due to the descriptive nature of these findings and the small sample size, it is not possible to either draw firm conclusions as to whether a causal relationship exists between L1-mediated teaching in this context and improved vocabulary acquisition or make generalisations regarding the wider EAL population. However, these findings do support the proposal for larger-scale empirical research comparing a multilingual teaching approach with the English-only approach currently adopted, as for some groups of EAL learners, this may be beneficial.

6.3 How did learners and teachers respond to the intervention?

A participant survey, observation, and a teacher focus group were conducted and analysed to address the following research question:

RQ2: How do learners and teachers respond to the use of first languages as a pedagogical tool in a linguistically diverse classroom?

6.3.1 Whole-class response

Both EAL and non-EAL learners within the multilingual group responded positively to the presence of first languages as a teaching tool, aligning with previous research finding that children enjoy learning about others' languages irrespective of language background (Kenner et al., 2008). Evidence to support this finding was consistent across measures, as participant survey scores and comments, observation data and teacher comments in the focus group all supported the finding that multilingual group participants enjoyed seeing and hearing different language translations.

An interesting observation made was that, when first presented with the L1 flashcards, pupils repeated back the audio recording without instruction, and throughout the study it was this repetition of the audio that pupils seemed to most anticipate and enjoy. The class teacher informed me that this is a routine that pupils do in their French lessons, so it seems that pupils extended this same routine when presented with novel translations.

This observation may provide insight into question 3 on the participant survey, *how did you feel about speaking and using languages other than English in the sessions?* This question had the greatest contrast in the mean responses of EAL and non-EAL learners, with EAL learners scoring 2.8 on average, indicating that they were happy, compared to an average score of 1.83 for non-EAL learners who demonstrated greater variability in feeling. This may have been due to the non-EAL learners lack of knowledge of the L1 translations, resulting in reduced ability to ‘speak and use’ other languages during the sessions, other than when repeating the audio translations. The enthusiastic response towards the audio input suggests that pupils enjoyed and valued the opportunity to inclusively engage as a group when repeating translations verbally, which is less difficult than writing in another language.

There was evidence that the incorporation of learners’ first languages as a teaching tool increased intercultural awareness in the classroom, aligning with previous research (Kenner et al., 2008; Lanvers et al., 2016). This was highlighted in both participant survey comments and in the focus group, in which a teacher described an interaction with a non-EAL pupil who commented that it was ‘nice for others to hear their languages in lessons’, demonstrating an awareness and empathy for EAL pupils’ language experiences.

6.3.2 L1 use within the classroom

An unexpected observation was the language behaviour of the Malayalam L1 participants within the multilingual group. Due to the majority language environment of mainstream schools in Britain, the small number of Malayalam speakers in the group,

and the prevalence of negative attitudes and stigma towards L1 use (Chalmers, 2014, 2019) as well as a lack of previously observed L1 use in this setting by EAL learners (Bailey et al., 2017), it was surprising to observe that the Malayalam speaking participants in the multilingual group immediately engaged in almost exclusive L1 use with one another and were hugely enthusiastic towards using their L1 within the classroom. In every session, the Malayalam speaking pupils were very keen to sit together, signalling and calling others to the table at the back of the classroom which demonstrates the significance and strength of their community within the school.

These findings demonstrate that Malayalam L1 participants had a strong desire to use their L1 to communicate within the classroom through social interaction. They also show confidence in L1 use in this context that seemed to be bolstered by the number of language speakers in proximity, and the strength of their community in the school. This was supported by teacher comments in the focus group, who also referred to Malayalam L1 pupils wanting to sit together and take their English work to the Malayalam lunch club where they could use their L1 with peers.

6.3.3 L1 use and cultural identity

Additionally, findings emphasised the interconnection between language and culture, and the impact this has on learners' language behaviour. The importance of cultural identity and community for the Malayalam L1 pupils was evidenced throughout observation and within the focus group, indicating that culture is a significant aspect of these pupils' identities which they engage with positively in the school environment, including through L1 use.

The strength of community for the Malayalam L1 learners was attributed by teachers to not only the number of Malayalam speakers, but also the Malayalam lunch and dance club which provides opportunity for L1 speakers across the school to engage with one another. The personal confidence this generates was highlighted within the focus group discussion, in reference to an EAL pupil who was able to assert their cultural custom within the school environment, eating with their hands. This shows not only the central

aspect of culture regarding peer interactions within school, but also the pivotal influence of teacher support through validating pupils' cultural identity.

The role of learner identity also arose during classroom interaction within the multilingual group, particularly when the class was asked about the meaning of the word 'Rani' within one of the poems. Throughout the four research sessions, this was the only observed occasion in which EAL learners put their hand up and were keen to provide definitions, suggesting that the use of first languages as a teaching tool had an empowering effect upon the Malayalam L1 learners. Rather than being characterised by a 'lack' of English, EAL pupils in this case were able to reverse roles with the teacher and showcase their linguistic knowledge, thus developing an identity of competence (Manyak, 2004) through opportunities to draw on their 'funds of knowledge' (Moll et al., 1992) within the classroom.

Teachers in the focus group support this finding also, indicating that the inclusion of learners' first languages as a teaching tool provides opportunity for multilingual learners to showcase their linguistic capabilities and benefit from identity validation and investment (Bernhard et al., 2006; Cummins and Early, 2011). This is argued to improve literacy engagement and outcomes through acts of developing and negotiating identities of competence (Norton, 2000; García and Klieffen, 2020). Thus, the study's findings of increased learner engagement and potential improved language development align with prior qualitative research (Stein and Newfeld, 2003; García, 2009; Duarte, 2016) suggesting that the use of learners' first languages within teaching in this context play a broader role in academic development.

6.3.4 Non-Malayalam L1 EAL learner response

Whilst Malayalam speaking participants in the multilingual group demonstrated active and consistent L1 use, the language behaviour of the Polish L1 EAL participant in this group differed. The participant's unwillingness to engage with their L1 adheres to prior conceptions about language use in this setting, concerning stigma surrounding L1 use within school (Chalmers, 2014, 2019). Notably, data from this participants' home

language questionnaire indicated that Polish is spoken all the time at home, and that they have proficiency in all aspects of Polish. This is at odds with the language behaviour exhibited within the classroom, in which this participant seemed to actively distance themselves from their L1, instead commenting negatively about their lack of Polish knowledge and prioritising engagement with other languages rather than drawing on their high level of proficiency in Polish as a strength within the sessions.

Perhaps this could be attributed to a lack of ‘critical mass’ (Slavin and Cheung, 2005), as, interestingly, although there was another Polish participant in the group, they exhibited similar distancing behaviour when the teacher asked in front of the class about their parents’ Polish cooking. This further suggests that, beyond just relating to the number of language users in proximity, EAL learner L1 use within this context has a complex interaction with learner attitudes towards the L1 and their school identity, which may be to an extent more pronounced for this participant considering they were born in the UK. Whilst the scope of the study was limited, it was observed that in school contexts where language communities establish a strong presence (such as Malayalam in this case), linguistic hierarchies may emerge; these might result in further minoritisation of minority language speakers. This is also found in other diverse contexts (Sah and Li, 2022).

The contrast in the language behaviour among participants also emphasises that due to the heterogeneity of EAL learners, it cannot be presumed that they will readily engage with their first language within the classroom and react positively to L1-mediated teaching, as language behaviour is highly sensitive to sociocultural and sociopolitical context and in some instances has been found to be rejected (Charalambous et al., 2016; Allard, 2017).

6.3.5 Language behaviour contrast between groups

Due to the unexpected L1 use by Malayalam L1 participants in the multilingual group, a short observation was conducted in the English-only control group during session 3. Despite one table having 3 Malayalam L1 pupils on, including two sat next to each

other, there was no observed use of the L1 within the control group. The contrast in language behaviour between the multilingual and the English-only group suggests that L1 use within the multilingual group was related to the class environment and the use of first languages. It also emphasises the role of the teacher in addition to the number of language users, further highlighting that language use in the classroom is subject to complex interactions.

The difference in learning behaviour among recently arrived Malayalam L1 pupils was particularly striking between groups. In both groups, the most recently arrived Malayalam L1 pupils (twins) were paired with another Malayalam speaker to help. In the multilingual group, the recently arrived pupil exhibited active, enthusiastic engagement with the materials, completing them with their partner through discussion in the L1 and with minimal teacher involvement. In contrast, the pair in the control group displayed passive, unengaged behaviour and struggled to complete the activities. This strengthens the suggestion that the use of learners' first languages in the multilingual group played a beneficial role in facilitating learners' full range of language repertoires as a resource for knowledge construction (Conteh and Meier, 2014; García and Kleifgen, 2020), positively impacting learner engagement.

6.3.6 Teacher responses

Responses from teachers during the focus group align with previous research investigating teacher perceptions regarding the inclusion of EAL learners' first languages in the classroom (Bailey et al., 2017a). Whilst teachers were willing to engage with a multilingual approach and had positive feelings about the intervention generally, they also raised concerns regarding their own linguistic confidence and lack of language knowledge. This was reflected in concerns about L1 translations they provide being 'correct', described as a 'comfort thing' by one participant. Linguistic insecurity among teachers has also been shown to centre around pronunciation anxiety (Bailey et al., 2017a), which was observed in the multilingual group as the class teacher displayed a high level of uncertainty and hesitation when reading unknown words.

Teachers in the focus group also reflected some uncertainty and conflicting views about L1 use within the classroom and tensions between diversity and inclusion, as found in previous research (Bailey et al., 2017). Seating arrangements for Malayalam L1 pupils was highlighted as a challenge, as they have a strong desire to sit together, yet this led to concerns among teachers about balancing L1 use and exposure to English. Through seating arrangements, teachers recognise their instrumental role in facilitating or obstructing L1 use within the classroom. Additionally, there were concerns of cultural 'segregation' between pupils, which demonstrates additional complexities resulting from tensions between educational policy goals of 'inclusion and diversity' (Conteh, 2012a), particularly in largely monolingual classroom environments (Bailey et al., 2017).

6.4 Limitations

The study has numerous limitations, primarily being its small sample size and insufficient power to draw conclusions as to whether the use of the learners' first languages results in improved English vocabulary acquisition (Rogers and Révész, 2020). Additionally, the lack of randomised allocation heightens the possibility of allocation bias (Plonsky, 2017), and further limits the study's external validity in being able to generalise findings to the wider EAL population in this context.

The study benefitted from a degree of ecological validity due to being conducted within a naturalistic classroom learning environment (Mackey, 2017). However, this introduced the risk of potential confounding variables such as teaching style, ability, language attitudes and other unknown variables that limited the ability to attribute outcome measure effects to the manipulation of the independent variable (in this case, the use of learners' L1) (Loewen and Plonsky, 2016). Furthermore, due to the broad range of input and teaching strategies, the role of peer interaction and visible researcher presence in the experimental group, it is not possible to isolate outcomes in relation to English vocabulary learning as resulting from the use of presence or exclusion of learners' first languages alone (Loewen and Plonsky, 2016).

A limitation of the definition-matching pre-test was the level of task demand and difficulty, particularly for EAL learners with a lower level of English proficiency. This was due to the need for participants to be able to read and comprehend each possible definition to select the appropriate answer. The only alternative would have been to utilise picture matching. However, since the target words were not concrete nouns, but a mix of nouns, adjectives and verbs with quite abstract meanings, the use of pictures would not have established accurate receptive comprehension of the target vocabulary.

6.5 Theoretical and research implications

The study should be interpreted as an exploratory pilot study, existing as the first known of its kind to compare a multilingual teaching approach in a whole class setting involving EAL learners. It is worth considering the suggestive trends resulting from descriptive data analysis that indicate that an L1-mediated teaching approach may have improved English vocabulary learning for those EAL learners who used their L1 to engage with and discuss the materials with peers. Potentially, this suggests that a higher-powered study with an intervention of greater length and intensity could yield statistically significant differences between a multilingual and English-only pedagogical approach. However further research is required to reliably gather evidence from which to draw conclusions (Chalmers, 2017; Chalmers and Murphy, 2022; Huang and Chalmers, 2023).

Taken together with the further finding that a sub-group of EAL learners had a strong desire to use their L1 in the context of a linguistically diverse, mainstream classroom in Britain has theoretical implications for research in this area, as it conflicts with previous observational findings and perceptions (Bailey et al., 2017a; Chalmers, 2014, 2019). This demonstrates that, given the right context, EAL learners in diverse, mainstream settings can be willing to actively and consistently engage with their L1, supporting the argument that a multilingual teaching approach in this educational context may yield similar academic and language development advantages evidenced in bilingual

contexts, due to concepts such as linguistic interdependence and CUP (Cummins, 1979b, 2008, 2010).

However, L1 use in a school setting has been shown to be highly sensitive to sociocultural and sociopolitical context (Charalambous et al., 2016; Allard, 2017), and there were numerous factors which may have contributed to the multilingual group's L1 use to various extents, such as the number of language users, their relationship dynamics, language attitudes within the school, and the strength of both these learners' cultural community within the school and their individual cultural identities. These may relate to the role of the EAL T.A in this setting, as well as the provision of spaces such as the Malayalam lunch club. Further qualitative research will be needed to investigate the interaction of these factors in influencing the L1 use and language behaviour of EAL pupils in linguistically diverse, mainstream schools. Yet the study encourages further research into the potential advantages of a multilingual teaching approach both regarding substantive academic and linguistic outcomes but also more broadly regarding wellbeing and intercultural awareness (Parke et al., 2002; Kenner et al., 2008; Lanvers et al., 2016).

The study also serves to highlight the significance of peer interaction as a key facet of pedagogical translanguaging approaches (Duarte, 2016), indicating that 'using the L1 as a teaching tool' may fundamentally rely on the function of interactive discourse as a means of meaning-making and knowledge construction (Garcia, 2009; Conteh, 2012a), rather than improved academic outcomes resulting from L1-mediated input alone. This may also increase the feasibility of multilingual teaching approaches in linguistically diverse classrooms, as L1 discussion between peers does not necessitate teachers with broad linguistic competencies. Instead, teachers can utilise the shared linguistic and cultural resources among EAL learners themselves to engage with in learning (Duarte, 2016). However, this is an avenue for future research.

Finally, the study reinforces the non-homogeneity of learners classified as EAL within Britain, due to the differences among EAL learners in terms of both vocabulary learning and willingness to use their L1 in the classroom. This highlights that the implementation and resulting effects of a multilingual teaching approach in this context cannot be discussed in universal terms regarding 'EAL learners', as approaches are likely to be engaged with and effective in different ways for different EAL pupils.

6.6 Pedagogical implications

The study has several pedagogical implications to consider. Whilst there was not a statistically significant vocabulary learning advantage to the use of learners' first languages as a teaching tool, there was no disadvantage to pupils in the multilingual group, who all responded positively to the presence of other languages. This suggests that teachers may be able to incorporate the use of learners' first languages within their teaching as an empowering approach to aid intercultural awareness among learners (Kenner et al., 2008; Lanvers et al., 2016) and to show value and acknowledgment of EAL learners' existing linguistic and cultural knowledge (Cummins and Early, 2011) at no cost to language development for pupils.

The study adds to a body of evidence that suggests the incorporation of learners' first languages has wider benefits to pupil development beyond just academic outcomes (Bernhard et al., 2006; Duarte, 2019, Garcia and Kleifgen, 2020), as it may help foster identities of competence among EAL learners thus heightening their positive engagement with literacy learning (Norton, 2000; Cummins and Early, 2011). The inclusion of learners' first languages in the classroom may also facilitate the creation of a 'space' for EAL learners to freely utilise their entire linguistic repertoire in meaningful knowledge construction with peers (Li, 2011). However, it is important to note that this will depend on EAL learner characteristics in addition to environmental and sociocultural factors that influence L1 use within the classroom. Teachers should be aware that these play a significant role in facilitating L1 use among EAL learners in the classroom and take this into account when planning the seating arrangement of the

class, as grouping language speakers together or separately will directly influence learners' ability to engage in L1 discourse.

Findings support the feasibility of a multilingual teaching approach in this setting through the provision of translations in a range of materials, however teachers will need to take care in sourcing suitable translations, as freely available tools such as Google Translate are not wholly reliable depending on the languages involved and the range of languages within the class. The study's findings demonstrate that EAL learners vary in their desire to engage with their L1 in a school setting, therefore it is important for teachers to respect learners' individual choices concerning L1 use within school (Chalmers, 2019). However, there exists a powerful social justice argument that when multilingual learners have a desire to use their L1 to engage in learning, such as in this study, then this should be legitimised by teachers through translanguaging pedagogical approaches (Seltzer and Garcia, 2020).

7 Conclusion

The study aimed to investigate whether the use of EAL learners' first languages as a teaching tool results in improved English vocabulary acquisition in a linguistically diverse classroom, in addition to exploring how teachers and learners respond to the presence of first languages in this setting. A quasi-experimental intervention study was conducted to compare target vocabulary learning between a multilingual and an 'English-only' group, involving both EAL and non-EAL learners in a naturalistic whole-class setting. Findings from the intervention study were that there was no statistically significant difference in vocabulary learning between groups. However suggestive data trends arose from descriptive analysis of a sub-group of EAL participants who fully engaged with social L1 use throughout the sessions. This suggests that further, larger scale research is needed to explore EAL learners' use of the L1 in peer interaction within the classroom, and to investigate whether this has a causal relationship with improved vocabulary acquisition.

Learner and teacher responses were explored using qualitative methods, finding that all learners responded positively to the presence of learners' first languages, and that this may have empowered some EAL learners through providing them with opportunities to engage in L1 discourse and to draw upon their linguistic competencies in a whole-class setting. Significantly, the study found that given the right contextual factors, some EAL learners demonstrate a strong desire to use their L1 with peers in the classroom. The presence of first languages seemed to have a facilitative effect, but this was also found to relate to the strength of cultural community and learner identities within the school. This finding supports the fundamental role of social interaction which should be considered within further research into multilingual teaching in this context, both regarding substantive academic outcomes and from a social justice perspective.

Larger scale experimental studies are required to investigate whether a causal relationship exists between a multilingual teaching approach in this context and improved language development outcomes. However, this should incorporate

naturalistic learning environments and provisions for peer interaction. Qualitative research will be fundamental in further understanding the interaction of sociocultural factors in relation to L1 use among EAL learners in a school setting, and investigate the potential impact on learner wellbeing, classroom cohesion, and identity negotiation.

Despite the finding that there was no significant vocabulary learning advantage in relation to the use of first languages, the multilingual approach was positively received by all pupils and provided EAL learners with the freedom to use their L1 within the classroom at no 'cost' to vocabulary learning. The study evidences the existence of EAL learners with a strong desire to freely use their L1 in productive peer engagement in a diverse classroom context and should be taken as evidence to support multilingual teaching approaches. Therefore, multilingual discourse should be legitimised (Seltzer and Garcia, 2020) and EAL learners should be provided with choice and agency when it comes to engaging with their education in mainstream schools.

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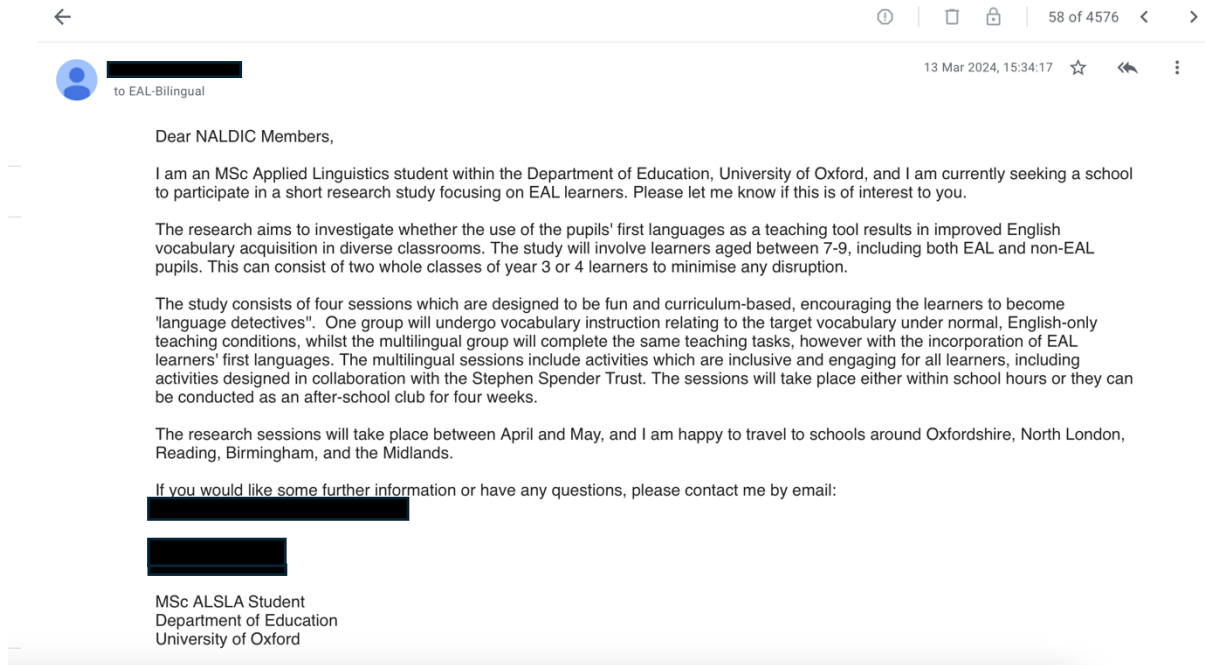
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Appendix A. Participant outreach



Appendix A.1.1 – Recruitment post on the NALDIC member forum.

Appendix B. Participant information sheets

B.1. Teacher information sheets

Department of Education
University of Oxford
15 Norham Gardens
Oxford
OX2 6PY
01865 274024



Does the use of learners' first languages as a teaching tool result in improved English vocabulary learning?

INFORMATION SHEET FOR TEACHERS

Central University Research Ethics Committee Approval Reference: EDUC_C1A_24_052

Introduction

In partnership with researchers at the University of Oxford, your school has agreed to take part in a research study investigating whether the use of learners' first languages as a teaching tool results in improved English vocabulary learning. We would like to invite you to be part of this research, but before you decide, it is important that you understand why the research is being done and what it will involve.

Why is this research being conducted?

There are many benefits to being bilingual and evidence suggests that children who are taught using their first language to support their English learning do better than those who are taught using only English. There are other potential benefits to the use of learners' first languages in the classroom which apply to children who are native English speakers as well, such as building awareness of other languages in our community and helping to develop positive cultural relations.

However, there has been very little research into the use of learners' first languages in the setting of mainstream schools in England, which are increasingly diverse. The research project aims to investigate whether the use of pupils' first languages as a teaching tool results in improved English vocabulary learning, in this context.

More information about the research can be obtained by contacting the research team (contact details overleaf).

Why have I been invited to be involved in this research?

You have been invited to take part because you are a teacher in either the English-only or multilingual instruction group, and we are interested in your views on the study and any specific challenges you may encounter.

Do I have to be involved?

No. You can ask questions about the research before deciding whether you wish to participate. If you do agree to participate, you may withdraw at any time, without giving a reason, by advising the school or researchers of this decision. The deadline by which you can withdraw any information you have contributed to the research is June 2024, before it is anonymised. If you decide to withdraw from the study before this deadline, your data will be erased from the study and not be included in the research analysis.

What will happen if I take part?

- The research study will consist of four sessions, once per week each lasting an hour, followed by either a focus group of participating teachers or short, semi-structured interviews with the researcher.
- The focus group or semi-structured interview will be arranged at a time that is convenient to you. You will be provided with preliminary findings of the study and asked to reflect on your teaching experiences during the research. You will be asked a few questions about any specific challenges or observations you encountered during the study.
- The focus group or semi-structured interview will take place within the school and last approximately 30 minutes.
- The focus group or semi-structured interview will be audio-recorded, with your consent, to allow the researcher to accurately recall your input and analyse your responses for the purpose of the research study.
- You will be reminded of the audio recording at the beginning of the focus group or semi-structured interview. You can withdraw or decline to answer questions at any point, without giving a reason.

What are the possible disadvantages and risks in taking part?

There are no foreseeable disadvantages or risks to you taking part in this research study.

Are there any benefits in taking part?

While there are no direct or personal benefits to you in taking part in this research, you may find it interesting to reflect on alternative teaching methods and teaching practices with regard to EAL learners.

What information will be collected and why is the collection of this information relevant for achieving the research objectives?

As part of the research project, you will be asked to participate in either a focus group or a short, semi-structured interview with the researcher. This is to help provide insights as to teacher responses to the use of learners' first languages as a teaching tool within the classroom and identify any specific observations or challenges experienced by participating teachers. The focus group or semi-structured interview will be audio recorded and then transcribed by the researcher for the purpose of analysis.

All participant data will be securely handled according to GDPR guidelines and will only be accessed by the primary researcher (Gemma Boskovic) and her supervisor (Dr Faidra Faitaki). During the transcription of the audio recording, teacher names will be replaced with pseudonyms to prevent their identification. The transcript will be digitally stored on the University of Oxford-approved secure storage platform, Nexus365 OneDrive for Business for three years after the study has concluded. At the end of the research, recordings will be erased. Identifiable data such as consent forms will be stored in a separate file, which will also be securely stored on Nexus365 OneDrive for Business for three years after the study has concluded.

The findings of the study will be reported with reference only to participating teachers, without the inclusion of teacher names or identifiable information, meaning it will not be possible to identify participants from the written results of the study.

Regular summaries of our findings will be given to the school and will be available to interested families. It will not be possible to identify the school, teacher or any students in any reports of the research.

Will the research be published? Could I be identified from any publications or other research outputs?

The findings from the research will be written up in a master's thesis. Participants will not be identifiable from the written-up research. A copy of the dissertation will be deposited both in print and online in the [Oxford University Research Archive](#) where it will be publicly available to facilitate its use in future research.


Data Protection

The University of Oxford is the data controller with respect to your personal data, and as such will determine how your personal data is used in the research. The University will process your personal data for the purpose of the research outlined above. Research is a task that is performed in the public interest. Further information about your rights with respect to your personal data is available from the University's Information Compliance website at <https://compliance.admin.ox.ac.uk/individual-rights>.

Who has reviewed this research?

This research has received ethics approval from a subcommittee of the University of Oxford Central University Research Ethics Committee. EDUC_C1A_24_052

Who do I contact if I have a concern about the research, or I wish to complain?


do our best to answer your query. We will acknowledge your concern within 10 working days and give you an indication of how it will be dealt with. If you remain unhappy or wish to make a formal complaint, please contact the Chair of the Research Ethics Committee at the University of Oxford who will seek to resolve the matter as soon as possible:

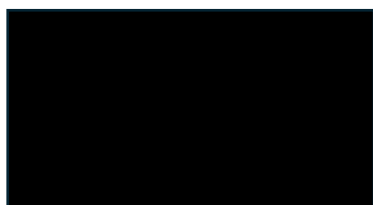
The Chair, Social Sciences & Humanities Interdivisional Research Ethics Committee;
Email: ethics@socsci.ox.ac.uk; Address: Research Services, University of Oxford, Boundary Brook House, Churchill Drive, Headington, Oxford OX3 7GB

What should I do next?

Please fill in the enclosed form and return it to the headteacher or researcher if you would like to take part in this research. Please remember that you may withdraw at any time, without negative consequences and without giving a reason, by notifying the researcher.

Further Information and Contact Details

If you would like to discuss the research with someone beforehand (or if you have questions afterwards), please contact:



B.2. Parent information sheet

Department of Education
University of Oxford
15 Norham Gardens
Oxford
OX2 6PY
01865 274024



|

Does the use of learners' first languages as a teaching tool result in improved English vocabulary learning?

PARENT/GUARDIAN INFORMATION SHEET

Central University Research Ethics Committee Approval Reference: EDUC_C1A_24_052

1. Introduction

Your child's school is participating in a research project for pupils in years 3&4. This information sheet will explain why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Please ask us if there is anything that is not clear or if you would like more information. Take time to consider if you are happy to take part.

2. Why is this research being conducted?

There are many benefits to being bilingual and evidence suggests that children who are taught using their first language to support their English learning do better than those who are taught using only English. There are other potential benefits to the use of learners' first languages in the classroom which apply to children who are native English speakers as well, such as building awareness of other languages in our community and helping to develop positive cultural relations.

However, there has been very little research into the use of learners' first languages in the setting of mainstream schools in England, which are increasingly diverse. The research project aims to investigate whether the use of pupils' first languages as a teaching tool results in improved English vocabulary learning, in this context.

3. Why have I been invited to take part?

Your child has been chosen to take part as they are in year 3 or 4 and attend a mainstream school in England which has learners who speak a first language other than English. The study will involve 30-60 pupils and include both children who speak English as an additional language and children with English as their first language.

4. Do I have to take part?

No. It is up to you to decide whether you wish your child to take part or opt out of the study. You can withdraw your child from the research without giving a reason by advising us of this decision. The deadline by which you can withdraw any information you have contributed to the research is June 2024, before it is anonymised. If you decide to withdraw your child from the study before this deadline, their data will be erased from the study and not be included in the research analysis.

5. What will happen to my child if they take part in the research?

- The school has consented for the research to take place. We have consulted the relevant teachers and subject leads to ensure that there is minimal disruption to children's learning, and the sessions are designed to be fun and engaging. If you consent for your child to take part in the study, you may request for your child's data to be removed before the deadline above. Your child will also be introduced to the study and what to expect and can ask questions or not take part if they wish.
- The research will take place during the usual teaching hours within the class. Your child will either be part of a standard, English-only teaching group for these sessions, or part of a group which includes the first languages of learners for whom English is an additional language within the vocabulary teaching. All sessions will be fully inclusive of all learners, whether they speak a language other than English or not.
- The research will involve four sessions, lasting an hour each time.
- The research sessions have been designed in collaboration with the Stephen Spender Trust and involve a variety of poems from diverse writers, with themes such as courage and empowerment. You are welcome to request the selection of poems included and can learn more about the Stephen Spender Trust on their website – www.stephen-spender.org.
- The activities will focus on teaching 20 target words. Both groups will read and discuss the poems and be shown flashcards with the English words and their translations if in the multilingual group. The groups will also work in pairs and groups to complete worksheets with a 'language detectives' theme, relating to the target words. One of the groups will complete all activities as normal, using English only. The other group will use worksheets containing a multilingual glossary, using creative translation exercises to explore other languages. The participants will complete short vocabulary assessments before and after the research and will be asked how they felt about the project with a basic questionnaire.
- The activities are designed to be fun and engaging for the children involved, however, they can ask to pause or stop the research activities at any time. Their use or engagement with other languages will always be optional.

6. What are the possible disadvantages and risks in taking part?

The English-only group will complete tasks according to usual teaching conditions, so there are no possible disadvantages or risks to taking part. As the multilingual group will be taught with the inclusion of learners' first languages during the research sessions, there is a potential for slightly reduced English use during these sessions. However, the sessions are designed to support the learning of English vocabulary, and other languages will be introduced in a friendly and inclusive manner. Also, the children may have reservations about using their first languages within the classroom or being in a multilingual environment. To this end, the use of other languages will be optional throughout.

7. Are there any benefits to taking part?

There will be no immediate benefit to your child from taking part in this research. However, the project is designed to aid the learning of curriculum-related English vocabulary. Participating may help your child to become more culturally aware of languages spoken by other learners in their class, and some may feel culturally acknowledged within the classroom. The sessions may also help to develop your child's creative language skills.

8. What information will be collected and why is the collection of this information relevant for achieving the research objectives?

As part of the research study, you may be asked to complete a home language questionnaire (see overleaf), which will ask questions about where your child was born and their first language. The information will help identify which participants use English as an Additional Language (EAL) and ensure that all the children's languages are included in the study.

All participant data will be securely handled according to GDPR guidelines and will only be accessed by the primary researcher (Gemma Boskovic) and her supervisor (Dr Faidra Faitaki). After the data have been collected, participants will have their names replaced with a reference number, and identifying details will be securely stored in a separate file to protect the identity of the research participants.

All research data including questionnaire data, assessment data, and observation data will be pseudonymised (meaning that children's names will be replaced by reference numbers) and digitally stored on the University of Oxford-approved secure storage platform, Nexus365 OneDrive for Business for three years after the study has concluded. Identifiable data will be stored in a separate file, which will also be securely stored on Nexus365 OneDrive for Business and deleted after the study's completion.

The findings of the study will be reported anonymously according to group results, meaning it will not be possible to identify participants from the written results of the study.

9. Will the research be published? Could I be identified from any publications or other research outputs?

The findings from the research will be written up in a master's thesis. Participants will not be identifiable from the written-up research. A copy of the dissertation will be deposited both in print and online in the [Oxford University Research Archive](#) where it will be publicly available to facilitate its use in future research.


10. Data Protection

The University of Oxford is the data controller with respect to your personal data, and as such will determine how your personal data is used in the research. The University will process your personal data for the purpose of the research outlined above. Research is a task that is performed in the public interest. Further information about your rights with respect to your personal data is available from the University's Information Compliance website at <https://compliance.admin.ox.ac.uk/individual-rights>.

11. Who has reviewed this research?

This research has received ethics approval from a subcommittee of the University of Oxford Central University Research Ethics Committee: EDUC_C1A_24_052.

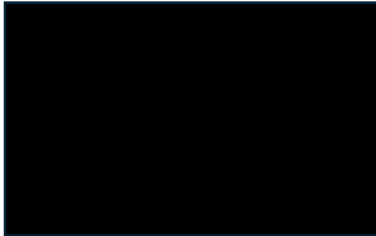
12. Who do I contact if I have a concern about the research or I wish to complain?


we will do our best to answer your query. We will acknowledge your concern within 10 working days and give you an indication of how it will be dealt with. If you remain unhappy or wish to make a formal complaint, please contact the Chair of the Research Ethics Committee at the University of Oxford who will seek to resolve the matter as soon as possible:

The Chair, Social Sciences & Humanities Interdivisional Research Ethics Committee;
Email: ethics@socsci.ox.ac.uk; Address: Research Services, University of Oxford, Boundary Brook House, Churchill Drive, Headington, Oxford OX3 7GB

13. Further Information and Contact Details

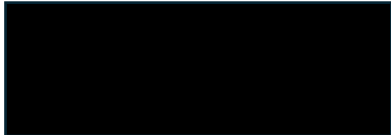
If you would like to discuss the research with someone beforehand (or if you have questions afterwards), please contact:



Appendix C. Consent forms

C.1. Teacher consent form


Department of Education
University of Oxford
15 Norham Gardens
Oxford
OX2 6PY
01865 274024



TEACHER CONSENT FORM

CUREC Approval Reference: EDUC_C1A_24_052

Does the use of learners' first languages as a teaching tool result in improved English vocabulary learning?

- Your school has agreed to take part in a study run by the University of Oxford looking at whether the use of learners' first languages as a teaching tool results in improved English vocabulary acquisition in a multilingual classroom.
- If you choose to take part, you will be invited to participate in either a focus group of teachers involved or a short, semi-structured interview, providing answers to questions about your experiences within the study. This will be audio-recorded for later analysis. Your identity will remain anonymous.
- To find out more about the study, please contact the study lead for more information. 
- If you are happy to take part, please fill in the form below.

Name: _____
Forename Surname

Name of school: _____

I have read and understood the details of the above study, and have had the opportunity to ask questions and discuss the study with others. I have received satisfactory answers to my questions. I understand that the project has received ethics clearance through the University of Oxford's ethical approval process for research involving human participants, and I understand who will have access to the data, how it will be stored and what will happen to the data at the end of the study. I understand that participation is voluntary and that I am free to withdraw at any time, without giving any reason and without being affected in any way. I understand how to raise a concern or make a complaint.

If applicable:

I agree to be audio recorded

Yes

No

I understand how audio recordings will be used in research outputs

Yes

No

I give permission to take part in the above study and be audio recorded.

Name of teacher: _____

Signature: _____ **Date:** dd / mm / ~~yyy~~

Name of researcher: _____

Signature: _____ **Date:** dd / mm / ~~yyy~~

If you would like to receive an annual newsletter summarising our research, please fill in your address:

C.2. Parent consent form


Department of Education
University of Oxford
15 Norham Gardens
Oxford
OX2 6PY
01865 274024



PARENT/GUARDIAN CONSENT FORM

CUREC Approval Reference: EDUC_C1A_24_052

Does the use of learners' first languages as a teaching tool result in improved English vocabulary learning?

- Your child's school has agreed to take part in a study run by the University of Oxford looking at whether the use of learners' first languages helps them to learn English vocabulary.
- If your child takes part, a researcher will come and visit them at school to do some fun learning activities.
- 

- If you are **happy** for your child to take part, please fill in the form below and return it to your child's class teacher as soon as possible.

Name of child: _____
Forename Surname

Name of school: _____

I have read and understood the details of the above study and have had the opportunity to ask questions and discuss the study with others. I have received satisfactory answers to my questions. I understand that the project has received ethics clearance through the University of Oxford's ethical approval process for research involving human participants, and I understand who will have access to the data, how it will be stored and what will happen to the data at the end of the study. I understand that participation is voluntary and that my child and I are free to withdraw at any time, without giving any reason and without my child's education being affected in any way. I understand how to raise a concern or make a complaint.

AP25 Participant Consent Form, version 3.1, February 2023

I give permission for my child to take part in the above study.

Name of parent/guardian: _____

Signature: _____ Date: dd / mm / yyyy

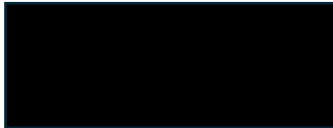
Name of researcher: _____

Signature: _____ Date: dd / mm / yyyy

If you would like to receive an annual newsletter summarising our research, please fill in your address:

Appendix D. Home language questionnaire

Department of Education
University of Oxford
15 Norham Gardens
Oxford
OX2 6PY
01865 274024



Does the use of learners' first languages as a teaching tool result in improved English vocabulary learning?

HOME LANGUAGE QUESTIONNAIRE

Child's name: _____

Child's date of birth: _____

Which country was your child born in? _____

When did your child begin school in the UK? _____

What is your child's first language? _____

How often do you speak this language with your child at home?

Always Often Sometimes Rarely Never

Please tick the boxes according to your child's ability in their first language.

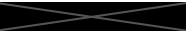
Speaking Reading Writing All None

Parent signature: _____

Appendix E. CUREC

**SOCIAL SCIENCES & HUMANITIES
INTERDIVISIONAL RESEARCH ETHICS COMMITTEE
DEPARTMENTAL RESEARCH ETHICS COMMITTEE**

Department of Education
15 Norham Gardens, Oxford OX2 6PY
student.curec@education.ox.ac.uk; staff.curec@education.ox.ac.uk



Department of Education, Social Sciences Division
University of Oxford

5 April 2024

Research ethics approval

Research title: Does the use of the first language as a pedagogical tool result in improved vocabulary acquisition for English as an Additional Language learners within a multilingual classroom?

Research ethics reference: EDUC_C1A_24_052

Dear

The above application has been considered on behalf of the Education Departmental Research Ethics Committee (DREC) in accordance with the University's procedures for ethical approval of all research involving human participants.

I am pleased to confirm that, on the basis of the information provided to the DREC, ethics approval has now been granted for this study.

Please note the following:

Personal data: It is the responsibility of the PI to ensure that all personal data collected during the project is managed in accordance with the University's [guidance and legal requirements](#).

In-person activities: Any data collection involving in-person interactions with participants must have an up-to-date fieldwork risk assessment in place; further guidance is available from the Safety Office's [website](#).

Amendments: Please notify the committee if you intend to make any amendments to the information in your ethics application as submitted at date of this approval, as all changes must receive ethical approval prior to implementation. The amendment form is available on the [SSH IDREC webpage](#).

We welcome feedback on your experience of the ethical review process and suggestions for improvement. Please email any comments to staff.curec@education.ox.ac.uk / student.curec@education.ox.ac.uk or ethics@socsci.ox.ac.uk.

Yours sincerely

Ian Thompson

Ian Thompson Associate Professor of Education, DREC member

Appendix F. PicLex assessment

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Appendix G. Target vocabulary Pre/post-test

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Appendix H. Participant questionnaire

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Appendix I. Target vocabulary

Target vocabulary is shown below according to the session it was included and the poem that the words were featured in.

Session 1

Shrivel, glisten (*A Quiet Little Word*)

Exposed, sturdy, stooped (*Being True to Yourself*)

Session 2

Floundering, falter, caress, abound (*Fall Down Three Times, Get up Four*)

Marvel (*Star Beam*)

Session 3

Unfurling, traditions, customs (*Unfurling People*)

Sprawling, infinite (*Instructions on Listening to the Trees*)

Session 4

Capability, Tranquility (*The Power of a Poem*)

Sinister, abated, quake (*The Bones of Pampachiri*)

Appendix J. Multilingual Glossary

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Appendix K. Multilingual sense cards

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Appendix L. Flashcard Presentations

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Appendix M. Activity sheets

M.1. Session 1 (Multilingual)

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8.1.1 Session 2 (English-only)

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8.1.2 Session 3 (Multilingual)

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8.1.3 Session 4 (Multilingual)

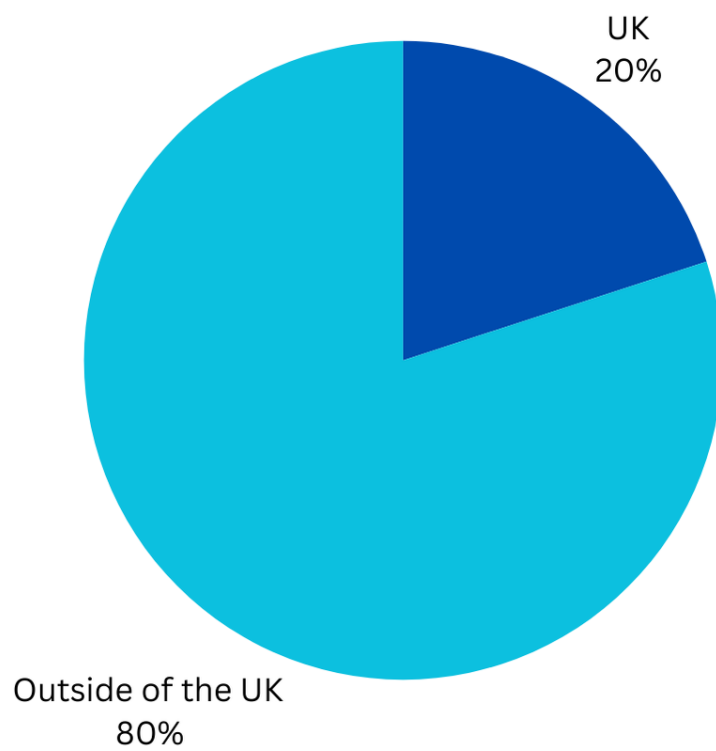
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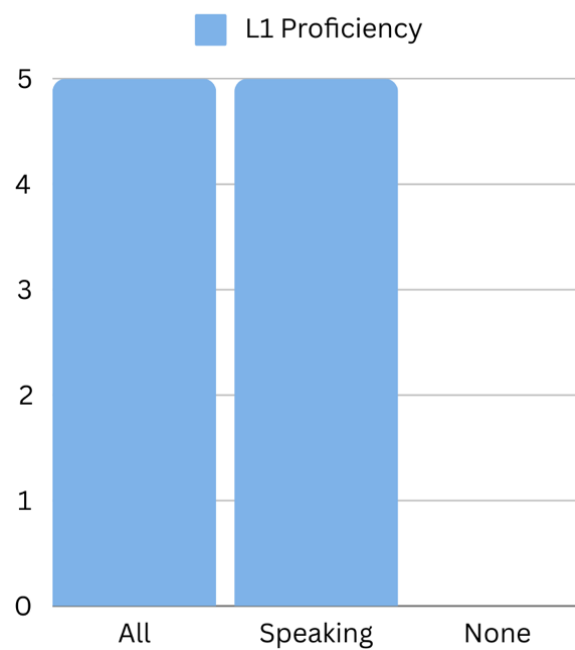
Appendix N. Detective certificate

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Appendix O. Participant information



Appendix O.1.1 – EAL participants country of birth



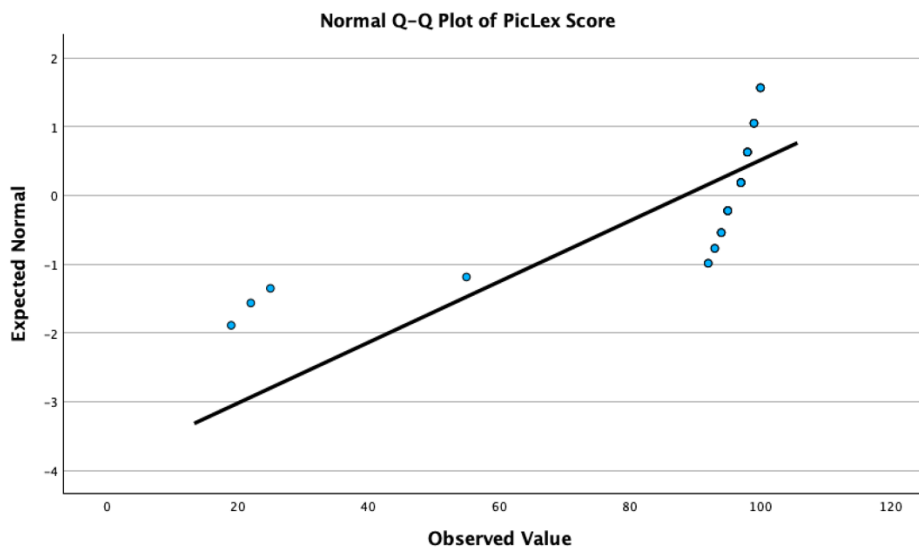
Appendix O.1.2 – EAL participants L1 proficiency

Appendix P. Descriptive statistics and outputs

P.1.1. PicLex

		Descriptive Statistics											
		N	Range	Minimum	Maximum	Mean	Std. Error	Std. Deviation	Variance	Skewness	Std. Error	Kurtosis	Std. Error
Group Allocation	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic
Multilingual Group	PicLex Score	16	81	19	100	91.38	4.858	19.432	377.583	-3.907	.564	15.480	1.091
	Valid N (listwise)	16											
Control Group	PicLex Score	17	78	22	100	85.59	6.197	25.552	652.882	-2.066	.550	2.959	1.063
	Valid N (listwise)	17											

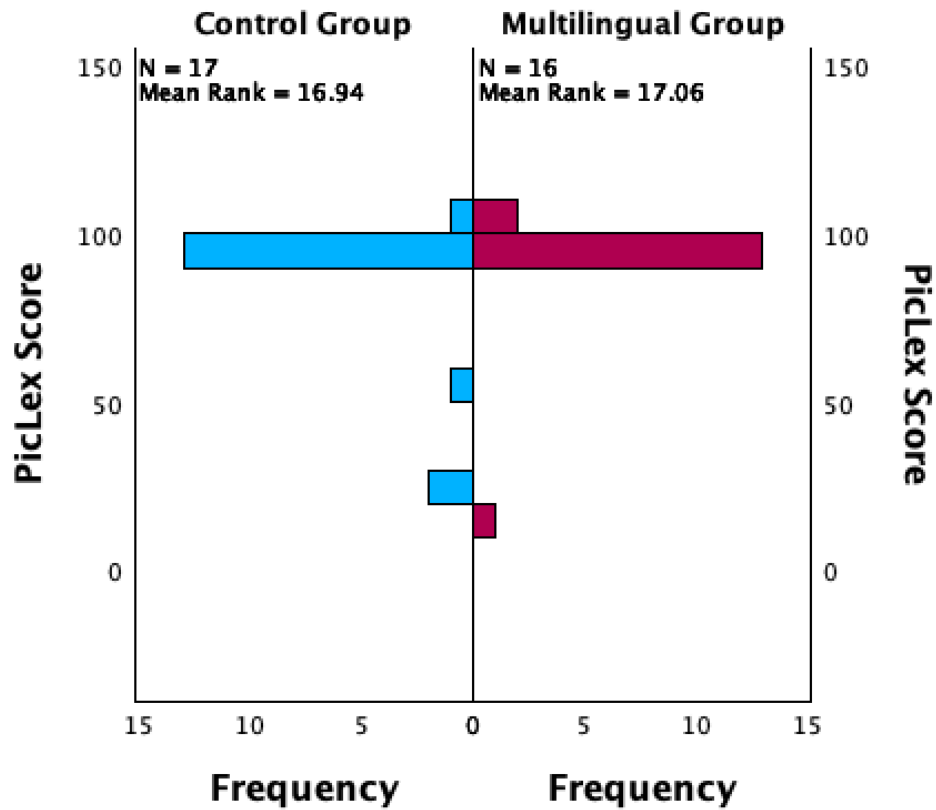
Appendix P.1.1 – Descriptive statistics for Piclex



Appendix P.1.2 – Q-plot for Piclex scores

Independent-Samples Mann-Whitney U Test

Group Allocation



Appendix P.1.3 – Mann-Whitney U-test for Piclex scores

P.2. Two-way repeated measures ANOVA

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Time	Sphericity Assumed	292.368	1	292.368	68.822	<.001	.683
	Greenhouse-Geisser	292.368	1.000	292.368	68.822	<.001	.683
	Huynh-Feldt	292.368	1.000	292.368	68.822	<.001	.683
	Lower-bound	292.368	1.000	292.368	68.822	<.001	.683
Time * Group	Sphericity Assumed	1.191	1	1.191	.280	.600	.009
	Greenhouse-Geisser	1.191	1.000	1.191	.280	.600	.009
	Huynh-Feldt	1.191	1.000	1.191	.280	.600	.009
	Lower-bound	1.191	1.000	1.191	.280	.600	.009
Error(Time)	Sphericity Assumed	135.941	32	4.248			
	Greenhouse-Geisser	135.941	32.000	4.248			
	Huynh-Feldt	135.941	32.000	4.248			
	Lower-bound	135.941	32.000	4.248			

Appendix P.2.1 – Two-way repeated measures ANOVA whole group comparison

		Descriptive Statistics												
Group Allocation	EAL Y/N		N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
			Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Multilingual Group	EAL	Pretest Score	5	6	4	10	7.20	1.068	2.387	5.700	-.206	.913	-1.117	2.000
		Posttest Score	5	9	8	17	11.80	1.772	3.962	15.700	.608	.913	-2.338	2.000
		Valid N (listwise)	5											
	Non-EAL	Pretest Score	12	16	3	19	9.08	1.368	4.738	22.447	.781	.637	.063	1.232
		Posttest Score	12	12	8	20	12.67	1.448	5.015	25.152	.480	.637	-1.557	1.232
		Valid N (listwise)	12											
Control Group	EAL	Pretest Score	5	7	3	10	6.80	1.281	2.864	8.200	-.307	.913	-1.544	2.000
		Posttest Score	5	15	3	18	8.80	2.672	5.975	35.700	.927	.913	.659	2.000
		Valid N (listwise)	5											
	Non-EAL	Pretest Score	12	7	7	14	10.92	.657	2.275	5.174	-.044	.637	-1.108	1.232
		Posttest Score	12	9	11	20	16.33	.810	2.807	7.879	-.647	.637	-.589	1.232
		Valid N (listwise)	12											

Appendix P.2.2 – Descriptive statistics

Tests of Within-Subjects Effects

Measure: MEASURE_1

EAL Y/N	Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	
EAL	Time	Sphericity Assumed	54.450	1	54.450	8.442	.020	.513	
		Greenhouse-Geisser	54.450	1.000	54.450	8.442	.020	.513	
		Huynh-Feldt	54.450	1.000	54.450	8.442	.020	.513	
		Lower-bound	54.450	1.000	54.450	8.442	.020	.513	
	Time * Group	Sphericity Assumed	8.450	1	8.450	1.310	.285	.141	
		Greenhouse-Geisser	8.450	1.000	8.450	1.310	.285	.141	
		Huynh-Feldt	8.450	1.000	8.450	1.310	.285	.141	
		Lower-bound	8.450	1.000	8.450	1.310	.285	.141	
	Error(Time)	Sphericity Assumed	51.600	8	6.450				
		Greenhouse-Geisser	51.600	8.000	6.450				
		Huynh-Feldt	51.600	8.000	6.450				
		Lower-bound	51.600	8.000	6.450				
	Non-EAL	Time	Sphericity Assumed	243.000	1	243.000	86.342	<.001	.797
			Greenhouse-Geisser	243.000	1.000	243.000	86.342	<.001	.797
			Huynh-Feldt	243.000	1.000	243.000	86.342	<.001	.797
			Lower-bound	243.000	1.000	243.000	86.342	<.001	.797
Time * Group		Sphericity Assumed	10.083	1	10.083	3.583	.072	.140	
		Greenhouse-Geisser	10.083	1.000	10.083	3.583	.072	.140	
		Huynh-Feldt	10.083	1.000	10.083	3.583	.072	.140	
		Lower-bound	10.083	1.000	10.083	3.583	.072	.140	
Error(Time)		Sphericity Assumed	61.917	22	2.814				
		Greenhouse-Geisser	61.917	22.000	2.814				
		Huynh-Feldt	61.917	22.000	2.814				
		Lower-bound	61.917	22.000	2.814				

Appendix P.2.3 - Two-way repeated measures ANOVA for EAL participants

Appendix Q. Activity sheet samples

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