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Concept-based instruction grounded on Vygotsky's Theory of Mind: Developing heritage Spanish students' metalinguistic knowledge on the subjunctive mood.

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Abstract

This paper examines the benefits of using Concept-Based Instruction, (CBI), grounded on Vygotsky's Theory of Mind (Vygotsky, 1986), to develop heritage Spanish students' metalinguistic knowledge on the Spanish subjunctive mood. Metalinguistic knowledge refers to the explicit and conscious knowledge students have about the linguist structures and overall characteristics of a language. It "is knowledge that students can explain and verbalize. Vygotsky's Theory of Mind is based on the notion that development of language takes place when it is internalized and verbalized.

Heritage Spanish (HS) students acquire the heritage language (HL) in informal, natural settings through interaction with family, friends, and community members. However, the heritage language input starts to diminish once students are enrolled in formal education, and English becomes the language of instruction (Montrul, 2020). It is then, that at an early age, HS students begin formal schooling in English, and many of the Spanish linguistic features, which had started to be acquired are halted. The lack of opportunities to have formal instruction in the heritage language has been one of the causes of incomplete heritage language acquisition, language attrition, or language loss (Rothman 2007; Pires & Rothman, 2009; Delgado, 2009). The Spanish subjunctive is one of the first linguistic features that suffers erosion since it is not fully developed when HSs enter formal education, and the main language of instruction is English (Potowski, Regerski, & Morgan-Short, 2009).

Unfortunately, when HS students attempt to re-learn their heritage language in higher education, the instructional approaches are meant to meet the needs of the non-native Spanish students (Eckerson, 2015), which are mixed with HS students in most higher education institutions in the United States. Vygotsky's Theory of Mind (Vygotsky, 1986) has motivated concept-based instruction to learn conceptual categories of a language such as mood, aspect, and tense. The main tenet of CBI is to develop performance not just competence on language concepts.

Keywords sociocultural, concept-based approach, heritage Spanish speakers

1. Introduction

The term heritage language (HL) had its origins in Canada when the Ontario Heritage Language programs began in 1977 (Cummings, 2005). However, the field of heritage language education did not arise in the United States until the 1990's (Valdes, 2005; Cummings, 2005; Beaudrie & Fairclough, 2012). The number of heritage Spanish speakers (HS) in the United States has been growing at a rapid pace. In a 2000 Census (Lynch 2003), there were "more than 35 million people who identified themselves as "Hispanic" or "Latino"; this represented a 57·9 percent increase over the 22 million documented by the 1990 census" (p. 28).US Census Bureau (2017) reported that 17.8 percent of the population of the United States, as of July 1, 2016, was of Hispanic origin. This places the United States as the second largest host of Spanish population in the world.

The continuous rise in the Hispanic population in the United States have prompted an increased interest among scholars on heritage Spanish instruction in primary, secondary, and postsecondary education (Zentella, 2002, 2005; Lynch, 2003; Ducar, 2008). A heritage speaker is "someone who learned their second (majority) language in childhood, either simultaneously with the heritage language, or after a short period of predominant exposure to and use of the minority language" (Scontras, Fush, Polinski, 2015, p.1). In the case of Heritage Spanish speakers, they are exposed to Spanish since childhood through informal interactions with family and friends, however, as soon as the child begins to socialize in primary, middle, or high school, the use and input from the heritage language diminishes, and English slowly becomes the dominant language. Therefore, Heritage Spanish speakers develop literacy skills in English, and the heritage language suffers erosion, simplification, and many grammatical aspects, are not fully developed (Scontras, Fush, Polinski,

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2015).

The subjunctive mood is one of the first lexico-grammatical forms that suffers erosion since it is learned at a later age in their first language. In a study with second-generation HS speakers, Montrul (2007) concluded that there was a significant loss of the subjunctive mood and participants showed a lot of difficult distinguishing between subjunctive and indicative mood. Along the same vein of study, (Merino, 1983; Silva-Corvalan, 2003;), concluded that the subjunctive was developed much later than the past tense, composed of the preterite and imperfect. Similarly, a longitudinal study with children from kindergarten to fourth grade (Merino, 2003) reported that the morphology of subjunctive mood is the first one that suffers erosion. The Regression Hypothesis, formulated by Jakobson (1941), supports the outcomes of the studies. According to the hypothesis, the process of language attrition is the opposite of how a first language is acquired. In other words, "what is learned earlier is maintained longer, and what is learned later is more prone to rapid attrition, this is also referred to as first in, last out" (Bardovi-Harliga & Stringer, 2010, p. 3).

2. The dichotomy between Spanish subjunctive and indicative mood

The Spanish language has three moods - the indicative, the subjunctive, and the imperative. The Spanish indicative is used when we talk about events, facts, and information that we considered to be true. The subjunctive, on the other hand, is used to express wishes and desires, give recommendations, express hope, or denial, show uncertainty, or things that are contrary to reality. The Spanish imperative is used to give commands. It is not uncommon to teach the formal imperative mood in Spanish along with the present subjunctive since they have many commonalities, including verb conjugations.

When high school students endeavor to reacquire the linguistic features of their heritage language during their post-secondary education, they often find themselves at a disadvantage. This is because instructional methods are primarily tailored to cater to the needs of non-native Spanish students, with whom heritage Spanish students are commonly integrated in most higher education institutions in the United States (Eckerson, 2015). According to Eckerson (2015), most Spanish programs are "designed for students who are novice learners and first language speakers of English, not for students who speak or hear Spanish at home" (p. 8). Heritage Spanish speakers typically possess limited metalinguistic knowledge (Valdes, 2001) and rely on implicit knowledge of their heritage language. However, their critical years for developing literary proficiency in their native language were disrupted when they entered primary school, where English became the official language of instruction. Consequently, their most pressing need lies in the development of literacy skills and metalinguistic knowledge.

It is worth noting that heritage Spanish speakers require less classroom time to enhance their speaking and listening skills compared to non-native students (Peyton, Ranard, McGinnis, 2001).

Several scholars (Garcia Frazer, 213; Williams, Abraham & Negueruela-Azarola, 2013) have stated that one of the main goals of instructional approaches to teach HS students should include explicit instruction and knowledge of lexical and grammatical features. One of the approaches to teach cumbersome concepts of Spanish grammar is 'Concept-Based Instruction grounded on Vygotsky's Theory of Mind (Vygotsky, 1986). One of the Theory's tenets is that to develop metalinguistic knowledge students need to have social interaction, learn from teachers or others more knowledgeable who can provide guidance and skills to transfer knowledge to other situations. The process to internalize and transfer the concept of Spanish subjunctive starts with scaffolding to determine learners' background knowledge on the concept and design the best plan of action. In what follows, the main characteristics of Concept-Based Instruction are explained in detail.

3. Concept-Based Instruction and the development of metalinguistic knowledge

Vygotsky's Theory of Mind (Vygotsky, 1986) has motivated concept-based instruction to learn conceptual categories in the language classroom, such as mood, aspect, and tense. The most important tenet is to achieve language performance, not just competence. The competence of knowing the rules does not guarantee that students can use subjunctive mood appropriately in various cultural contexts. Selieger (1979) reported the outcomes of an empirical study on verbalized language rules on the use of the English indefinite articles 'a' and 'an', and he concluded that memorization of rules did not correspond to the actual language performance of those rules in a given context.

The basic tenet of Concept-Based Instruction "is not the learning of endings (morphology) or word order sequences (syntax) but internalizing new concepts to know how to deploy complex meanings (semantics) in real contexts to enact intentionality (pragmatics)" (Williams & Negueruela-Azarola 2013, p.3).

In this context, semantics is not just the study of words and meaning, "but also on how words, phrases and sentences come together to make meaning in language" (Rajendran, 2018, p.14). Pragmatics can be defined as "the ability to comprehend, construct, and convey meanings that are both accurate and appropriate for the social and cultural circumstances in which communication occurs" (Echeverria-Castillo, 2009, p.9). The focus on the semantics and pragmatics is what makes this approach appropriate to internalize the concept of subjunctive mood.

In a CBA, "cognition and language activity are interconnected, learning a second language is a matter of not only learning new forms but also internalizing new or reorganizing existing concepts" (Negueruela and Lantolf, 2006, p. 81). Garcia (2017) developed a pedagogical sequence to teach language concepts which are in tune with the need of HS students to develop metalinguistic knowledge.

4. Concept Based Instruction Pedagogical sequence

Heritage Spanish speakers acquire their heritage language in natural settings through the contact with family members and friends. HS speakers acquired grammatical notions such as aspect, mood, tense in these naturalistic settings. This process is the opposite of what HS speakers face when they attempt to learn their heritage language in a classroom setting, where memorization of morphology and rules can sometimes create conflict between meaning and form (Correa, 2011). Therefore, Concept Based Instruction places more emphasis on meaning, situated, and contextualized instruction to be more in accordance with the characteristics of the HS student population.

According to C-BI the first step is to establish the unit of instruction, which is the concepts of the subjunctive and indicative moods. The dichotomy between the subjunctive and indicative mood can be problematic for HSs, (Stokes & Krashen, 1990; Terrell, Baycroft, & Perrone, 1987) have acknowledged that subjunctive mood selection and performance are poorly developed even after numerous opportunities to practice it. Even if students can recite by memory all the endings of the present and imperfect subjunctive and indicative, and some basic rules for their use in noun clauses, there is no guarantee that they will use subjunctive mood appropriately in various cultural contexts (Selieger, 1979).

Once the concept under study is selected, the next step is to determine student's background knowledge on the use of subjunctive vs. indicative to design the kind of intervention they need. Heritage Spanish students come from diverse backgrounds and there is a wide range of diversity regarding their linguistic profiles. Therefore, it is important to assess what they know prior to designing the level and type of mediation they need. The help provided by scaffolding is only temporary and lasts for as long as the learner needs it. Once students advance to a higher stage in their learning and understanding of the concepts under study, scaffolding is no longer needed. and necessary for as long as the learners need it. Once students advance to a higher level, scaffolding is no longer needed. The pictorial representation of scaffolding, or in Vygotsky's term 'zone of proximal development' is depicted in Figure 1.
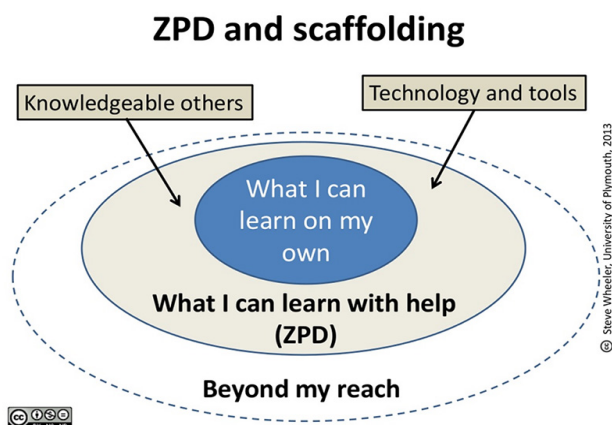
ZPD and scaffolding

Figure 1. ZPD and scaffolding.

(Source: https://www.simplypsychology.org/vygotsky.html)

To activate the zone of proximal development, it is necessary to have students interact with their language instructors, classmates and, other didactic tools that will help them understand, process and apply the concepts to other contexts.

The language tools used to materialize the concept under study "are the didactic and material tools that learners have at their disposal to help understand and internalize the concept" (Negueruela, Lantolf, 2006, p. 84). It is useful to use charts or other graphic representations that can clearly demonstrate in concrete form the abstractness of the concept under study. Gal'perin (1992) introduced the term, "Scheme of a Complete Orienting Basis of an Action" (SCOBA) which signifies the complete set of conditions which are to be considered" (Haenen, 2001, p.162). The didactic materials accompanied by teacher's explanations fall under the category of 'knowledgeable' others' and 'technology tools' in the ZPD and scaffolding chart previously depicted.

Following is an example of what a good SCOBA might look like. This graphic can be used to work with the concept of the subjunctive mood and modality. It was adapted by Garcia Frazier (2013) in her C-BI study.
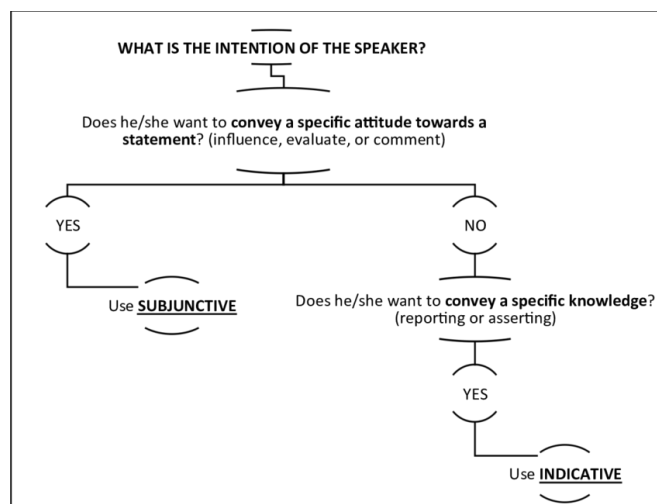
Figure 2. Adaption of the SCOBA implemented by Garcia Frazier (2013 in her C-BI study)

The use of SCOBAS as tools to verbalize and reflect on the concept in the classroom is grounded on Vygotsky's theory that 'the classroom is a place for learning and thus a place where metalinguistic and metacognitive reflection are allowed and play a key role" (Vygotsky, 1978; Esteve, 2007b.) The SCOBA needs to be introduced and clearly explained to students, who need to visualize it and use it as a tool to learn the concept of mood. There are many options to visually introduce students to SCOBA, and the "particular sequential linguistic actions are often represented as a flow chart or decision tree (Garcia-Frazier, 2013; Negueruela, 2003), but other visual representations are possible such as the use of objects that can be manipulated, charts, graphs, drawings, etc. (Ganem-Gutierrez and Harum, 2011). According to the Sociocultural Theory on language learning, using tools that

help facilitate and understand the world are essential for cognitive development. The use of tools like SCOBAS informs about best practices regarding methodology, didactic materials, and any other pedagogical issue to facilitate students' understanding and learning of cumbersome linguistic issues such the Spanish subjunctive mood.

The next step in CBI is to verbalize in the form of (self) explanation/and interaction to facilitate regulation" (Harum, Abdullah, Wahab, Zainudin, 2019, p.256). This process of verbalization, inner talk, helps HSs to develop metalinguistic knowledge on the concept of the subjunctive, or other concepts such as tense and aspect. Students can do the verbalization to themselves, or with a peer, or a small group.

Other important characteristics of using a concept-based approach to develop metalinguistic knowledge is that it allows for explicit grammatical explanations, which need to be concise and clearly stated (Garcia Frazier, 2013; Williams, Abraham & Negueruela-Azarola, 2013). The explanations are introduced with visuals -charts, graphs, and timelines, among others. It is important that the explanations be followed by student's reflections either verbally or in writing on the subjunctive vs indicative mood to develop metalinguistic knowledge.

According to Garcia (2017), it is necessary to "embrace those approaches that empower learners and foster their agency as they co-construct, transform and co-own their learning experiences" (p.14). Garcia (2017) used Concept Based Instruction in the Spanish heritage classroom to promote the notion of 'aspect', which seems to be one of the linguistic areas where Spanish heritage speakers have weaknesses. Along the same argument, a research study by Garcia Frazier (2013) also used Concept Based Instruction (CBI) to study six heritage Spanish students on the concept of modality in Spanish. However, in her study, the concept of modality was just one part of her study. Data from the afore-mentioned studies emphasized the use explicit knowledge of lexical and grammatical features as well as the acquisition of those features based on students' background knowledge. Abdullah et. al. (2017) stated "this pedagogical approach that is predicated on Vygotskian thought, centers on promoting the quality of the grammar rules in helping learners to understand and use the grammar concepts to achieve their communicative needs" (p.1).

To summarize, CBI grounded on the main tenets of Vygotsky' Theory of Mind are very promising to develop HSs' metalinguistic knowledge on a wide range of linguistic features that were incompletely acquired or suffered erosion once they entered formal schooling, where English was the language of instruction. HSs speak a wide range of linguistic varieties, thus the importance of determining the 'zone of proximal development (ZPD),' so that the appropriate mediation, or plan of action can be devised. Once the ZPD is determined, the abstractness of the linguistic concept is visually presented to students by means of graphics, charts, pictures, moving pieces, among others. The concept needs to be clearly and explicitly explained to students and they can practice with exercises prepared by the teacher. It is of the outmost importance that students verbalized the concept, verbalization and reflection are the pedagogical tools that facilitate the internalization of the concept, learn it, and apply to other sociocultural contexts.

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Feature

Preparing culturally and linguistically responsive teachers of multilingual learners through teacher research

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Abstract

This article presents an overview of Project ELEECT (English Learners' Educational Excellence Capitol Teacher Training Project), a U.S. Department of Education-funded program designed to prepare teachers in Culturally and Linguistically Responsive Pedagogy (CLRP) for multilingual learners (ML). The purpose of Project ELEECT is to promote educational justice for MLs by revising a Master of Arts + ESL Licensure program for pre-service teachers and creating a professional development program for in-service teachers. It prepares pre-service and in-service teachers of MLs in CLRP through teacher research, and specifically offers a novel professional learning tool, which we call Impact on Learning Studies (IOLS). This teacher research tool represents a framework for the systematic and intentional self-study of their teaching practices. In this article, we lay the foundations for a research agenda that investigates pre-service and in-service teachers' understanding and implementation of CLRP, documents concrete examples of CLRP in various classroom contexts, and examines the efficacy of teacher research initiatives to prepare teachers in CLRP. Project ELEECT prepares teachers to invite students' cultural and linguistic experiences into their classrooms, create spaces for CLRP, and foster critical consciousness in learning settings, thus taking a major shift towards cultivation of anti-racist dispositions in education.

Keywords   teacher education, linguistically responsive pedagogy, culturally relevant pedagogy, multilingual learners, teacher research

1. Introduction

We are at a critical juncture for educational justice in this country. The COVID-19 pandemic interrupted schooling for thousands of students, further widening gaps in schooling outcomes between historically marginalized youth and their more affluent counterparts. This has compounded the historical inequities resulting from the miseducation of generations of students of color (Lewis, et. al, 2022; Kuhfeld, et. al, 2022; West & Lake, 2021). Within schools, teachers remain the most impactful factor for student success. While the student population becomes increasingly more racially, culturally, and linguistically diverse, the teaching force remains overwhelmingly white and female – even as research finds that a diverse teaching force results in strong benefits for all students (Goldhaber et al., 2019; Rafa & Roberts, 2020). The teaching force also is under strain. High levels of stress and burnout contribute to turnover in the field and result in critical teacher shortages (Pressley, 2021; Robinson, et al, 2023; Steiner & Woo, 2021). These shortages often are exacerbated in areas that serve the students with the

greatest needs, creating an unjust cycle that is deeply linked to larger structures of poverty, racism, and other forces of marginalization across local, state, and national levels (Sutcher et al., 2016; 2019; Warren, 2014).

Educational justice is a linchpin for social justice, and is predicated on an anti-racist, equity-oriented, culturally and linguistically responsive teaching force (Levinson, 2022). Anti-racism is an active process to recognize, interrupt, and dismantle racism at the structural, institutional, and personal level (Kendi, 2023). An equity orientation situates students with the greatest need at the center of decision-making. A culturally and linguistically responsive approach to education decenters the normalized cultural and linguistic identity of learners and values and affirms all students' cultural knowledge, practices, languages, and ways of being in schools (Bassey, 2016; Cochran-Smith & Keefe, 2022; Ladson-Billings, 1995; 2009; Paris, 2012; Paris & Alim, 2017). As it equips all students to achieve academically, it also fosters students' cultural dexterity and develops students' ability to critique social inequity. A culturally and linguistically responsive approach to teacher education moves us closer to educational justice (Cochran-Smith, 2020). This is

especially relevant for multilingual learners (ML)[1] who are situated at the nexus of multiple axes of inequity. This includes a history of structural patterns which have worked to concentrate racialized students, including MLs, into neighborhoods and schools along lines of race and class. It also includes current patterns of gentrification, which stand to impact the dynamics of access in neighborhoods and schools across the country.

In our teacher preparation program, the Georgetown University Teacher Residency Program, we believe that fostering an effective teaching force for MLs could be a catalyst for educational justice across the country. Funded by a 5-year US Department of Education National Professional Development grant, Georgetown University's English Learners' Educational Excellence Capitol Teacher Training Project (Project ELEECT) extends the reach and impact of our teacher residency program through two avenues. As a group of faculty leading Project ELEECT, we aim to transform the education of MLs by (1) preparing 36 new teachers through our MA in Educational Transformation and licensure teacher residency program and (2) strengthening the professional repertoire of 100 in-service teachers through a hybrid professional development certificate program. Anchored by an anti-racist lens, Project ELEECT integrates culturally and linguistically responsive pedagogical approaches for literacy instruction, with intrapersonal dispositional development for aspiring and experienced teachers strengthening the teaching force across the career trajectory. These efforts are iteratively informed and strengthened by an active research agenda, which collects data at multiple intervals from the partner schools, residents, mentors, and professional development participants as well as from student learning artifacts.

The purpose of Project ELEECT is to serve as a catalyst for educational justice in linguistically, racially, and socially diverse settings, such as Washington, DC, the context of this work. In this paper, we provide a conceptual overview of how Project ELEECT responds to the needs of MLs and their teachers in this city's unique schooling landscape. We first review the challenges of preparing teachers of MLs, both nationally and regionally. We then review the conceptual underpinnings of Project ELEECT and our conception of educational justice, after which we more specifically discuss the ways in which this project responds to the social justice needs of MLs and their educators through both its pre-service and in-service teacher education initiatives. We conclude by articulating the research agenda that will inform the empirical work that stems from this project. This article serves three purposes. First, it serves as a review of literature, with the intention to identify knowledge gaps, related to the challenges of preparing teachers of MLs and the role of culturally and linguistically sustaining pedagogy (CLRP) in teacher preparation. Secondly, it provides the conceptual foundations for a novel contribution of Project ELEECT, which is to integrate CLRP in teacher preparation through

teacher research. Finally, it serves to articulate the project's emerging research agenda, which is constructed to empirically explore the gaps in knowledge that are highlighted throughout the article.

2. The Challenges of Preparing Teachers of MLs

The question of how to effectively prepare teachers of MLs is a challenging one due to a general lack of consistency in how MLs are understood and labeled, how they are educated, and how their teachers are prepared (Leider et al., 2021). As the most rapidly growing group of students in the US, minoritized MLs are largely misunderstood in both research and practice and are often "bureaucratically labeled [as] English Learners" (Alfaro, 2018, p. 4). Research demonstrates that how teachers perceive and treat their MLs directly impacts their learning outcomes (Cho et al., 2023; Pettit, 2011; Polat et al., 2019). This challenge is exacerbated when teachers misunderstand the intersection of the cultural, linguistic, and socio-political circumstances their MLs face.

This national lack of consistency in the preparation and credentialing of teachers of MLs is also reflected in DC, specifically, where the PK-12 schooling landscape is complex, fragmented, and marked by a confusing array of governmental agencies and entities that can lay claim to at least some role in the governance of public schooling in DC (OSSE, 2022). Three elements of this governmental structure predominate: 1) the extensive enrollment of students in publicly-funded but independently-operated, charter schools; 2) a system of mayoral control, rather than school board-control, within the traditional public school system (DCPS); 3) the lack of DC statehood means that school children and their parents are not represented within federal policy-making structures, despite paying taxes at the federal level. Note that charter schools – which educate nearly half of all DC students who attend publicly-funded schools – do not require teachers to be certified.

A top priority for teacher preparation programs in the DC area is the need to train teachers who reflect the racial, cultural, and linguistic diversity of the city (Miles & Shockley, 2022) and to provide teachers curricular standards that are rooted in an antiracist lens (Sutter & Jue, 2021). According to a recent report from the Office of the State Superintendent of Education (OSSE), while there are approximately 26 MLs for every teacher, less than half of those teachers are certified to teach English as a Second Language (ESL) (2022). In fact, there is one ESL-certified teacher in the District of Columbia for 60 MLs (OSSE, 2022). While teacher training clearly has an impact on the quality of teachers (Cochran-Smith, 2003), it is worrisome that nearly half of the MLs in DC are educated in schools that do not require certification. Thus, there is a chronic and persistent undersupply of teachers with the knowledge and skills required to meet the needs of MLs appropriately

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[1] We use the term Multilingual Learner (ML) to reflect linguistically minoritized students including, but not limited to, students labeled as English Learners (ELs) by schools. We discuss data related to ELs because it gives us some insight into the current educational landscape

for MLs more generally. However, we recognize that the current data related to ELs is not fully reflective of the cultural, linguistic, and academic diversity of MLs in Washington, DC.

and effectively.

Critical and justice-oriented research has identified a need to understand MLs' learning circumstances more deeply, as well as to make space to draw on their individual, family, and community knowledges as learning resources (see for example, Catalano & Hamann, 2016; Darling-Hammond et al., 2020; Ramírez, Faltis, & de Jong, 2018). For the most part, the preparation of teachers of MLs focuses on aspects of teaching that include instructional methods, content-area instruction, assessment, differentiation, and data-informed instruction (Kananu Kiramba et al., 2022). However, other important parts of the knowledge base of teaching MLs include understanding how local, state, and federal policies impact MLs and how they are taught (Coady et al., 2020), as well as the ability to apply flexibility to teaching MLs (Whitehead & Greenier, 2019). García and Kleyn (2013) argue that all teachers must deeply understand MLs and their families, have knowledge of how language and multilingualism work, and an awareness of how language, culture, and identity are co-constructed in classroom contexts.

In sum, MLs face inconsistency in both how they are educated and how their teachers are educated. In this section, we have reviewed evidence of the challenges related to preparing teachers of MLs and how those challenges manifest nationally and locally. Ultimately, MLs still do not receive a comparable education, in terms of access, opportunities, or outcomes, compared to their monolingual peers. We take this as evidence of a gap in both conceptual and practical knowledge of effective pedagogies for MLs, and what potential impact they have on MLs' academic outcomes. As teacher education is one area where we can respond to this challenge, we now turn to defining the conceptual tenets of what we refer to as Culturally and Linguistically Responsive Pedagogy (CLRP), as a framework for better preparing teachers of MLs.

3. Culturally and Linguistically Responsive Pedagogy for MLs

We see CLRP in schooling contexts, content, processes, and personnel as key to educational justice for MLs. Disrupting generations of oppressive education practices requires the reimagining of how learning and teaching occur in classrooms. Educators who are culturally and linguistically responsive are essential to these efforts (Akiba et al., 2010). This means that the teaching force must grow to reflect the lived experiences of all students more closely and must be equipped to value and validate diverse lived experiences.

Drawing on multiple bodies of literature, we define CLRP as those instructional practices that 1) recognize and counter deficit-based perceptions of racialized, multilingual students and their language practices (Flores & Rosa, 2015; Rosa & Flores, 2017); 2) reject monoglossic enactments of multilingualism in schools to incorporate all of students' linguistic resources for learning (García et. al, 2021); 3) center students' lived realities and cultural experiences to facilitate learning while developing their sociopolitical consciousness (Ladson-Billings, 1995; 2022);

4) evaluate and counter structural inequities in pedagogy and in advocacy within their school settings (Gay, 2010); and 5) teaching with critical consciousness (Cervantes-Soon et al., 2017). Teachers of MLs must be able to analyze how larger structural dynamics may play into their school-level practices as they design pedagogies and policies.

To provide teachers with CLRP training and tools starts with the intention to design learning contexts, communities, experiences, and assessment practices that center the ways of knowing, ways of being, and ways of doing language of Black, Indigenous, and students of color (Paris, 2012). In other words, training teachers in CLRP means to prepare teachers to embrace and connect students' cultural knowledge, lived experiences, and unique perspectives to promote equity and solidarity across culturally and linguistically diverse communities. More generally, the purpose of CLRP is to not only facilitate students' academic achievement, but also their ability to critique existing social orders and question dominant power structures in their communities from an explicitly anti-racist stance (Paris & Alim, 2017).

When it comes to teaching MLs with CLRP, translanguaging is a key theoretical and pedagogical approach that centers the dynamic and flexible ways that MLs draw on the entirety of their communicative resources and practices to participate in the classroom (García, 2009). Specifically, a translanguaging stance calls on teachers of MLs to not only open space in the classroom for MLs to engage in non-standard language and literacy practices, but also to prepare students to critically interrogate the ways that language and power, at a sociopolitical level, shape the educational opportunities, experiences, and outcomes of MLs of color (García, Johnson, & Seltzer, 2017; Otheguy, García, & Reid, 2015; Li Wei & Garcia, 2022). Some research has already explored integrating translanguaging in teacher education, mostly focused on challenging preservice teachers' beliefs about translanguaging and unpacking opposing language ideologies (Barros et al., 2020; Deroo & Ponzio, 2019, 2021; España, Herrera, & Garcia, 2019; Gorter & Arocena, 2020; Martínez et al., 2015; Musanti & Rodríguez, 2017; Rodríguez et al., 2021). In the context of this work, we push against narrow definitions of translanguaging pedagogy that position it as only a linguistically responsive pedagogy, in which it is only used to scaffold content comprehension and literacy development for MLs. Instead, we take a critical stance towards translanguaging pedagogy and view it as one that aims to fulfill all four tenets of CLRP, as defined here. Part of the purpose of Project ELEECT is not just to prepare teachers to use it in their own classrooms, but also to explore innovate ways to teach with translanguaging as a CLRP in our teacher residency program.

Teachers continue to need further support and agency to learn about, implement, and innovate with CLRP as a potentially more equitable pedagogical approach for MLs (Min et al., 2022). While there is a wealth of theoretical knowledge about CLRP, there is a persisting research gap between the conceptual tenets of CLRP and their practical applications in teacher education. We take as an important starting point the need to better understand what CLRP looks like in practice. Therefore, a

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central focus of Project ELEECT is to prepare teachers to explore the pedagogical applications of CLRP through teacher research, and to use these activities as tools to empirically document their teaching practices.

4. Teacher Research as Professional Development

Professional learning activities that implement teacher-centered collaboration and teacher research have proven to be effective in preparing teachers to support all learners, not just MLs (Akiba & Liang, 2016; Clandenin & Connelly, 1995). Johnson and Golombek (2020) make the case that teacher educators must prepare future teachers to engage in self-inquiry, asking them to interrogate who they are and who they wish to become in terms of their pedagogical practices for MLs. Teacher research can provide such opportunities, as it asks practitioners to identify problems in their professional and community contexts with the goal of change or improvement through intentional pedagogical action (Cochran-Smith & Lytle, 1993; 1998; Stremmel, 2007; Stringer, 2007). It can take a wide variety of forms, but generally involves research practices conducted by teachers, both individually and collaboratively, to better understand and serve the academic and socioemotional needs of their students. It stems from teachers' context-specific self-reflections and is carried out through intentional and systematic examination of teaching and learning in their own classroom contexts (Cochran-Smith, 2005; Cochran-Smith & Lytle, 1999).

Teacher research supports both pre-service and in-service to develop skills of critical self-reflection and increases their professional autonomy (DiLucchio & Leaman, 2022), both of which are vital to CLRP. To implement CLRP effectively requires that teachers engage in critical reflection on their own social positionalities as they relate to power, oppression, and schooling so that they can account for them and respond to those of their students (Gay, 2010; Rutten & Wolkenhauer, 2023). It also requires teachers to implement pedagogies that are effective for student learning and growth. As such, teachers need space to engage in critical, reflexive inquiry that considers their actions, student learning, and the sociopolitical dynamics in which these occur. A stance of reflective inquiry serves teachers' professional and social justice needs as it centers their knowledge and expertise for change in the classroom (Cochran-Smith & Lytle, 2015).

5. Exploring CLRP through Teacher Research

Project ELEECT is a unique initiative that seeks to enhance the education of MLs by providing professional development opportunities for practicing teachers and a graduate education-based licensure pathway for aspiring teachers. By creating a collaborative learning environment, teachers at various career-points can integrate CLRP into their professional practice, thereby improving the educational outcomes of MLs (Yoon, 2023). Project

ELEECT has two goals. The first is to strengthen a pathway for pre-service teachers of multilingual learners to attain a K-12 ESL teacher certification and a master's degree in one year through a residency-based program that combines coursework and clinical experiences in partner schools. The second goal is to provide professional development to in-service teachers to support their ability to implement culturally and linguistically responsive pedagogies (CLRP) into their instruction for MLs.

Through its two overarching goals, Project ELEECT engages educators at all stages of their careers. Aspiring teachers benefit from a residency-based educator preparation program that overcomes structural barriers to entry into the profession. Practicing educators committed to the profession, youth, families, and communities also seek professional development activities to continually develop their skills in response to emerging research and the needs of diverse learners. Leading educators or mentor teachers have the opportunity to grow professionally through reflective practice and mentoring aspiring teachers, thereby magnifying their impact on the education system. A unifying factor of the initiative is job-embedded training oriented toward CLRP that is implemented for teachers at all three positions.

Goal 1: Widening the pipeline of teachers for MLs in DC

Georgetown University's teacher preparation program involves full-time residency in DC schools, where preservice teachers work as co-teachers and undertake teacher preparation coursework. The program emphasizes CLRP that supports justice-oriented approaches to instruction for MLs. Project ELEECT will provide 36 preservice teachers a pathway to MA + ESL licensure that includes training on effective, data-driven instruction for MLs rooted in the theoretical and sociopolitical commitments of CLRP.

Research indicates that residency program graduates consistently have higher retention rates than their peers at the three- and five-year mark (Guha et al., 2017; Silva et al., 2014; Solomon, 2009). A growing body of research indicates the effectiveness of teachers prepared in residency programs regarding improved student academic outcomes (Marshall et al., 2021; Papay et al., 2012). Taken together, research indicating the effectiveness of educators prepared through residency-based programs, along with the higher retention rates for residency programs graduates, demonstrates the strong potential a residency-based teacher preparation program must contribute to an effective, stable group of teachers of MLs.

The project aims to recruit and retain a diverse group of participants, including those from traditionally underrepresented groups in the teaching profession. The program includes a number of interlocking and reinforcing elements: 1) a targeted recruitment plan; 2) a residency-based model in which preservice teachers receive a salary and work full-time in DC schools as resident co-teachers in collaboration with a school-based expert mentor-teacher; 3) a concurrent program of teacher preparation coursework over the course of twelve months that is purposefully intertwined with their teaching experience; and 4) a commitment to place residents in high-needs schools to ensure residents gain extensive clinical hours of

experience with students with the greatest need. The program also implements a deep and intentional commitment to asset-based pedagogies, which are proven to support MLs across instructional contexts.

Goal 2: Preparing in-service teachers to meet the needs of their MLs

The second goal of Project ELEECT is to design and implement a professional development (PD) program for in-service teachers in K-12 education to improve their skills in teaching with literacy instruction approaches rooted in CLRP for MLs. The program utilizes a focused needs assessment and multiple modalities, such as workshops, coaching, in-person instruction and asynchronous on-line sessions, classroom observations, and targeted feedback. The project will provide a hybrid PD program for 100 in-service teachers over four years, to cohorts of 25 teachers. The English Learners Equity and Excellence Professional Development Certificate is designed to provide DC teachers with CLRP knowledge and skills they need to effectively teach MLs. The course is applicable to teachers in various content areas and settings and focuses on developing tools and practices that center anti-racist frameworks for literacy instruction, such as culturally relevant (Ladson-Billings, 1995), culturally-sustaining (Paris & Alim, 2017), and translanguaging pedagogies (García, 2009). The course also emphasizes equitable practices to support content literacy growth in any subject area to promote academic excellence.

The modules in the course cover various topics related to multilingualism, raciolinguistic ideologies, culturally relevant pedagogy, and more. Through online and in-person discussions and meetings, the course aims to establish an environment for fair, equitable, and meaningful exchange of ideas, critical reflection on teaching practices, and bridge the gap between conceptual coursework and practical classroom experiences. By the end of the course, teachers are able to identify the influence of raciolinguistic ideologies, conduct equity assessments, and apply CLRP in their professional contexts.

The final weeks are dedicated to critical self-reflection and encourages participants to reflect on their personal, professional, and collective growth and development as culturally and linguistically responsive teachers. The course aims to generate spaces for collective discussion, professional networking, and collaborative learning through online discussion boards, remote group meetings, and in-person meetings. The goal is to establish an environment for fair, equitable, and meaningful exchange of questions, concerns, experiences, and ideas, and to create a bridge between conceptual coursework and practical classroom experiences that reflect the goal of more equitably teaching multilingual learners.

Although Project ELEECT consists of specific goals for pre-service and in-service teacher training, there are two important components of teacher preparation that run across both goals. Specifically, we ask participants to engage in practitioner-led research through the use of *Impact on Learning Studies*, as a hallmark feature of both goals. We discuss each in more detail in the following section.

6. Teacher Research through Impact on Learning Studies

A hallmark feature of the current residency-based MA + ESL Licensure curriculum are multiple course assignments called Impact on Learning Studies (IOLS), in which students examine the impact of their practice on K-12 student learning outcomes in various ways. These teacher research studies are conducted at multiple intervals throughout the year and require our candidates to identify specific questions related to their instruction, collect and utilize a variety of instructional and student data, and interpret its significance as to inform their future instruction. These assignments are incorporated consistently across the candidates' program of study. Generally, teacher residents are asked to lead and generate a written report for a research project that examines some issue of language and literacy development for MLs in their instructional contexts. They share relevant background information about the ML student(s) they work with, generate research questions and a data collection plan, analyze data, connect findings to other relevant research or literature, and share their results with their cohort of colleagues. As teacher candidates apply new practices and collect real student data in their residency placements, these IOLS activities also serve as an important avenue for training and professional development through teacher research.

In the professional development portion of Project ELEECT, an important priority is to improve in-service teachers' ability to use student data to inform small group literacy instruction for MLs aligned with CLRP. For in-service teachers, the IOLS consists of four parts. First, teachers identify a practical question, issue, or challenge related to their literacy practices, then plan a strategic change in practice that aims to implement CLRP. Teachers then document the implementation of their change in practice, collect and analyze data related to its results, and critically reflect on their significance for future practice. Finally, teachers reflect more deeply on the data and what it tells them about the success of their change in practice and what they learned about engaging CLRP for MLs. They are also asked to articulate further questions or specific ways in which they will continue their line of inquiry into future practice. For each IOLS cycle, the professional development participants present a written or oral report of their IOLS to the rest of their colleagues in the course. This creates an important opportunity for teachers to collaboratively examine the implications of their research studies and the ways in which they could extend to a variety of instructional contexts.

7. Conclusions and Implications

Beyond the project activities described so far, an overarching purpose of Project ELEECT is to respond to gaps in research and practice-based challenges related to anti-racist and equity-oriented education for MLs highlighted earlier in the article. Taking these gaps into consideration, Project ELEECT will investigate numerous related research questions throughout its duration.

Therefore, the purpose of this final section is to articulate our emerging research agenda and how we aim to contribute to research gaps related to how teachers learn about and implement CLRP for MLs. Our research agenda consists of three primary questions or areas of interest, from which other research threads will certainly emerge.

First, we are interested in learning about both pre-service and in-service teachers' ability to understand and implement effective, evidence-based pedagogies for MLs. We are interested in research questions, including: (1) How do pre- and in-service teachers understand CLRP? (2) What school-based factors facilitate the implementation of CLRP? (3) What school-based factors hinder the implementation of CLRP? We will collect data through coursework and class artifacts (such as IOLS), semi-structured interviews, and classroom observations to specifically investigate how the teachers across both project goals understand and implement literacy and content-area instructional strategies for ML with CLRP, and the extent to which they are able to do so consistently. In exploring this question, we hope to contribute some consistency in the knowledge base of effective content-area and literacy instruction for MLs.

Second, our research agenda also aims to build connections between the conceptual knowledge of CLRP and its applications in both instructional practice and teacher preparation. We take as an important starting point the need to better understand what CLRP looks like in practice. Given the complex nature of DC's schooling landscape, it is important to identify many empirical examples of concrete ways that it can take shape as an approach rooted in education justice for MLs, such as critical literacy (Freire & Macedo, 1987), culturally relevant pedagogies (Ladson-Billings, 1995), and culturally sustaining pedagogies (Paris 2012; Paris & Alim, 2017). Therefore, our second research purpose is to document affirmative examples of CLRP across multiple classroom contexts. We will document these examples primarily through classroom observations across three cohorts of pre-service and in-service teachers.

Third, we will examine two specific ways to support both pre-service and in-service teachers' operationalization of CLRP and teacher research. We will specifically explore the intersection between the two through the use of IOLS activities. We use the IOLS as a pedagogical tool to generate opportunities for teacher research for pre-service and in-service teachers, as well as an avenue to provide professional development. Additionally, we draw on IOLS as a methodological tool to collect evidence of teachers' pedagogical orientations, practices, learnings, and reflections. From this data, we will analyze how teacher research can support the development of CLRP, and the extent to which IOLS serves as a tool for this. In our pre-service program, students will engage IOLS assignments in the majority of their courses. Further, we will collect at least two IOLS examples from three-cohorts of in-service teachers in the professional development program.

We do, however, anticipate some limitations related to the project's research agenda. For example, empirical tools that can move beyond documentation of affirmative examples of CLRP are not consolidated in an instrument that systematically captures the extent to which teachers are able to effectively implement CLRP. In other words, we are currently limited to descriptive analysis of CLRP in practice rather than a prescriptive analysis of teachers' ability to effectively engage CLRP. In general, measuring a teacher's ability to teach for equity, social justice, and diversity is a challenge that teacher educators face across a variety of contexts (Chang & Cochran-Smith, 2022). Further, classroom observations and IOLS assignments as tools of data collection are limited in providing evidence and the extent of that evidence about teachers' knowledge, perspectives, learnings, and dispositions towards social and educational justice. What they do not capture are the contextual factors that shape, and often inhibit, teachers' agency to practice self-led inquiry (Taylor & Lelliot, 2022). Empirically tested and validated tools would contribute to the second research purpose of Project ELEECT that will support teachers' abilities to implement effective examples of CLRP in practice. This would further allow teachers to identify teaching practices that improve educational achievement of MLs. This represents a possible avenue for methodological innovation.

To conclude, this article proposes a research agenda that examines multilingual learners, teachers, and schools functioning in a highly complex, multi-layered system of educational inequity. Educational and social justice require a dispositional change in all stakeholders that can be imbibed into a training program that allows analytical development of the larger structural dynamics interplaying in school level practices, pedagogies, and policies. Project ELEECT responds by preparing teachers who invite students' cultural and linguistic experiences into their classrooms, create spaces for CLRP, and allow them to evaluate their sociopolitical consciousness in learning settings, thus taking a major shift towards cultivation of anti-racist dispositions in education.

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Student perceptions of teacher immediacy, credibility, and love of pedagogy in enhancing engagement and motivation in higher EFL education

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Abstract
The study provides an exploration into the dynamics of the teacher-student relationship within an EFL context. Through the use of qualitative analysis, it investigates the effect of immediacy, credibility, and pedagogical love on student engagement and motivation within a Saudi Arabian higher education setting. The study reveals that the three dispositions, when interconnected, can foster a conducive learning environment that encourages active student participation and enhances academic learning. The importance of prioritizing emotional connections over purely linguistic goals and integrating cultural and social beliefs into pedagogical practices were also explored. It also underscored the importance of using the vernacular in promoting cultural identity and positioning teachers as influential role models. The study further identifies student perceptions of respect from authoritative figures as significant and that teacher energy, both physical and intellectual, as critical in shaping student acceptance of the learning environment. Lastly, it highlights a generational shift in teaching methodologies towards a more modern, humanistic style in line with changing generations. The research ends with recommendations for professional development to engage language learners effectively and improve educational outcomes.

Keywords teacher immediacy, credibility, love of pedagogy, motivation, engagement, higher EFL education, Saudi Arabia

1. Introduction

Many educators in higher education do not fully recognize the significance of teacher behavior on English as a foreign language (EFL) students. New generations of learners expect a more interactive and inclusive learning experience, placing equal importance on both academic and social growth. They desire a teacher who can hold their attention, maintain a good rapport, encourage engagement, and foster fairness. It has been empirically proven that immediacy, credibility (Guo et al., 2022; Liu, 2021), and love of pedagogy (Vanderheiden, 2023) can increase student motivation and enjoyment in EFL educational settings. Therefore, it can be argued that these dispositions can connect instructors and students because of their potential to create a positive educational environment. However, within the field of Second Language Acquisition (SLA), teacher psychology research is still scarce and has been overshadowed by the focus on learners (Mercer & Kostoulas, 2018). Moreover, the field is still in its infancy especially in the Middle East, and in Saudi Arabia specifically. Therefore, empirical research is needed to understand the effect of the above-mentioned dispositions. This work attempts to provide a comprehensive understanding of how EFL students

perceive their collective impact and what influences their engagement and motivation. Most importantly, it provides practical suggestions for pedological application. Thus, this study aims to examine EFL student perceptions of teacher immediacy, credibility, and love of pedagogy in a Saudi Arabian higher education context.

2. Literature Review

Within the field of EFL education, the influence of teacher immediacy, credibility, and pedagogical love on student learning and motivation is a subject of growing importance as it can impact learner engagement, enthusiasm, and academic success. By examining the interplay of these three dispositions within the context of EFL instruction, a better understanding of the dynamics that foster a conducive learning environment can be reached. Accordingly, this review is divided into four sections: immediacy, credibility, pedagogical love, and ends with an exploration of cultural issues focusing on Saudi Arabian higher education.

2.1. Teacher Immediacy

The behavior of language teachers plays a pivotal role within the classroom. Teacher immediacy is rooted in the

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clinical psychology work of Albert Mehrabian and encompasses actions that emotionally or physically connect individuals (Mehrabian, 1971). While initially explored in other areas, Anderson's (1978) study introduced the concept to education, prompting subsequent research on its significance in affective learning and motivation (Liu, 2021). The foundation of teacher immediacy traces back to theories of interpersonal attraction (Nayernia et al., 2020) and approach-avoidance theory (Hsu, 2010). Extending these assumptions to education, Estepp and Roberts (2015) suggest that students are drawn to teachers who minimize psychological and emotional distance via verbal and nonverbal behavior as both are crucial in the classroom. Nonverbal cues include eye contact, smiles, relaxed body posture, and gestures (Chesebro & McCroskey, 2001). They create rapport between instructors and students (Xie & Derakhshan, 2021) and extend to virtual learning such as responsiveness, use of media (Fahara & Castro, 2015), caring, (Walkem, 2014), and the use of fonts and emoticons (Al Ghamdi, 2017). Conversely, verbal immediacy involves language-based behavior such as using student names, inclusive language, conversation engagement, asking questions, and sharing personal examples (Gorham, 1988). Tone of voice (Pawlak et al., 2020), humor, praise, and encouragement of voiced opinions and questions (Scales, 2016), irony (Fadel & Al-Bargi, 2018), and spontaneous humor (Neff & Dewaele, 2023) are also examples. In online settings, similar practices also apply, such as the use of open-ended questions (Fahara & Castro, 2015), self-disclosure (Song et al., 2016), and e-feedback (Conrad & Dabbagh, 2015).

Teacher immediacy significantly impacts student motivation. It garners respect and 'liking power' from students (Richmond & McCroskey, 2000), leading to compliance and reduced psychological distance, ultimately improving academic achievement (Özdaş, 2022). It fuels motivation and cognitive mastery (Ai & Giang, 2018), while reducing emotional exhaustion (Gholamrezaee & Ghanizadeh, 2018). Furthermore, when perceived positively, it can foster cooperation and engagement (Katt & Condly, 2009). According to Yan (2021), it can also enhance the feeling of classroom justice. However, Claus et al. (2012) warns that low immediate teachers often encounter resistance from students. In language education, immediacy is vital for second language (L2) learning. It shapes student attitudes toward a foreign language (De Smet et al., 2018), thus enhancing motivation (Hussain et al., 2021) and creating environments that combat burnout (Mercer & Dörnyei, 2020) and anxiety (Kelly et al., 2015). It can also improve the willingness to attend classes which can lead to better academic achievement (Sheybani, 2019). Student perceptions of immediacy behavior can also create an educational setting with less stress, more student concentration (Farnia & Mohammadi, 2021), metalinguistic awareness, interest (Askildson, 2005), pragmatic proficiency (Hempelmann, 2016) and decreased boredom (Qin, 2021). It also enhances self-confidence, retention, and learning outcomes (Frymier et al., 2019). According to Ai and Giang (2018), this behavior can increase future enrolment of students with the same instructor, attachment to a subject, degree completion,

and even institutional integration. Consequently, because of its potential to enrich L2 learning and motivation, there is a need to improve teachers' awareness of its pedagogical worth.

2.2. Credibility

Similar to immediacy, credibility is also an important disposition in the learning process. While the former relates to communication behaviors fostering engagement and reducing psychological distance, credibility centers on a teacher's professional qualities, encompassing competence, caring, and trustworthiness (McCroskey & Teven, 1999). High teacher credibility correlates with increased motivation and achievement (Santilli et al., 2011). It shapes teacher-student interactions and learning outcomes (Al-Zoubi, 2016), driving attendance and engagement (Xie & Derakhshan, 2021). Trustworthiness and caring foster students' willingness to talk in the classroom (Myers, 2004), while enthusiasm enhances perceptions of approachability (Stipek, 2006). Gutiérrez et al. (2023) claim that for instructors to be perceived as credible, they should only share personal information that is relevant to the course and avoid exhibiting improper behavior. Cross-cultural studies mirror credibility's positive impact on learning and motivation with increased affective and cognitive learning and high motivation (Myers & Martin, 2018). Furthermore, recent research reveals its connection to student engagement and satisfaction (Froment & Gutiérrez, 2022).

Credibility also extends to immediacy, as students associate nonverbal cues with higher credibility levels (Klebig et al., 2016). This means the two concepts intertwine, driving motivation and affective learning (Pogue & AhYun, 2006). When students perceive immediate behavior as appropriate and relevant, teachers are viewed as competent, trustworthy, and caring (Schrodt, 2013). Within the EFL context, positive perception of teacher immediacy helps the formation of a favorable attitude towards credibility, which in turn encourages classroom participation (Asiri, 2013). These perceptions can even motivate English communication, transcending native speaker status (Lee, 2020). Within Eastern cultures, Safaei and Shahrokhi (2019) argue that EFL teachers generally maintain a certain distance from students to uphold classroom order, especially in big classes. Sarani et al. (2019) results investigate a different perspective emphasizing that instructors with more native-like accents are perceived as more credible. Finally, credibility can affect language achievement as it is a significant predictor of willingness to attend EFL classes (Pishghadam et al., 2019). Moreover, both credibility and immediacy are closely related to the concept of *teacher energy*. This concept can be defined as an instructor's investment in terms of time, sensory, and emotional involvement, as well as effort in the classroom as Pishghadam et al. (2023) state. They emphasize the need for congruency between a teacher's perceived enthusiasm and student perceptions as it can enhance classroom dynamics, engagement, and learning outcomes. Therefore, recognizing such interconnectedness can guide effective pedagogical practices, creating an enriching and motivating

educational experience for EFL learners.

2.3. Pedagogical Love

This construct is intricately linked to immediacy and credibility, as love for students and teaching is pivotal in education (Freire, 2005). Zhao and Li (2021) advocate for a deeper understanding of its relevance to SLA. Pedagogical love is defined as positive and empathetic attitudes and behaviors towards students (Chen, 2023) that foster self-discovery and humanize learning (Grimmer, 2021). It is associated with kindness, empathy, and care (Zhao & Li, 2021). Cuddy et al. (2008) assert that people are cognitively more receptive to signals of warmth over competence. Furthermore, pedagogical love is connected to positive student emotions such as enjoyment and enthusiasm (Dewaele & Dewaele, 2020). Dewaele and Thirtle (2009) argue that students need to perceive language acquisition as enjoyable and attainable, as the quality of instruction is the most crucial determinant of their success. Teacher enthusiasm is also associated with love of pedagogy. It plays a significant role in effective instruction and student learning (Keller et al., 2016) and can help motivate students to attend classes (Brewer & Burgess, 2005) and continue their academic pursuits (Wheeless et al., 2011). Pedagogical love can also create a platform for problem-solving, emotional encouragement, heightened classroom engagement, and successful achievements (Yin et al., 2019). Finally, Barcelos and Coelho (2016)) underscore its role in nurturing student potential, empathy, and individual strengths.

Unfortunately, within the L2 field, scholarly research on love of pedagogy is scarce and focuses mainly on teacher perspectives (Chen, 2023). Researchers such as Wang et al. (2022) highlight its L2 potential and note that Asian societies, being collectivist cultures with group-oriented viewpoints, may be more receptive to its adoption than Western settings. Furthermore, Li and Rawal (2018) found that good student relations improve understanding and acceptance. Therefore, understanding the role of pedagogical love in relation to student perception is vital as it mirrors the importance of other dispositions such as immediacy and credibility. The construct's potential to enhance engagement, emotional well-being, and overall learning experiences, underscores the need for further exploration within educational settings.

2.4. Intercultural Issues

It is generally accepted that cross-cultural similarities and differences between societies exist, and that perceptions of immediacy and credibility can differ (Gudykunst & Kim, 1997; Neuliep, 1997). However, existing literature is limited. Of note is McCroskey et al.'s (1996) study which finds that Eastern culture students show a stronger connection between high teacher immediacy and enhanced cognitive learning than Western ones. Neuliep's (1997) research highlights that nonverbal immediacy was more predictive of learning outcomes for Asian students whereas verbal immediacy was prevalent in Western environments. On a similar note, López-Ozeiblo's (2015) work finds a lower inclination for nonverbal teaching behaviors in Hong Kong, contrasting with

Western learners. Santilli et al. (2011) found that Brazilian students rely heavily on nonverbal cues in their evaluation of instructors as it can enhance credibility and help increase student learning. That said, a study by Johnson and Miller (2002) claims that teachers who demonstrate greater immediacy are perceived as more credible by both US and African students. Thus, these mixed results show there is a need for more culture-specific educational research because of the crucial role it plays in influencing student perceptions in different societies.

In Saudi Arabia, studies on teacher behavior are scarce. There are only three studies, to the researcher's knowledge, that investigate student perceptions about immediacy and none touching on credibility or pedagogical love. Asiri's (2013) mixed research findings reveal that verbal cues are often more effective than others. He also highlights that in collectivist societies, social harmony is important and therefore nonverbal cues might be used to hide negative feelings and express positive ones. Furthermore, he asserts that when teachers use verbal cues, the impact of nonverbal immediacy on cognitive learning seems to be minimal. However, his findings collaborate with other studies that find immediacy helps cultivate interpersonal student relations, enhance communication, and promote student learning and success. A similar study also investigates immediacy but in a virtual setting. Al Ghamdi's (2017) quantitative work identifies a positive correlation between lecturers' immediacy and affective/cognitive learning. He claims that positive immediacy perceptions influence student attitudes towards virtual education. Moreover, he finds that male students were generally more receptive to learning when the lecturer demonstrated immediate behavior. The study by Alharbi (2018) signifies the importance of teachers taking cultural factors into consideration when implementing e-immediacy practices, specifically family restrictions and urban/rural backgrounds. Her mixed methods approach identifies responsiveness, providing feedback, offering guidance and instructions, asking questions, and demonstrating care as the most frequently employed immediacy practices. In summary, despite their number, these studies highlight the importance of investigating the impact of teachers on student learning.

Notwithstanding the existing research, limited attention has been given to EFL students' perceptions of immediacy, credibility, and pedagogical love in virtual and in-person learning environments in the Middle East. This research is not only crucial in Western contexts but also in other cultures; therefore, there is a need for more empirical investigations (Xie & Derakhshan, 2021). Accordingly, this study aims to explore the impact of these three constructs on Saudi Arabian EFL students. In order to do this, two research questions have been put forward:

1. What teacher immediacy, credibility, and pedagogical love behaviors and characteristics are significantly associated with student engagement and learning motivation in a higher EFL Saudi Arabian education context?

2. How does teacher immediacy, credibility, and pedagogical love enhance the learning environment for Saudi Arabian EFL students in higher education?

The aim of this study is to delve into the nuanced

dynamics of these constructs and their effects on student engagement and motivation. As education continues to evolve, understanding the interplay between teacher behavior and student responses becomes crucial in shaping effective and engaging learning environments.

3. Methodology

As the existing literature has not provided a detailed overview of the three dispositions and their impact on students in the Saudi Arabian context, it is imperative to gain a more comprehensive understanding of learner insights and perceptions of their teachers. To explore this phenomenon, a qualitative approach is deemed most suitable. It allows participants to be contextualized within their unique experiences and provides insights into the complex dynamics that underlie behavior (Creswell & Creswell, 2018).

3.1. Participants

For this study, seven university students in their final semester were purposefully selected as participants. These students, aged between 22 and 26, were enrolled in a four-year English BA program and were known to the researcher. All participants were female Saudi nationals, and pseudonyms were employed to ensure confidentiality. All of them provided informed consent to take part in the research and for any related interview material to be published.

3.2. Data Collection Method

The study employed a focus group approach, facilitated by a semi-structured interview guide. This method is particularly suited for exploring emerging topics in-depth, providing a balance between standardized questions and the flexibility to probe further when necessary (Dörnyei, 2007). The participants were instructed to collectively choose an instructor who had taught them in two or more courses and had made a notable impression on them. It is worth noting that although they mentioned she was young, they did not disclose her name to the researcher during or after the focus group, so the study's credibility and validity would not be affected. Most of the courses took place during the COVID-19 online learning period but three of the students also had face-to-face experiences with the instructor as well. The focus group lasted approximately three hours, and was recorded, transcribed, and analyzed. A colleague from the same department reviewed the transcription and compared it to the recording to ensure accuracy. Additionally, she also reviewed the Arabic translation, given participants' language preferences during the interview.

3.3. Trustworthiness & Reliability

Rigorous measures were taken to ensure the credibility of the work. Apart from rich description and participant cross-validation, strategies such as audio recording, personal transcription, and literature alignment were employed. These measures enhanced the credibility of the findings and accuracy of the analysis. The aim was not to make generalizations but develop and describe themes in relation to the phenomenon under investigation (see Creswell & Creswell, 2018). Moreover, all the data were stored on the researcher's computer and will be there for five years in compliance with APA regulations (Nezu, 2018). Additionally, approval was granted by the university's ethics review board.

3.4. Data Analysis

The researcher used Dedoose (Version 9.0.17, 2021), a cloud-based application, to organize and analyze data. According to Kaczynski et al. (2019), it is a software-based platform designed to make coding and reaching credible evidence easier. To understand the interconnections within the dataset, the interview was analyzed following a reflexive thematic analysis (Braun & Clarke, 2022). The process commenced with repeated readings of the transcript to become familiar with the dataset. After that, several initial codes were constructed using the literature review as a starting point. Subsequently, more codes emerged and were then organized systematically. Next, relationships were formulated. These were refined and adjusted to ensure that the developed codes accurately encapsulated the content of the interview. Each main theme had detailed sub-codes that helped categorize the data. For instance, one example was 'Instructional strategies.' The sub-codes for this theme were 'creative pedagogy use,' 'interactive class activities,' 'rich media integration,' and 'reflective feedback.' They were all related to the teaching approach the instructor used and were therefore grouped together. To minimize bias, an intercoder reliability check was conducted by another colleague. In the final phase, the researcher made sure the codes corresponded with the study aim and that data saturation was attained. Overall, the coding system facilitated the analysis of the data and helped identify specific themes in the study.

4. Results

The analysis revealed distinct personal traits of the selected instructor that led students to perceive her as an immediate, credible, and pedagogically affectionate. These characteristics were notably salient across the dataset. Thus, these core attributes were classified into four predominant themes: teacher-student interaction methods, instructional strategies, classroom management and environment, and cultural/linguistic sensitivity. Additionally, a fifth theme, emerged during the analysis which unveiled the complex interplay and interconnectedness of the first four themes and their collective impact on student motivation and engagement.

The first theme, *teacher-student interaction strategies,* refers to the methods employed by the teacher to engage with students and build rapport. These encompass both verbal and non-verbal techniques. Initially, her continuous display of respect, care, and empathy emerged as a prime example of immediate behavior and played an essential role in enhancing student motivation. This was noted by one of the interviewees:

"She used to respect students in class. Even if a student gave a wrong answer, she would never say to the student like 'Stupid, stupid answer!' This was not her way." (P1). This deliberate choice to avoid belittling behavior not only secured students' feelings towards her but also increased her credibility and illustrated her love of the profession and to her students. The educator also expressed empathy, as one student exemplified, *"When the girls used to tell her we are stressed because of quizzes, she would use stickers like "You are almost there" or "You can do it" in our WhatsApp group to kind of ease the situation and make us feel more motivated and want to keep trying"* (P2). The excerpt demonstrates the teacher's acknowledgment of academic challenges and her innovative approach to addressing them. This behavior can inspire students to participate actively in learning and encourage target language risk-taking. Furthermore, open dialogue was encouraged as one student explained, *"We had the freedom to interact with her and ask questions whenever we liked. I believe that is what made her classes really motivating."* (P3). Her actions not only fostered strong rapport and motivation but also eliminated barriers to learning.

Humor also played a significant role in the interactional practices of the EFL teacher. The goal was to enhance student learning without compromising the educational process. As P4 noted: *"Too much humor will make students lose respect for their doctor but she was able to have a balance between seriousness and humor."* The quote highlights the significance of maintaining such an approach as its excessive use might compromise respect for the instructor. Moreover, the teacher's use of humor was always within educational boundaries as another student added: *"Her humor always stays within the course, and this is something we all really like about her"* (P5). This excerpt highlights the importance of the appropriate use of humor as it influences the way credibility is perceived. However, the students also mentioned conditions for them to accept its use such as having a connection with the teacher. Another condition is its proper use so not to disrupt the learning process. Finally, a teacher should be skilled in the art of blending various humorous components for a balanced and effective integration. One of the learners explained this as follows:

> *She likes to play with words, and it isn't boring. With her, it is all about using a little of everything. A little humor, a little sarcasm, a few jokes here and there, the element of surprise from time to time and of course the way she uses her voice.* (P6)

The quote provides insight into the strategic use of wordplay in the classroom as it can break monotony and sustain interest. Moreover, its use can also inspire a similar response from students as asserted by P5: *"it enables me to also be humorous if I wanted to."* This reciprocal exchange of humor encouraged free expression and gave students the option of being more responsive. That said, both verbal and nonverbal behavior affected learners. The teacher's use of tone not only broke the dullness of the lecture, but also helped maintain student focus. Additionally, eye contact emerged as a powerful tool in promoting teacher-student interaction, especially during in-person teaching as noted by one of the students, *"It helped me feel like I am a part of the group if that makes sense... she looks at you, she makes you feel you want to get involved, you want to talk."* (P1). The quote illustrates a sense of belonging, making the student feel that she was an integral part of the class rather than just a passive recipient of information. It also promoted an educational environment conducive to the willingness to communicate.

Instructional strategies is the second theme that emerged from the data. It refers to the methods/techniques used by an educator to facilitate learning and enhance student comprehension to achieve educational objectives. Firstly, the teacher used creative pedagogy in her courses which was done by using non-traditional EFL classroom assignments. According to P3, they drew out personal skills: *"She just gave us these small assignments ... We were just given the freedom to be as creative as we wanted with them and that brought up so much potential we never knew we had."* Providing opportunities for creativity allowed learners to tap into latent capabilities. She also used interactive activities in class to create a motivating learning atmosphere, as one student explained: *"She makes us watch movies and clips and this makes the class so much fun. Her questions after we watch the movie are funny and the acting that we do is even more fun."* (P2). The excerpt demonstrates how the teacher leveraged various instructional strategies to promote a stimulating learning atmosphere. Furthermore, the instructor also integrated rich media in her teaching as P7 explained: *"Sometimes the instructor uses memes in her slides. The memes she uses really attract me because I love memes. We all love memes. I think she understands us very well."* A teacher's effort to remain in tune with student interests and incorporate them into the classroom experience demonstrates adaptability to changes in social norms and technology. Finally, the instructor also used reflective feedback as a tool to reflect on her learners' overall learning experience and academic goals. It is worth noting she did this for both online and in-person teaching. One of the participants explained as follows:

> *It was our last assignment, and she was evaluating it and she wrote each of us a long comment about our progress and our efforts and even wished us luck on our finals and memories and stuff like that…it was something to cherish!* (P3)

The quote demonstrates a deep level of engagement and personal connection that signifies investment in students' personal growth and validates their efforts. This reiterates that teaching and learning extend beyond the impartment of knowledge.

The third theme identified was *classroom management and environment*. Firstly, the teacher's code of conduct played a crucial role in molding the educational setting. P1 explained its importance as follows: *"I was taught by many instructors but not all of them cared that the students take each other's time in class. ... But not her, she cared."* The teacher's implementation of a value system instilled a sense of justice and fairness in the students. This type of action signified her genuine concern for them. Still, another teacher characteristic that stood out in the dataset was the unique teacher-student relationship as P5

explained: *"She is professional but at the same time she gives us the impression that she is our friend or our sister."* The teacher's deep affection for her profession and her students was evident. Although she had a strong bond with them, it was exercised in moderation to ensure focus remained on professionality and academic goals.

Additionally, energy emerged as a central theme perceived as a key to successful teacher-student dynamics. One of the learners elaborated on this: *"We respond to energy! And we as students pick up on a teacher's energy. Our response to them as a person depends on their energy towards us."* (P6). This quote underscores the pivotal role of positivity and enthusiasm as the students are likely to react to it. Interestingly, this construct was multifaceted in nature. It can extend beyond the stereotypical enthusiasm-tag leading to high confidence in one's abilities as P7 explains, *"Energy is body movement, it's tone, it's motivational words, it's small pieces of advice throughout the lecture to make a student feel and know that they're capable of anything and everything."* It could also be the intellectual part of a teacher's energy which is more than just personal enthusiasm. As one interviewee described:

> It's how the instructor feels towards the course being taught … how far she has interest in that field, and how she is up to date with the new studies in the arena of that field and how much she is excited and motivated to give the material, all of that will reflect on the class's atmosphere, and the students will feel it and respond to it depending on the degree of all of that. (P3)

Interestingly, this quote depicts energy as an amalgamation of a teacher's passion for the subject which can lead to heightened interest and engagement.

The fourth theme to emerge from the dataset was *cultural and linguistic sensitivity*. There was a consensus among all participants that the teacher respected Saudi Arabian culture, a characteristic they also valued. During the focus group, they were asked specific questions about inappropriate language use in the classroom. Interestingly, the discussion around this topic focused on an understanding of the constraints of culture, by both the teacher and students. Given the conservative nature of the society, the use of such language is rarely used within academic settings. P4 elaborated on this: *"I feel the Saudi culture seeps into the university and that is why she doesn't do it and her students don't do it as well because they understand how the system works."* Respecting the cultural nuances of society played a crucial role in maintaining communication without crossing cultural boundaries. From a language perspective, the teacher also exhibited sensitivity in her use of vernacular varieties of both English and Arabic. The EFL students believed their instructor was an admirable language role model. Many of them admitted to having a collection of her quotes for keepsake as she was described as *"our role model"* (P2). This shows that the instructor was not only credible but also had a positive impact on language learning motivation. Moreover, all the interviewees agreed that standard English was the main language of instruction. However, they also reported sporadic use of nonstandard varieties which motivated them as P5 elaborated: *"Because she is professional and uses standard English you wouldn't*

expect her to say something funny but then she inserts a vernacular word, and it makes it so funny, so she surprises you and makes you laugh." While the teacher understood how to make the lessons engaging and memorable, more importantly, she offered real-world examples of authentic English language usage. From another perspective, when asked about the effect of accent on them, one of the students explained: *"To be honest, I don't think it made a difference to us …What mattered was her character with us, how she dealt with us, her humor, her tone, and the energy she gave off."* (P4). This illustrated that effective teaching relies more on the teacher's ability to connect with students on an emotional level than a linguistic one. Contrastingly, the final language related impact was the use of Arabic in class. According to the learners, the use of their native language was significant. P1 provided an example to elaborate: *"She would use English to explain all this and then all of a sudden, she uses an Arabic colloquial phrase like 'falrijal tifish' (the guy gave up). It just made it so funny!"* It is apparent that the instructor understood how to reach these students and use Arabic for impact and trust building.

The final theme relates to the impact of the aforementioned four themes on learner engagement and motivation. It directly affected the classroom environment, student learning attitudes, and their academic performance. Firstly, a strong educator can dramatically enhance the enjoyability of the learning process. Despite this study's reliance on qualitative methods, it was noteworthy that references to the teacher's reactions, teaching, stories, and expressions were described as either fun or funny occurred over 60 times within the interview context. Her teaching was, as articulated by one participant, *"A combination of so many things!"* (P7). This enhanced students' perceptions that her class was more special than other ones as P6 claimed: *"I really feel it helped with motivation; motivation to go to class, motivation to pay attention, motivation to do the work … because it was different from the other classes."* This difference even affected the way her courses were perceived by the students. As P4 claimed, *"All the courses I took with her were the least pressured."* The creation of such an atmosphere illustrates a positive image and nurturing learning environment. Interestingly, one of the students compared this teacher with a more serious one as follows:

> We had this one teacher who was so serious, and we couldn't ask anything because she gets distracted if we do and she sometimes even gets really mad, so we stopped asking questions in her class, but this teacher uses humor and fun in all her classes. We can make conversations with her and even collaborate with her in the lecture with our ideas but not with the other one. (P3)

The quote contrasts the experiences and outcomes between the two teaching styles. It sheds light on the importance of creating a space conducive to learning as P7 explained:

> She created a strong bond because you know when the class or the atmosphere in it is so serious and all the information is also serious and requires a lot of focusing but then the teacher just throws some humor in there in

her different ways, the students know that it's really a comfortable and safe place where they can ask questions and make conversations with the teacher.

The instructor's personality was perceived as approachable, thus creating strong rapport and fostering high engagement. It helped *"students remember things better because they actually had fun"* (P6). The previous response also suggests that the teaching strategy applied managed to effectively align with the student learning style and aided in the successful acquisition of knowledge. Interestingly, it had another lasting impression on them as P5 mentioned, *"That is what made us love literature!"* Through the teacher's genuine passion and enthusiasm for her field, she managed to inspire the students and ignite a similar interest in them. This facilitated deeper learning as students were intrinsically motivated to be in the class and to understand the subject.

The student environment and the attitudes they had to learn all played a role in their successful academic achievement. Most of the students described the classroom environment as stress-free learning zones that facilitated better absorption and retention of information. As P7 explained: *"I came out of the course with big knowledge. My final was so good. ... It was kind of like a revision. I understood everything we took."* This emphasizes that being in an enjoyable course can enhance understanding, shaping a student's readiness towards course assessments and ultimately, academic success. It is worth noting that class attendance could have helped as many of the courses took place during the COVID-19 pandemic period. According to student testimonies, they all commented on their high attendance rates for her classes. P2 summed it up: *"Her classes were so much fun! I don't think I ever missed any of them and I took three courses with her."* This excerpt exemplifies the profound impact a teacher's efforts can have on students. Their satisfaction with her as a teacher could explain the increased enrollment in her courses. They were comprehending complex concepts and performing better academically due to the stimulating environment she created.

5. Discussion

The insights and perceptions of the students in the study showed that they understood the characteristics of an immediate, credible, and pedagogical loving teacher. Their four-year experience in higher education gave them ample time to observe and interact with numerous instructors and observe a diverse range of classroom environments. Such experiences enabled them to identify an effective educator through the recognition of behavioral traits that contributed to enriching their learning journey.

The data unveiled several teacher behaviors that the students believed supported effective learning. The *teacher-student interaction strategies* played a major role in creating a nurturing learning environment. Three of the main traits identified were related to the teacher's personal characteristics, mainly respect, care, and empathy. All three are associated with immediacy (Richmond & McCroskey, 2000; Walkem, 2014) and pedagogical love (Zhao & Li, 2021). They depict perceptions of the teacher's

sincere consideration for the students' emotional welfare. These traits helped create a classroom ethos that nurtured language students and increased teacher credibility. Moreover, they aligned with studies emphasizing the pivotal role they make in fostering positive classroom environments that can enhance affective and cognitive learning as discussed by Teven and McCroskey (1997). These opportunities build confidence in EFL students, making them feel appreciated, leading to enhanced engagement, active participation, and increased motivation. That said, out of all three characteristics, 'respect' has a high value in Middle Eastern societies, particularly towards elders and figures of authority. However, receiving the same level of respect from an older authoritative figure, profoundly influenced their perception. This was viewed as a departure from the norm especially in Saudi Arabian higher education where few academics teach humanistically.

Another interaction strategy emerging from the analysis was the use of open dialogue similar to what has been reported by Scales (2016). This motivated students to actively participate in English language learning (Lee, 2020) and strengthened the 'liking power' of the teacher (Richmond & McCroskey, 2000) which made them more involved in the educational process. These strategies helped learners accept language challenges as part of the academic journey and aided resilience and effort to overcoming them, thereby promoting a more positive approach to learning. The analysis also identified humor as an effective interactive behavior in EFL teaching. However, the students in the study emphasized that careful, balanced implementation is required to ensure it enhanced rather than undermined learning. This is analogous to previous warnings in the literature of its excessive and inappropriate use in the Saudi context (Fadel & Al-Bargi, 2018). It could also risk decreasing the seriousness of academic content and even damage teacher-student respect. Nevertheless, humor alignment with course content is appreciated similar to its identification by other scholars (Gutiérrez et al., 2023). This highlights the need for teachers to understand its proper use as its effectiveness appears to depend on the teacher-student relationship, indicating its implementation should be well-timed and appropriate (Garner, 2006). Interestingly, the students in the study all remarked on the importance of humor, irony (Fadel & Al-Bargi, 2018), spontaneous wit (Neff & Dewaele, 2023), and different tones (Pawlak et al., 2020). This variety can enrich the educational experience by maintaining student interest and encouraging humorous interaction. Finally, the use of eye contact in teaching is a subtle yet powerful nonverbal behavior that can lead to a heightened sense of involvement for both parties. For the teacher, it shows her investment in her students' learning via care and understanding. A finding resembling other Saudi research conclusions (Alharbi, 2018). For learners however, it encouraged a sense of involvement and enhanced language risk-taking, thereby accelerating learning.

The second emerging theme, *instructional strategies*, highlighting the role of innovative pedagogy in stimulating EFL student comprehension and participation. The teacher fostered a lively classroom ambience through her

use of diverse, student-friendly activities that spurred student participation, decreased pedagogical boundaries, and lent a fun, less intimidating aspect to learning. Her approach towards homework was also of note. Assigning innovative tasks fostered student potential with long-term learning implications. Her creative pedagogy encouraged active participation and forged a strong connection with the students. Furthermore, she used contemporary rich media similar to other digitally competent educators (Fahara & Castro, 2015); however, unlike older multimedia discussed in previous research (Al Ghamdi, 2017), she used memes. This depicted her understanding of modern, female learner preferences which made teaching more relatable to them. Finally, the constructive personalized feedback the teacher gave not only acknowledged and validated student efforts, but also provided clear direction for continued growth and achievement. These instructional strategies reduced the psychological distance and substantially reinforced her credibility. Consequently, this had a strong impact on student beliefs of self-confidence, engagement, satisfaction, and motivation; perceptions congruent with previous literature findings (Froment & Gutiérrez, 2022) and highlights the fact that positive attitudes in student EFL development should not be underestimated (Wang et al., 2021).

The third emerging theme was *classroom management and environment*, which also emphasized the critical role of teacher immediacy, credibility, and pedagogical love in formulating a successful learning environment. A key finding was the teacher's commitment to establish a fair value system in the classroom. The use of respectful conduct during activities differentiated her from other instructors, demonstrating a high level of care and justice as mentioned by Yan (2021). By prioritizing an environment of mutual respect and student contributions, credibility is solidified. Moreover, the teacher managed to establish a professional rapport with her learners. This resonates with Chen's (2023) theory of pedagogical love by maintaining a healthy balance between warmth and professional boundaries. More importantly, the students perceived that it improved acceptance and understanding as proven in the literature (Li & Rawal, 2018). Energy also emerged as a key element in effective classroom management. Students are very sensitive to a teacher's energy, which influenced their response and overall attitude in the class. This not only covered the physical manifestation of energy, but also the intellectual one. Teachers with such enthusiasm motivate learners, encourage interest in academic study, and promote persistence similar to Wheeless et al.'s (2011) conclusions. The three emerging themes validate the literature and indicate a positive relationship between a teacher's characteristics and how the cultivation of a dynamic environment can enhance engagement and learning outcomes.

In addition, cultural and linguistic sensitivity was the fourth theme highlighted in the results. Collectively, the participants attested to and admired the teacher's mindfulness. They believed she demonstrated a good understanding and respect for societal and cultural nuances. The students viewed her cultural sensitivity as impactful. Her pedagogical practices filtered through cultural beliefs which enabled the use of more effective communication using culturally appropriate examples, analogies, and humor. It not only helped improve student comprehension but also assisted in maintaining discipline in the classroom in a way that connects with Saudi societal norms. It is worth noting that violations of these rules are not only viewed as disrespectful towards the instructor but also towards the norms and values of the collectivist community they live in. Hence, maintaining discipline aligns with these values and is necessary for the smooth functioning of the class and effective learning. From a different perspective, the teacher's linguistic sensitivity was another compelling facet of the results. Her use of funny and spontaneous vernacular (Neff & Dewaele, 2023) exposed learners to authentic uses of the language. It made them perceive her as a language role model indicating her positive influence on their learning motivation. Moreover, an interesting finding surfaced when students were questioned about the significance of their teacher's American accent. Although they found proficiency to be important, accent did not hold the same status, contradicting previous findings such as Sarani et al. (2019). One explanation could be that they valued her character, teaching style, relationship, and overall classroom management more. This finding highlights that emotional connections with students can take precedence over linguistic factors for effective EFL teaching (Cuddy et al., 2008). Another significant observation was that while the students had a fairly good command of the language, the teacher still used some Arabic as a communication method. However, it was used differently than cases reported in the literature which focused on communicating explanations and facilitating comprehension within Saudi educational contexts (Alharbi, 2019). The local language in this study was utilized to validate linguistic and cultural heritage and promote cultural identity. Consequently, both uses of vernacular enhanced memory retention and created a sense of familiarity and trust. This type of language use enhanced the teacher's credibility and could explain the positive engagement, satisfaction, and motivation reported. She knew how to effectively reach her Arab students and make them more receptive to learning.

While the previous four themes directly respond to the first research question by identifying behaviors that enhance student engagement and motivation. Their interconnectedness and cumulative influence on EFL students in higher education as well as the shift in social development in Saudi Arabia addressed the second question. The perception of the teacher's triadic characteristics led to positive learning experiences very similar to those identified previously in the literature (Guo et al., 2022; Liu, 2021; Vanderheiden, 2023). These include information retention, heightened subject interest, willingness to attend classes, more risk-taking communication, increased rapport, and enhanced engagement. These shared perceptions became the catalyst for the success of the learning process in this study. Interestingly, it is worth remembering that the country is collectivist in nature (Shoaib & Zahran, 2021), which could have strengthened their reception to these traits (Wang et al., 2022). However, while they are also considered a low-immediacy Eastern culture (McCroskey et al., 1996), the

students still showed a strong connection to their immediate, pedagogical loving teacher and reported positive experiences. Finally, the learners cautioned that less immediate or credible behavior that was not based on pedagogical love could suppress inquisitive learning and lead to negative academic experiences as mentioned by Claus et al. (2012).

On a final note, the study provides new insights on the shifting roles of educators in the generation gap (Mikušková, 2023). It has shown that teachers in the Saudi Arabian higher education setting can significantly impact levels of respect, empathy, and emotional bonding. Specifically, it highlights that younger teachers who have matured in an evolving global landscape appear to have a more modern understanding of learning, which incorporates intellectual growth as well as emotional and social development. They often adopt a more humanistic approach to teaching, in contrast to some older instructors who still use traditional methodologies that predominantly focus on academic knowledge and rigid classroom rules. Recent social developments in Saudi Arabia has resulted in a more global and liberal outlook that has directly impacted generations of traditions and beliefs (Ryan, 2023). This shift signals a potential local evolution in teaching practices towards a style that values socio-emotional aspects of learning. Therefore, bridging this generational gap through professional development and training programs is critical, as emphasizing these new pedagogical approaches can align teaching practices across generations, break socio-cultural barriers, and enhance educational outcomes.

6. Conclusion

By delving into the teacher-student relationship through a qualitative lens, the study has shed light on a less-explored topic in pedagogy, contributing to the broader understanding of EFL educational dynamics. This investigation identified and addressed two research questions. Consequently, several primary findings were highlighted. Of importance, the study found that immediacy, credibility, and pedagogical love, when collectively interconnected, promote a safe, encouraging, and motivational learning environment that can help improve academic success in EFL settings. Another finding relates to prioritizing emotional connections with students as they supersede linguistic goals thus highlighting the significance of injecting cultural and social beliefs in pedagogy. Moreover, the constructive role of vernacular in validating cultural identity, the sense of belonging, and the impact of a role model is equally important. It also highlights the perception of respect in Middle Eastern contexts and its ability to influence students when received from an authoritative figure. Furthermore, it identified the critical influence of teacher energy, both in its physical and intellectual manifestations, on student acceptance of the learning environment. Finally, the study emphasizes a generational shift in teaching approaches in favor of a more modern, humanistic style. Thus, there is a need for professional development to reconcile these elements to promote effective communication with language learners and improve educational outcomes.

To conclude, this research serves as a starting point for future discussions surrounding the collective use of the three above mentioned dispositions and the unique cultural elements that directly impact teaching environments in the Middle East. Nevertheless, certain limitations warrant consideration. The relatively modest sample size and the focus on only one instructor may limit the study's generalizability, offering a narrow perspective on the potential impact of teachers in the EFL context. Furthermore, the research focused on female participants, neglecting the potential diversity of male perspectives. Another limitation is the exclusive focus on a specific academic level which restricts the study's applicability across different educational tiers. Future research could explore how the examined dispositions evolve across diverse academic stages, genders, and geographic locations. Given the importance of this area of investigation, more comprehensive qualitative and quantitative approaches could yield richer data. A broader examination of the triadic relationship, conducted by researchers with diverse professional backgrounds, and global contexts could provide a broad perspective. Incorporating teacher viewpoints could further enrich the discourse while delving into gender-based behavioral norms and social interactions presents an avenue for future studies. In conclusion, advocating for the integration of such important dispositions into the Middle Eastern higher education system is essential to optimize learner motivation and engagement through inspiring learning environments.

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A comparative study of gender representation in junior high school EFL textbooks of Hong Kong and Japan

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Abstract

This study aims to investigate the representation of gender and the presence of male dominance in spoken discourse in two selected English Language textbooks for junior high school year one students: *Longman English EDGE (2nd Edition) 1A* and *1B* in Hong Kong, and *New Horizon: English Course Book 1* in Japan, respectively. This research employs both qualitative and quantitative analyses to examine the content of dialogues in each unit. Key areas of analysis include the number of domestic and occupational roles assigned to male, female, and gender-neutral characters, the range of activities undertaken by these characters, the character initiating conversations, the occurrence of males, females and gender-neutral characters in dialogues, and the number of spoken words and turns by them. The findings indicated an improvement in gender equality in both textbooks in various aspects, compared with other earlier textbooks which were examined by other researchers (Lee & Collins, 2008, 2010; Lee, 2018). In terms of role allocation and activities, a relatively balanced representation of male and female characters was observed. Female characters demonstrated a higher frequency of initiating conversations and taking turns. The average number of words spoken per turn by male and female characters was similar in the *LE1A* and *LE1B* textbooks, but male characters still spoke more per turn in *NH1* textbook despite female characters taking more turns. Moreover, *LE1A* and *LE1B* employed gender-neutral names to mitigate gender stereotypes but gender-neutral names were not utilized in the Japanese textbook, despite the author's effort to achieve gender equality. Considering these findings, this study reveals that male characters were underrepresented in the textbooks in Hong Kong and suggests that it is crucial to enhance gender awareness among English as a Foreign Language (EFL) teachers, provide explicit gender-sensitive instruction, and establish specific guidelines by educational authorities to assist textbook authors in creating gender-inclusive educational materials.

Keywords gender equality, gender representation, Hong Kong, Japan, comparative analysis, EFL textbooks

1. Introduction

The phenomenon of gender stereotypes in textbooks has been identified as a pervasive concern across different nations (Davis, 1995; Blumberg, 2008). Law and Chan (2004) stated that the internalization of gender-based stereotypical differences and inequalities by individuals can be attributed to a range of socialization agents such as schooling and other social processes. In schooling, textbooks are instrumental in transmitting cultural norms and values, whether intended or unintended, in the form of a hidden curriculum (Lee, 2019).

Gender is a socially constructed concept that varies across societies and is related to culture and the division into masculinity and femininity. Given that gender studies in the context of Asian cultures are relatively sparse (Prieler & Centeno, 2013), most of the textbooks chosen for analysis were relatively outdated (Sakita, 1995; Au, 2004; Lee & Collins, 2008) and gender-neutral characters were excluded (Lee & Collins, 2008, 2010; Yang, 2011), this

study aims to compare how male, female and gender-neutral characters are represented in two series of contemporary Hong Kong and Japanese English language textbooks for the first-year junior high school students. This study is guided by the research questions below:

1. Whether male dominance exists in the spoken discourse in the two EFL textbooks, *Longman English EDGE (2nd Edition) 1A* and *1B* and *New Horizon: English Course 1*, in terms of the mean length of utterance and the number of words spoken, and the number of turns taken by male, female and gender-neutral characters. Additionally, what is the frequency of male, female and gender-neutral characters initiating the conversations first? Lastly, what is the distribution of male, female, and gender-neutral characters in terms of initiating conversations in the dialogues?

2. How does gender representation appear in the EFL textbooks, *Longman English EDGE (2nd Edition) 1A* and *1B*, and *New Horizon: English Course Book 1* in relation to the domestic and occupational roles played by male, female and gender-neutral characters. Furthermore, how

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diverse are the activities in which these characters are engaged?

2. Literature Review

2.1. Gender and Sex

While sex pertains to the biological differences that distinguish males, females (Bulter, 1990), gender is a social or cultural construct that involves the ascription of certain traits to a particular sex (Litosseliti, 2006).

2.2. Gender Equality in Hong Kong and Japan

Gender equality has been advocated since the establishment of The Equal Opportunities Commission (EOC) in 1996. It aims to create a pluralistic and inclusive society free of discrimination, with no barriers to equal opportunities, and gender equality is one of the major concerns (EOC, 2023). According to the report on gender equality in Hong Kong in 2021, there are more women than men in Hong Kong. The sex ratio (number of males per 1,000 females) declined from 971 in 2006 to 910 in 2021 (excluding foreign domestic workers). Regarding education, the proportion of females (aged 15 and above) who attained secondary education or higher was 79.4% in 2021, which was lower than the corresponding figure of 85.4% for males. Additionally, in the 2021/22 academic year, the enrolment of female students (52.0%) in higher education programs supported by the University Grants Committee surpassed that of male students (48%). Despite advancements in educational opportunities over recent decades, women still face disparities compared to men in terms of economic participation, employment earnings, political and public representation, as well as access to high-ranking executive and professional positions.

Widely known as a male-dominated society, gender inequality has been a long-established issue in Japan. It was ranked 120 out of 156 developed countries in the Global Gender Gap Index (GGI) Report issued by World Economic Forum (2021), which measures the gap between gender representation in political, economic and education sectors. It is evident that the Japanese government has made prominent effort in various aspects to promote a 'gender-equal' society and to improve the status of women in the last few decades (Lee, 2018). The establishment of Gender Equality Bureau (GEB) in 2001 aims to formulate plans and policies on the quest for gender equality. With the collaboration with other ministries, including Ministry of Education, Culture, Sports, Science and Technology, GEB has implemented numerous policies on fostering positive attitude towards mutual respect, cooperation and equality between men and women, as well as promoting women's active participation in economic activities (Gender Equality Bureau, n.d.). Despite the intensive enactment of relevant policies for gender equality and women empowerment, the Basic Policy on Gender Equality and Empowerment of Women (2023) reported that the proportion of females attaining top executive positions in Japan was 8.8% as of 2022 which was significantly lower than that of males holding top management positions. The gender imbalance

in upper management positions and unsatisfactory GGI ranking indicate that further efforts are needed to progress towards the realization of 'gender-equal' society in Japan.

2.3. Content Analysis

Content analysis is a quantitative method which involves the counting of frequencies of occurrence of certain selected features (Franzosi, 2008). These features include the frequency with which male and female characters appear (Hellinger, 1980; Gupta and Lee ,1990; Lee & Collins, 2009; Amini & Birjandi, 2012), their respective occupational and domestic roles (Hartman & Judd, 1978; Gupta & Lee ,1990; Sakita, 1995; Barton & Sakwa, 2012), and their distinguishing traits and characteristics (Sakita, 1995; Evans & Davies 2000; Kobia, 2009).

2.4. Discourse Analysis

Discourse analysis focuses on the content expressed through language (McEnery, Xiao, & Tono, 2006) and investigates gender representation through dialogues. The investigation will typically entail an analysis of various factors, including the total word count of male and female characters, the mean length of their respective utterances, and the number of turns they take in the dialogues (Jones, Kitetu, & Sunderland, 1997; Mukundan & Nimehchisale, 2008).

2.5. Previous Studies (Hong Kong and Japan)

The representation of gender roles in educational materials has been a topic of increasing interest in recent years. In this section, this paper will explore studies that examine how gender is presented in educational materials in Hong Kong and Japan respectively. To be specific, section 2.5.1 presents studies from Japan and Hong Kong that reveal the prevalence of gender stereotypes in textbooks, with women often portrayed in subordinate and stereotypical roles. On the other hand, section 2.5.2 presents studies that highlight some progress in gender representation, such as the increased visibility of women visually and textually, and the use of more gender-neutral pronouns in recent textbooks. These studies provide valuable insights into the ways in which gender is represented in educational materials and the progress that has been made towards gender equality in these contexts.

2.5.1. Studies Presenting Gender Stereotypes in Asia – Hong Kong and Japan

Sakita (1995) analyzed ten EFL high school textbooks published between 1989 and 1992 in Japanese secondary schools. She adopted both quantitative (content analysis) and qualitative analysis. Examples of gender inequity were observed, such as the underrepresentation of women and their tendency to be portrayed in subordinate positions or with stereotypical jobs that assist men. This inequity was also reflected in the linguistic features such as the use of adjectives and activity descriptions. The stereotypical gender roles were evident in the association of certain traits with men and women. Specifically, in these ten textbooks, men were typically associated with physical

strength, body size, and reputation, whereas women were associated with traits such as weakness, emotion, attractiveness, and domesticity.

Another case study examining a Business Japanese textbook, *Kacho*, undertaken by Thomson & Otsuji (2003) consistently substantiates the hypothesis that Japanese women were underrepresented in educational materials; they adopted a discourse analysis to count the turns male and female characters take and the roles they play. Their findings revealed male characters dominated the discourse, taking 179 out of a total of over three quarters of all turns, while female characters had only 57 turns. Moreover, the female characters were limited to subordinate and domestic roles such as a wife, daughter, subordinate colleague, and secretary, which implied the perpetuation of male dominance and the invisibility of women in the discourse. The discursive feature and roles reinforced a subordinate position for women in Japan.

Similarly, Au (2004) analyzed the gender representation in three primary English Language textbook series in Hong Kong, namely *New Welcome to English (2nd edition)*, *Integrated Primary English (TOC edition)*, and *New On Target*. The investigation revealed the textbooks portrayed males and females in a traditional manner, with the husband/father being depicted as the decision maker while the wife/mother was often portrayed as more passive. Additionally, Au (2004) conducted interviews and observations of teachers and students, and discovered many of them reinforced the gender stereotypes in the textbook dialogues by enacting the same gender roles during role-playing exercises in the classroom. This study corroborates the findings of the two studies above (Sakita, 1995; Thomson &Otsuji, 2003) that gender stereotypes were prevalent in textbooks in Japan and Hong Kong.

2.5.2. Studies Showing Improvement in Gender Representation in Hong Kong and Japan

Lee & Collins (2008) conducted an empirical study comparing twenty English Language textbooks published and used in Hong Kong secondary schools in the late 1980s – 2000s. They employed content, linguistic and visual analysis to consider differences in gender representation and the use of gender neutral language in these twenty textbooks. In terms of character types and frequency, Lee & Collins (2008) conducted content analysis to compare the twenty textbooks. A statistically significant difference was found for an obvious reduction in the numerical dominance of male characters. The ratio for the total number of female to male mentions in recent and earlier textbooks was 1:0.96 and 1:1.69 respectively, indicating a more even spread of the number of female and male mentions in textbooks. However, women have been depicted in a narrow range of social roles, predominantly as homemakers, in earlier and more recent textbooks. In visual representations, women have been comparatively underrepresented, with males being described as more dynamic and athletic. Their findings corroborate those of another empirical research (Yang, 2011) about gender representation in a Hong Kong primary English Textbook series, *New magic*, published in 2008. She found that

males and females were almost equally represented and were portrayed in a similar range of activities. Females were also visible in both illustrations and texts. The increased visibility of women both visually and textually was also confirmed in Lee's comparative study (2014) about two English language textbooks series published in 1988 and 2005 respectively. However, the findings still revealed a perpetuation of some stereotyped images of two genders.

Moreover, Lee & Collins (2009) compared ten Australian books with ten Hong Kong English language books for secondary school students and obtained the similar results that the Hong Kong writers, comparatively, adhered to the customary practice of presenting male nouns first, while portraying women in a narrower spectrum of social roles and perpetuating stereotypical notions of women as being weaker, more submissive, and confined to domestic spheres, despite the Hong Kong writers paying more heed to the inclusion of females visually. The Hong Kong writers made greater use of the dual pronoun he/she in textbooks than their Australian counterparts.

Linguistically speaking, in Lee & Collins' study (2008), the assumption that more gender-neutral generic pronouns would be used by recent textbook writers was confirmed as masculine generic pronouns are far less frequent in the textbooks (29 tokens) than in the earlier textbooks (53 tokens). However, when two nouns are paired by sex, men have tended to be mentioned first, except in the case of a fixed phrase, in these twenty textbooks.

Some improvement was also evident in Lee's corpus study (2018) about two series of EFL textbooks for senior high school students published in Japan in 2011, *Orbit* and *Unicorn*. The study revealed the presence of certain indications of gender equality, such as the widespread employment of gender-neutral language, exemplified by terms such as "salesclerk" and "waitperson" and the use of the gender-neutral "Ms" for women. Nevertheless, the persistence of the male-first phenomenon in modern Japanese textbooks suggests the continued subordinate position of women.

To summarize, in section 2.5.1, studies from Japan and Hong Kong showed that gender stereotypes were prevalent in educational materials, with women often portrayed in subordinate and stereotypical roles. Section 2.5.2 presents studies that confirmed the persistence of gender stereotypes and the phenomenon of prioritizing male nouns in Hong Kong and Japan. However, the studies also highlighted some progress, such as the increased visibility of women visually and textually, and the use of more gender-neutral pronouns in recent textbooks. As the previous studies focused on male and female characters only, and the textbooks published in or before 2011, this study will include gender-neutral characters and examine three types of characters (male, female and gender-neutral) in the recently published textbooks series *Longman English EDGE (2nd Edition) 1A and 1B* and *New Horizon: English Course Book 1* in Hong Kong and Japan using content and discourse analysis.

3. Research Methodology

3.1. Textbook Selection

The two series of EFL textbooks, *Longman English EDGE (2nd Edition) 1A (LE1A) and 1B (LE1B)* published by Pearson in Hong Kong in 2023 and *New Horizon: English Course Book 1 (NH1)* published by Tokyo Shoseki in Japan in 2021, were selected (see Table 1). They were chosen because of their representativeness and popularity. They are recommended by the Education Bureau in Hong Kong and the Ministry of Education, Culture, Sports, Science and Technology (MEXT) in Japan, and widely used in the first-year junior high English language classrooms.

Table 1. Hong Kong and Japanese EFL textbooks analyzed

Textbook	Target	Units	Pages
LE1A	Junior High	4	114 (excluding Appendix)
LE1B	Junior High	4	112 (excluding Appendix)
NH1	Junior High	12	131 (excluding Glossary & Appendix)

3.1.1. Longman English EDGE (2nd Edition) 1A and 1B

LE1A and *LE1B* are textbooks widely used by junior secondary one students in Hong Kong. The textbooks incorporate eight comprehensive units, each centered around popular and engaging topics such as school life, sports, and leisure activities, and align with the latest curriculum framework set by the Education Bureau (EDB) that students should be aware of issues related to social justice and gender equality (CDC, 2018).

3.1.2. Tokyo Shoseki New Horizon: English Course Book 1

New Horizon: English Course is a series of three textbooks (Books 1 – 3) which has long been one of the most commonly used authoritative textbook series for junior high school students in Japan (Gendered Japan, 2017). In response to the nature of this study, only *New Horizon: English Course Book 1 (NH1)*, which is used by the first-year junior high school students, was selected to be compared to *LE1A* and *LE1B*. This textbook consists of

twelve themed units, each of which encompasses various texts and target language features aiming to equip students with the four language skills: reading, writing, listening and speaking.

3.2. Methodology

To answer the research questions, this research aimed to compare various aspects of the selected textbooks *LE1A* and *LE1B* and *NH1* both quantitatively and qualitatively. These aspects included counting and analyzing the content of dialogues in each unit, the number of domestic and occupational roles by male, female, and gender-neutral characters, the different activities undertaken by these characters, the character initiating the conversation, the occurrence of males and females in dialogues, and the number of spoken words and turns taken by male, female, and gender-neutral characters. The subsequent sections will present and discuss the findings, thus providing the implications for gender equality in educational materials, language teaching, and the design of educational materials.

4. Findings and Discussion

In terms of the content analysis of the selected textbooks, *LE1A* and *LE1B* mainly focus on aspects of daily lives of students, with an emphasis on their personal experiences and school-related topics such as self-introduction, sports, hobbies, food, and holidays (see Appendix 1). Most of the activities were conducted in the family or school setting because these topics specifically cater to junior form students. The engagement of male, female, and gender-neutral characters is relatively equitable. The textbooks provide a well-rounded exploration of the daily activities while maintaining a fair representation of the three types of characters. *NH1* provides similar content with the primary focus on gaining meaningful experiences related to students' school and social life (see Appendix 2). Both male and female characters engage actively in a range of activities, such as making new friends from foreign countries, talking about cultural activities, and sharing memorable moments with others. It is worth noting that gender is clearly portrayed as either man or woman in the chosen Japanese textbook with the exclusion of gender-neutral characters.

Table 2.1 Domestic and occupational roles of male, female and gender-neutral characters in dialogues in LE1A and LE1B

	Longman English EDGE 2nd Edition (1A and 1B)		
Units	Domestic roles and occupational roles	Male (number of occurrences)	Female (number of occurrences)	Gender-neutral / Not specified (number of occurrences)
Unit 4	Parents			1
Unit 2	Cousin	2		
Units 2, 4	Aunt		2	
Units 5, 6	Grandmother		2	
Unit 7	Grandfather	1		
Unit 7	Brother	1		
Unit 7	Mother		1	
Unit 8	Sister		1	

Unit 8	Father	1		
Total		5	6	1
Units 1, 5	Teacher	1	1	
Units 1, 4	Student	1	1	7
Unit 2	Reporter	1		1
Unit 2	Photographer	1		1
Unit 2	Martial arts coach	1		
Unit 2	Vlogger			1
Unit 3	Coach	1		1
Unit 4	Writer			2
Unit 5	Cook		2	
Unit 8	Internet influencer	1		
Total		7	4	13

Table 2.2 Domestic and occupational roles of male, female and gender-neutral characters in dialogues in NH1

	New Horizon: English Course Book 1			
Units	Domestic roles and occupational roles	Male (number of occurrences)	Female (number of occurrences)	Gender-neutral / Not specified (number of occurrences)
Unit 6	Brother	1		
	Daughter		1	
	Father	1		
Unit 9	Cousin		1	
Total		2	2	
All units	Student	22	26	
Units 0, 2, 4, 7, 9, 10, 11	Teacher	3	5	
Unit 4	Police officer	1		
Unit 7	*Rakugo* performer		1	
Unit 9	Doctor		1	
Unit 9	Tourist		1	
Unit 9	Hiker	2		
Unit 11	Server	1		
Total		29	34	

In *LE1A* and *LE1B*, the roles of male, female and gender-neutral characters were examined in their conversations. Table 2.1 provides an overview of the domestic and occupational roles mentioned in the dialogues in these two textbooks. Concerning domestic roles, a balanced proportion of domestic roles to male and female characters was observed, suggesting that females are not confined to domestic roles or responsibilities as the textbook authors also assigned a relatively equitable number of domestic roles to male characters. As for occupational roles, the textbooks exhibited a notable level of diversity, encompassing different professions such as vlogger, photographer, teacher, writer, and the like. It is worth-highlighting that more than half of these occupational roles were played by the gender-neutral characters, exceeding the total number of occupational roles played by male and female characters. The findings show an obvious improvement that the authors encourage equal opportunities for different occupations for individuals irrespective of their gender identity.

Similarly, the proportion of domestic roles to male and female observed in *NH1* is equally distributed (see Table 2.2). When it comes to occupational roles, both males and females played the role of teachers. The other roles played by female characters included *Rakugo* performer, doctor and tourist while male characters took the roles of police officer, hiker and server. Both domestic and occupational roles were clearly assigned to either male or female characters, so none of them were played by gender-neutral characters. One distinctive observation was that women tended to take the roles of showing care (i.e., doctor) and being artistic (i.e., performer) whereas men tended to play the authoritative role (i.e., police officer) and adventurous role (i.e., hiker). It was deemed salient that gender stereotype in occupational roles was demonstrated in this Japanese textbook.

Table 3.1 Range of activities performed by male, female and gender-neutral characters in LE1A and LE1B

Units	Activities	Male (number of occurrences)	Female (number of occurrences)	Gender-neutral / Not specified (number of occurrences)
Longman English EDGE 2nd Edition (1A and 1B)				
Unit 1	Talking to a student	1		
Units 1, 3	Explaining to a teacher / student			2
Unit 1	Scolding a student		1	
Units 1, 3	Giving instruction / Assigning tasks to students		1	1
Units 1, 2, 3, 4, 5, 6	Chatting with friend(s)	4	8	12
Unit 2	Interviewing	1		1
Unit 2	Collecting things (miniatures, comic books)		1	1
Unit 2	Taking photos	1		1
Unit 2	Doing martial arts / Kung Fu	2		
Unit 2	Doing calligraphy		1	1
Unit 2	Vlogging			1
Unit 3	Fencing			1
Unit 4	Cycling	1		1
Unit 4	Playing badminton		1	
Unit 4	Visiting a place (e.g., museum, country park) / travelling	1	3	2
Unit 4	Seeing a film	1	1	
Unit 4	Discussing books			1
Unit 4	Camping		1	1
Unit 5	Cooking / making food		1	
Unit 5	Doing groceries			1
Unit 6	Having a reunion dinner	1		
Total		13	19	27
Percentage		22%	32.2%	45.8%

Table 3.2 Range of activities performed by male, female and gender-neutral characters in NH1

Units	Activities	Male (number of occurrences)	Female (number of occurrences)	Gender-neutral / Not specified (number of occurrences)
New Horizon: English Course Book 1				
Unit 0	Getting to know a new classmate	1	2	
Unit 0	Giving instructions / Assigning tasks to students		1	
Unit 1	Making new friends	1	1	
Unit 1	Talking about sports	2	2	
Unit 1, 3	Playing badminton		2	
Unit 1, 4,	Talking about sports	1	3	
Unit 2	Introducing a new student/teacher	2		
Unit 2	Talking about neighborhood	1	1	
Unit 2, 4	Talking about eating habit	2	1	
Unit 3, 8	Taking videos	1	1	
Unit 3	Playing musical instrument	1		
Unit 3, 9	Asking for directions		2	
Unit 3, 9	Giving directions	2		
Unit 4	Talking about weather	1	1	
Unit 4	Talking about animals	1	1	

Unit	Activity			
Unit 5	Jogging	1		
Unit 5	Dancing	1		
Unit 6	Scuba diving	1		
Unit 6	Talking about food	1	1	
Unit 6	Reading comic books		1	
Unit 6	Asking for help		1	
Unit 7	Talking about performers	1	1	
Unit 7	Watching performing arts	2	1	
Unit 7	Feeling sick		1	
Unit 7	Talking about scary things	2	1	
Unit 8	Watching TV		1	
Unit 8	Inviting friends	1		
Unit 8	Preparing a surprise party	2	1	
Unit 8	Writing a birthday card		1	
Unit 8	Cooking	1		
Unit 9, 11	Talking to a student	1	1	
Unit 9	Talking about the future		1	
Unit 9	Listening to a presentation	1	1	
Unit 9	Hiking	2		
Unit 10	Talking to a teacher	1		
Unit 10	Travelling		1	
Unit 10	Talking about New Year's Day		2	
Unit 11	Talking about experience of playing sports	1		
Unit 11	Talking about camping	1		
Unit 11	Talking about school memories	1	1	
Unit 11	Taking order	1		
Unit 11	Ordering food		1	
Total		37	36	0
Percentage		50.7%	49.3	0

The authors of *LE1A* and *LE1B* included a diverse range of both indoor and outdoor activities in various contexts. Table 3.1 summarizes the activities performed by the characters. Gender-neutral characters were actively involved in the majority of these activities, accounting for 45.8% of the total activities. Female characters participated in approximately one-third of the activities, while male characters had the least involvement, constituting only 22% of the activities. The inclusion of gender-neutral characters in a significant portion of the activities indicated a less gender-based categorization of activities, thus challenging traditional gender roles. For instance, gender-neutral characters undertook traditionally female-associated tasks, such as grocery shopping. Furthermore, certain activities in the textbooks demonstrated power dynamics, including the act of giving instructions, assigning tasks, or scolding a student. These activities were performed by female characters, suggesting a subversion of a power relationship between male and female characters. However, it is noteworthy that some activities traditionally associated with masculinity, such as engaging in martial arts in unit 2, were performed by male characters only. Conversely, activities such as socializing with friends exhibit a stark gender disparity, with female characters engaging in these interactions significantly more frequently than their male counterparts. These findings suggest that men were more dynamic and sporty, while women were more static and talkative. However, the aforementioned activities were limited to a few instances, and therefore their impact may not be of significant importance and magnitude. Overall, these implications in this section highlight the authors' efforts to defy gender stereotypes through the engagement of characters in different activities.

In *NH1*, both male and female characters are equally active in participating in a variety of indoor and outdoor activities which are outlined in Table 3.2. Male characters accounted for 50.7% of the total number of activities, while female characters accounted for 49.3% of it, which is slightly less than that of male characters. This even distribution suggests that the authors intentionally strike a balance between male and female characters in terms of the engagement in these activities. As one's personality is correlated with his or her performance of particular

activities, the authors also portrayed both genders as robust and outgoing individuals who participate in sport activities and mingle with the others in a social context. Although the engagement of activities was quantitively balanced among male and female characters, two gender stereotypical activities associated with men and women's personal qualities, including giving directions and asking for directions respectively, were identified in units 3 and 9. Conventionally, men have better navigational skills and sense of direction compared to women. This implies that there is still bias towards both genders in terms of particular personal qualities which may further reinforce the gender stereotypical ideology.

Table 4.1 The character who starts the conversation first (per dialogue) in LE1A and LE1B

Longman English EDGE 2nd Edition (1A and 1B)	Male first	Female first	Gender-neutral first
Unit 1	1	0	2
Unit 2	2	2	2
Unit 3	0	0	3
Unit 4	1	3	3
Unit 5	0	2	1
Unit 6	0	1	1
Unit 7	1	1	0
Unit 8	1	0	1
Total	6	9	13
Percentage	23.4%	32.1%	46.5%

Table 4.2 The character who starts the conversation first (per dialogue) in NH1

New Horizon: English Course Book 1	Male first	Female first	Gender-neutral first
Unit 0	2	2	0
Unit 1	1	2	0
Unit 2	2	1	0
Unit 3	0	3	0
Unit 4	1	3	0
Unit 5	1	2	0
Unit 6	1	5	0
Unit 7	2	3	0
Unit 8	2	2	0
Unit 9	2	2	0
Unit 10	0	2	0
Unit 11	3	1	0
Total	17	28	0
Percentage	37.8%	62.2%	0

Among 28 dialogues in *LE1A* and *LE1B* analyzed quantitatively and qualitatively (see Table 4.1), it was observed that gender-neutral characters initiated the conversation in nearly half of the dialogues, followed by female characters with a lower but significant proportion of dialogue initiations (32.1%). Conversely, the dialogues initiated by male characters constituted the smallest share, accounting for only 23.4%. When it comes to the analysis of 44 dialogues in *NH1* (see Table 4.2), a commonality was found between Hong Kong and Japanese textbooks. Approximately two-thirds of dialogues were initiated by female characters, indicating an imbalance of gender representation in this regard. The findings of both series of textbooks have a few important implications. First, the significant presence of gender-neutral characters in *LE1A* and *LE1B* initiating conversations in nearly half of the dialogues implies that a recognition of individuals who were not identified strictly as male or female provides visibility to non-binary individuals, thereby mitigating gender imbalance and fostering inclusivity in educational materials. Second, a relatively significant proportion of dialogue initiations by female characters in both series of textbooks signified women's active participation in conversations and female empowerment because they took the lead and contribute to the dialogues. Third, the findings that male characters-initiated conversations in the smallest share of dialogues raise questions about the balance of gender representation, which can result in limited portrayal of male characters' perspectives and voices.

Table 5.1 Occurrence of males and females in dialogues (per dialogue) in LE1A and LE1B

Longman English EDGE 2nd Edition (1A and 1B)	Male only	M > F / N	Female only	F > M / N	Equal share (M and F)	Gender-neutral only	Equal share (M and N)	Equal share (F and N)
Unit 1	0	0	0	0	0	1	1	0
Unit 2	0	0	0	0	2	0	2	2
Unit 3	0	0	0	0	0	1	0	2
Unit 4	0	0	1	0	0	0	2	4
Unit 5	0	0	1	0	0	2	0	0
Unit 6	0	0	0	0	1	1	0	0
Unit 7	0	0	0	0	2	0	0	1
Unit 8	0	0	0	0	1	1	0	0
Total	0	0	2	0	6	6	5	9
Percentage	0	0	7.2%	0	21.4%	21.4%	17.9%	32.1%

Table 5.2 Occurrence of males and females in dialogues (per dialogue) in NH1

New Horizon: English Course Book 1	Male only	M > F / N	Female only	F > M / N	Equal share (M and F)	Gender-neutral only	Equal share (M and N)	Equal share (F and N)
Unit 0	0	0	1	0	3	0	0	0
Unit 1	0	0	1	0	2	0	0	0
Unit 2	0	1	0	1	1	0	0	0
Unit 3	0	0	1	0	2	0	0	0
Unit 4	0	0	0	1	3	0	0	0
Unit 5	0	0	0	1	2	0	0	0
Unit 6	0	0	0	0	5	0	0	0
Unit 7	0	2	0	0	3	0	0	0
Unit 8	0	0	0	0	4	0	0	0
Unit 9	1	0	0	0	3	0	0	0
Unit 10	0	0	1	0	1	0	0	0
Unit 11	0	0	0	0	4	0	0	0
Total	1	3	4	3	33	0	0	0
Percentage	2.3%	6.8%	9.1%	6.8%	75%	0	0	0

In *LE1A* and *LE1B*, a total of 28 dialogues were identified in the main reading passages and post-reading exercises for analysis. These dialogues featured various combinations of interlocutors, including only female characters, a male character and a female character, only gender-neutral characters, a male character and a gender-neutral character, and a female character and a gender-neutral character, respectively. Table 5.1 presents a breakdown of the dialogue compositions. Notably, dialogues featuring a female character and a gender-neutral character accounted for nearly one-third of the dialogues in the two textbooks. The number of dialogues featuring a male and a female character was equivalent to those consisting of solely gender-neutral characters, with each constituting 21.4% of the total. Dialogues featuring a male character and a gender-neutral character comprised 17.9%, while those featuring only female characters constituted 7.9%. It is worth highlighting that there were no dialogues featuring only male characters or a greater proportion of male characters compared to female and gender-neutral characters, indicating the absence of male dominance in these two textbooks.

The same approach was applied to analyze the dialogues featuring various combinations of interlocuters found among the total of 12 units in *NH1*. As demonstrated in Table 5.2, the dialogues featuring equal share of male and female characters constituted 75% of the total dialogues analyzed. Neither men nor women were regarded as dominant interlocutors in the dialogues illustrated in each unit. This gender-balanced participation revealed that both male and female characters possess equal opportunity to engage in the mixed-gender conversations. As the mixed-gender dialogues were found in each unit, it is believed that the authors tend to promote a balanced gender representation in a consistent manner.

Discourse Analysis

This study involved a quantitative analysis of the total words spoken, turns taken and the average words spoken per turn by male, female, and gender-neutral characters in the dialogues. The assumption was that characters with more utterances would exhibit greater visibility and dominance in the conversation. It should be noted that utterances without accompanying names and gender-indicative pictures were excluded from the analysis. When gender-neutral titles like "reporter" (unit 2) or names such as Chris (units 1, 4, 6) and Alex (units 3, 5, 7) were used without specifying the characters' gender through pictures, these instances were categorized as unisex characters. In *LE1A* and *LE1B*, female characters accounted for the highest proportion of utterances (42.4%), followed by gender-neutral characters (33%) and male characters (24.6%) (see table 10). Regarding the turns taken by these characters, gender-neutral characters had the highest share (41%) but had the lowest average number of words per turn (11.41 words). Female characters accounted for 36.9% of the turns and had the highest average number of words per turn (16.3 words) (see table 6.3). Surprisingly, male characters had the lowest share of turns (22.1%). Despite male characters having relatively fewer turns, male characters had an average of 15.9 words per turn, comparable to that of female characters (16.3 words). The higher proportion of utterances by female characters compared to male characters suggested a positive aspect of gender equality. It provided female characters with adequate visibility and speaking opportunities in the dialogues. Moreover, the inclusion of gender-neutral characters helped avoid reinforcing gender stereotypes and provided representation for individuals who were not identified strictly as male or female. However, the lower percentage of turns taken by male characters indicated a relative underrepresentation or reduced participation of male voices in the dialogues. This raises questions about the balance of gender representation and the extent to which male characters were actively involved in the interactions, given male characters having a similar average number of words per turn as female characters.

The findings on the quantitative analysis of total words spoken, turns taken and the average words spoken per turn by male and female characters in the dialogues in *NH1* were different from those in *LE1A* and *LE1B*. First, as shown in Table 11, male characters constituted 52% of total number of words spoken which was slightly higher than that of female characters (48%). Such slight difference in

utterances exhibits no prominent gender dominance in the Japanese textbook. Second, female characters accounted for 56.1% of the turns taken during conversations and had an average of 6.4 words per turn (see Table 13), while male characters constituted 43.9% of the turns but have a higher average number of words per turn (8.9 words). Similar findings were shared by both Hong Kong and Japanese textbooks. The higher proportion of utterances by female characters compared to male characters indicated a higher degree of visibility which created a positive impact on gender equality. Overall, it seems that there is a growing tendency to achieve gender equality in the Japanese textbook through the construction of mixed-gender dialogues.

Table 6.1 Number of words spoken by male, female and gender-neutral characters in dialogues in LE1A and LE1B

Longman English EDGE 2nd Edition (1A and 1B)	The number of words spoken by male / female / neutral characters in 8 units		
	Male	Female	Gender-neutral
Unit 1	81	76	146
Unit 2	190	378	200
Unit 3	0	63	117
Unit 4	90	174	165
Unit 5	0	257	52
Unit 6	93	53	61
Unit 7	118	105	31
Unit 8	110	71	141
Total	682	1177	913
Percentage	24.6%	42.4%	33%

Table 6.2 Number of words spoken by male, female and gender-neutral characters in dialogues in NH1

New Horizon: English Course Book 1	The number of words spoken by male / female / neutral characters in 12 units		
	Male	Female	Gender-neutral
Unit 0	27	30	0
Unit 1	33	80	0
Unit 2	90	53	0
Unit 3	69	99	0
Unit 4	85	117	0
Unit 5	68	72	0
Unit 6	49	83	0
Unit 7	178	77	0
Unit 8	107	89	0
Unit 9	198	80	0
Unit 10	10	96	0
Unit 11	156	111	0
Total	1070	987	0
Percentage	52%	48%	0

Table 6.3 Number of turns taken by male, female and gender-neutral characters in dialogues in LE1A and LE1B

Longman English EDGE 2nd Edition (1A and 1B)	The number of turns taken by male / female characters in 8 units		
	Male	Female	Gender-neutral
Unit 1	3	3	10
Unit 2	20	13	18
Unit 3	0	6	12
Unit 4	6	14	13
Unit 5	0	19	5
Unit 6	4	4	8
Unit 7	4	7	4
Unit 8	6	6	10
Total	43	72	80
Percentage	22.1%	36.9%	41%
Average words per turn	15.9 words	16.3 words	11.41 words

Table 6.4 Number of turns taken by male, female and gender-neutral characters in dialogues in NH1

New Horizon: English Course Book 1	The number of turns taken by male / female characters in 12 units		
	Male	Female	Gender-neutral
Unit 0	3	4	0
Unit 1	6	16	0
Unit 2	10	11	0
Unit 3	9	21	0
Unit 4	14	16	0
Unit 5	8	10	0
Unit 6	9	10	0
Unit 7	19	15	0
Unit 8	15	17	0
Unit 9	12	7	0
Unit 10	2	12	0
Unit 11	12	13	0
Total	119	152	0
Percentage	43.9%	56.1%	0
Average words per turn	8.9 words	6.4 words	0

5. Limitations

5.1. Small sample size

Only a limited number of textbooks in Hong Kong and Japan were selected for analysis; textbooks for senior forms students are not included in this research; moreover, textbooks in other Asian countries such as Korea and Singapore are not included in this paper. Therefore, the findings of a small sample size of textbooks may not be generalisable to English language textbooks (Lee, 2014) in Asia as cultural and societal norms may differ across different countries.

5.2. Lack of linguistic and visual analyses

One limitation of this research on examining gender equality in textbooks is the overreliance on content analysis and discourse analyses, without incorporating linguistic analysis and visual analyses. Excluding these two analyses can potentially reduce reliability and validity as they can proffer additional evidence for the overall evaluation of gender equality in educational materials. However, as most of the dialogues did not include visual elements in *LE1A* and *LE1B* and therefore visual analysis was not adopted in this research.

5.3. Researcher bias

Taking the potential influence of research bias into account is important when we qualitatively examine gender representation in textbooks. Due to researchers' cultural backgrounds and gender, they may have bias that impacts their interpretation of gender representation. It is possible that researchers may favour or overlook gender roles and stereotypes, thus interpreting the data differently.

6. Pedagogical Implications

6.1. Materials Development

Materials developers play a social role in creating textbooks that are inclusive and diverse. According to Brugeilles & Cromer (2009), compiling a list of characters and noting their attributes enable the assessment of parity, or the equitable representation of genders and their respective roles in both private and public domains (Lee & Collins, 2008). There are four stages monitoring the gender system:

1.	Determine the primary attributes of characters that require monitoring and create a catalog of specific details pertaining to each of these attributes.
2.	Utilize pre-established grids to compile an inventory of characters.
3.	Summarize information on characters and their characteristics using summary tables.
4.	Conduct an analysis of the representation of gender, and if deemed necessary, revise the textbook to promote gender equality.

(Brugeilles & Cromer, 2009, p.49)

Lee (2018) suggested that specific guidelines be compiled by the education authorities to help textbook authors write educational materials; this approach can promote the inclusion of diverse scenarios, prevent the exclusion of one gender and highlight fundamental characteristics that reflect the gender system.

6.2. Raising Gender Awareness of EFL Teachers

Language educators, especially frontline teachers, play a crucial role in promoting gender equality through EFL teaching as it can bring about a fundamental shift in how learners think and act. There is a growing need for training gender-sensitive language educators, including both perspective and in-service teachers (Deutschmann et

al., 2021; Lumadi & Shongwe, 2010). It is suggested that the institutions offering teacher education incorporate theories and practices concerning gender awareness and sensitiveness into curriculum while the government departments and education-related organizations provide relevant teacher professional development programmes and on-the-job training on raising gender awareness among teachers to avoid using sexist language and gender stereotyping content in the classroom.

6.3. Providing Explicit Gender-Sensitive Instruction

According to Sunderland (1994), simply having a non-sexist textbook is not enough to ensure non-sexist teaching and student teachers may not be aware of gender issues or may lack the necessary techniques to address gender issues within textbooks (Kızılaslan, 2010). Therefore, teacher education programs and workshops should focus on developing gender-sensitive approaches (Lee, 2021) to assist both pre-service and in-service teachers in recognizing gender biases and devising strategies to address potential gender disparities in educational materials. To illustrate, in instances where gender stereotypes exist both textually and visually, teachers could opt for explicit instruction (Yang, 2014) to undermine the gendered discourse present in textbooks. For example, teachers can choose to discuss the bias present in texts or reverse the roles in dialogues.

7. Conclusion

The present study has examined qualitatively and quantitatively the gender representation of two series of junior high school EFL textbooks, namely *Longman English EDGE (2nd Edition) 1A and 1B* and *New Horizon: English Course 1*, published in Hong Kong and Japan respectively. It is evident that both Hong Kong and Japanese textbook authors recognize the needs to promote gender equality through constructing mixed-gender dialogues in the textbooks. Since this is a comparative study, the major findings of the analyses are summarized, in terms of similarities and differences. Focusing on the dialogues where spoken discourse is analyzed, both Hong Kong and Japanese textbooks exhibit significant proportions of dialogues initiated by female characters, indicating that women tend to take the initiative to proactively start the conversations compared to their male counterparts. The numbers of turns taken by women in the two series of textbooks also account for a higher share in dialogues regardless the average number of words per turn. The similarities of both textbook series reveal that female characters exhibit greater visibility and dominance in mixed-gender dialogues compared to male characters. The prominent presence of women in dialogue initiation and turn-taking reflects the underrepresentation of men, suggesting that there is a tendency for the quest for gender equality when authoring the EFL textbooks. When it comes to the domestic and occupational roles, the selected textbooks of Hong Kong demonstrate a balanced representation of domestic roles among males and females, and a notable diversity of occupational roles, with gender-neutral characters taking on a significant proportion,

indicating progress towards promoting gender equality across professions. Although the balanced gender presentation of domestic roles was observed in Japanese textbooks, gender stereotype in occupational roles still exists in the Japanese textbook, with women taking the roles in showing care and being artistic and men taking the authoritative and adventurous roles.

The findings from this comparative study on examining gender equality have shed light on a few salient implications for future research. First, the underrepresentation of men in textbooks in Hong Kong suggests that there is a need to further investigate factors contributing to this imbalance and whether the underrepresentation of men is prevalent in other English textbooks in Hong Kong. Secondly, as this research adopted content and discourse analyses, it will be more holistic to incorporate visual and linguistic analyses to examine gender equality or representation in the selected textbooks, or other textbooks in the future research. Additionally, the exclusion of gender-neutral names in Japanese textbooks implies that Japanese textbook authors are still conservative or not aware of the use of gender-neutral names to avoid gender stereotypes. Therefore, a broader range of textbook series in both Hong Kong and Japan should be included to provide a more comprehensive picture of gender representation in educational materials, thereby avoiding overgeneralization.

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Conflict of Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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Appendices

Appendix 1: The theme and content of the units in *LE1A* and *LE1B*

Longman English EDGE 2nd Edition (1A and 1B)	Theme / Title	Content		
		Male	Female	Gender-neutral
Unit 1	Nice to meet you!	**Mr. Lamb**, a teacher, who asked Charlie to explain why he / she was late.	**Mrs Lee**, a teacher, who scolded Pat.	**Pat** , a student **Chris**, a student **Charlie**, a student.
Unit 2	Just for fun!	**Daniel** is interviewing Selina Wu about her hobby – collecting miniatures of people and objects. Reporter is interviewing with a martial arts coach, **Keith**. **Dan** and Pam are talking about vlogging.	Daniel is interviewing **Selina** Wu about her hobby. Ricky and **Emma** are talking about reasons for having hobbies. **Riya** and Joey are talking about comic books.	**Ricky** and Emma are talking about reasons for having hobbies. **Reporter** is interviewing with a martial arts coach, Keith. Dan and **Pam** are talking about vlogging. Riya and **Joey** are talking about comic books.
Unit 3	Sport for all	No male characters.	Frank is talking about his dream last night with **Sara**.	**Frank** is talking about his dream last night with Sara. **Coach** is talking about rules with **Alex**.
Unit 4	Out and about (leisure activities)	**Eric** is talking about his weekend plans with Chris. **Mike** and Sandy are discussing the activity organized by their school's Adventure Club.	Jim and **Laura** are discussing what they will do on the weekend. **Ivy and Annie** are talking about their weekend plans.	**Jim** and Laura are discussing what they will do on the weekend. Eric is talking about his weekend plans with **Chris.** Mike and **Sandy** are discussing the activity organized by their school's Adventure Club.
Unit 5	Tasty treats!	No male characters.	**Amy and Sarah** are talking about making tea leaf eggs.	**Alex** will prepare some strawberry ice cream for the party. **Sandy** will make sandwiches for the party.
Unit 6	Amazing holidays	**Cliff** is chatting with his friend, Heidi about a family reunion dinner.	**Heidi** is chatting with her friend, Cliff about a family reunion dinner.	**Chris** is talking to **Pat** about his / her holidays in Tokyo.

| Unit 7 | Game on | Casey and **her grandfather** are talking about the games he used to play when he was a teenager. | **Casey** and her grandfather are talking about the games he used to play when he was a teenager.

Chole is talking to her friend, Alex about Board and Good, a board game café. | Chole is talking to her friend, **Alex** about Board and Good, a board game café. |
| Unit 8 | Are you online? | **Theo** and Tina are chatting about a mobile app design competition. | Theo and **Tina** are chatting about a mobile app design competition. | **Max and Joey** are talking about Japanese food. |

Appendix 2: The theme and content of the units in *NH1*

New Horizon 1	Theme / Title	Content		
		Male	Female	Gender-neutral
Unit 0	Welcome to Junior High School	**Shota** is getting to know more about his classmates.	**Kana** is greeting Shota. **A teacher** is giving instructions in class. **A student** is talking with Shota about her favorite food.	
Unit 1	New School, New Friends	**Kaito** is greeting Asami. **Kaito** is asking Meg about her favorite sport.	**Asami** is greeting Kaito. **Meg**, who is from Australia, is talking with Kaito about her favorite sport. **Asami** is inviting **Meg** to play badminton with her. **Asami** is praising **Meg** for her badminton skills.	
Unit 2	Our New Teacher	**Mr. Toda**, a teacher, is introducing Ms. Cook to **Kaito**. **Kaito** is introducing **Josh** to Ms. Cook. **Kaito** and Ms. Cook are telling each other about the food they usually have for breakfast.	**Ms. Cook**, a new English teacher from America, is asking Kaito about the neighborhood. **Asami** is asking **Ms. Cook** about where she lives and how she commutes to school.	
Unit 3	Club Activities	**Josh,** a student from the Philippines is telling Meg about the musical instrument he plays and the date and venue of the upcoming concert that he is going to partake in. **Kaito** is talking with Meg about his feelings and dream to be a professional soccer player.	**Meg** is taking videos about club activities at school. **Asami** is telling **Meg** about the things she brings to badminton practice and her practice schedule.	

Unit 4	Friends in New Zealand	**A male police officer** is giving directions. **David**, a student from New Zealand, is talking to Asami in a teleconference. **Kaito** is asking Emma about the animals in New Zealand and her favorite sport.	**Meg** is asking a male police officer for directions. **Ms. Cook** is encouraging **Asami** to talk to David in a teleconference. **Asami** and David are chatting about their meal habits. **Emma**, a student from New Zealand, is telling Kaito about the animals in New Zealand and her favorite sport.	
Unit 5	A Japanese Summer Festival	**Josh** and Asami, who are taking a walk in a park, bump into Meg. **A male student** is playing a guessing game. **Josh** is inviting Asami to dance with him.	**Asami**, who is taking a walk with Josh in a park, bumps into **Meg**. **A female student** is describing an animal to her friend to in a guessing game. **Asami** is going to eat with Josh after dancing.	
Unit 6	A Speech about My Brother	**Kaito** is asking Asami if **Takuya**, her brother, likes scuba diving. **Kaito** is asking Asami if **Takuya** likes Filipino food. **Daiki** is asking Ayaka about her favorite comic book. **Meg's dad** is helping Meg.	**Asami** is showing Kaito a picture of her brother. **Asami** is telling Kaito about her brother's favorite Filippino food. **Rika** is asking Daiki about **Ayaka**'s favorite comic book. **Meg** is asking her dad for help.	
Unit 7	Foreign Artists in Japan	**Kaito** is showing Meg a picture of a *rakugo* performer. **Kaito** is inviting Meg to watch a *rakugo* show. **Josh**, **Kaito** and Meg are waiting to watch a *rakugo* show. **Mr. Toda** is asking Meg to take a rest in the nurse's office. **Eric** and **Mark** are making fun of each other while talking about scary things.	**Meg** is asking Kaito about the language the *rakugo* performer speaks. **Meg** is asking Kaito more about *rakugo*. **Ann**, Eric and Mark are talking about scary things in a cafeteria.	
Unit 8	A Surprise Party	**Kaito** is inviting Meg to his house on the phone. **Josh**, who organizes a surprise party for Meg, is taking a video.	**Meg** is talking to Kaito on the phone. **Asami** is writing a birthday card to Meg.	

		Kaito, **Josh** and Asami are surprising Meg on her birthday.	**Meg** is showing appreciation for Kaito, Josh and **Asami**.	
		Ken is talking to Sally on the phone while cooking dinner.	**Sally** is talking to Ken on the phone.	
Unit 9	Think Globally, Act Locally	**Mr. Toda** is asking Meg to make a speech about her cousin.	**Meg** is telling Mr. Toda about her dream job.	
		Kaito is going to listen to a presentation with Meg.	**Meg** and Kaito are going to listen to a presentation.	
		Kaito is giving directions.	**A female tourist** is asking Kaito for directions.	
		Koichi and **Bob** are discussing the best trail to hike Mt. Fuji.		
Unit 10	Winter Vacation	**Kaito** is asking Ms. Cook about the places she went in London.	**Ms. Cook** is sharing her London trip with Kaito.	
			Asami and **Meg** are talking about the things they did on New Year's Day.	
Unit 11	The Year's Memories	**Kaito** is sharing his memories of being a soccer player with Asami.	**Asami** is asking Kaito about his experience of being a soccer player.	
		Josh is sharing his memories of school camping trip with Ms. Cook.	**Ms. Cook** is asking Josh about his school camping trip.	
		Kaito is making comments on Meg's photo album.	**Meg** is showing Kaito a photo album.	
		A male server is taking Meg's order.	**Meg** is ordering food in a restaurant.	

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ORIGINAL RESEARCH

"I don't want her to lose our mother tongue": A multiple case study of the family language policies of Korean American families

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Abstract

In recent years, Family Language Policy (FLP) researchers have demonstrated the importance and necessity of revealing the language policies of immigrant families to investigate the language learning and maintenance processes of immigrant families and communities. This article contributes to a growing conversation of family language policies by presenting a multiple case study of three Korean American families, which conducted audio and video recorded participant observation and semi-structured interviews of family members. It examined the policies that families develop and employ in order to nurture and maintain their native language in monolingual contexts. Analyses of observations and interviews show that families developed family language policies that are resourceful and effective for language maintenance despite larger social institutions that favored monolingualism. The parents of all families pursued and maintained relationships with other Korean speakers in their extended families and church communities and created a home environment that invited and prioritized their heritage language. The article concludes with implications for immigrant families, communities, and teachers of immigrant-origin children.

Keywords bilingualism, family language policy, heritage language

1. Introduction

In recent years, researchers of language policy have highlighted the sphere of the home in the emerging field of family language policy. In one of the earlier descriptions of family language policy (FLP), King et al. (2008) defined family language policy as "explicit and overt planning in relation to language use within the home among family members" (p.907). FLP focuses on the family unit, not as a neutral space separate from its surrounding context but as a site in which language ideologies of the nested macro-structures of community, school, work, and government are both formed and enacted through everyday parent-child, child-child, and parent-parent interactions.

FLP includes broader issues of national and local policies that influence the home, macro-processes that are often difficult to capture through research in child language acquisition, which focuses on the development of linguistic competence in children. Through a close micro-analysis of the language policies in the home, FLP considers the power and influence of the larger social structures that shape the family members and their community (Curdt-Christiansen, 2013). This comprehensive approach sheds light on broader language policy issues at societal levels by highlighting the broader policies' effects in the home. By tracing and pinpointing language policies at all levels of the home, community, and public space, FLP researchers reveal linkages between private spaces and public places and trace the pressures, conflicts, and developments of individuals as they traverse private and public realms.

FLP has been especially helpful for bilingual families in diaspora and immigrant contexts to see the explicit decisions that are made in the home by parents and children to maintain, learn, or adopt a language (King et al., 2008). This article demonstrates the FLPs of three Korean American families through a multiple case study that focuses on the explicit decisions and policies that parents and children create and negotiate in their homes to nurture their native languages that are often deemed less powerful and relevant than the English language in their social context in the U.S.

Fishman (1972) argued that once the first generation of immigrants set foot in the U.S., it would take three generations for language loss to occur. The children in this study were all third generation Korean Americans. Yet, all three families developed policies and practices that drew from Korean, English, and hybrid forms of Korean and English. As such, this study may shed light on the language practices of immigrant groups that have been growing in number and duration in the U.S. and other multilingual countries. Moreover, this study's findings may draw implications for immigrant groups in pointing to the three families' strategies for language maintenance and their development of hybrid language practices through FLPs.

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2. Literature Review and Theoretical Framework

2.1. Language Maintenance

Researchers have documented efforts of Korean parents and Korean communities in teaching the Korean language to children of immigrants through heritage language schools, family language policies, and Korean communities (Cho, 2000; Cho & Krashen, 2000; Cho & Song, 2023, Jo, 2001; Harris & Lee, 2021; Kim, 2020; Lee, J.S., 2002; Park & Sarkar, 2007). In the current U.S. educational public school system, Korean American children have limited opportunities to learn Korean, which places the responsibility of teaching the Korean language often on family members and communities (Cho & Song, 2023; Tse, 2001). The National Association for Korean Schools (NAKS, 2023) states that there are over 1,200 Korean heritage schools across the 50 states in the U.S. (NAKS, 2023). The parents of two children in this study planned on enrolling their children in Korean language schools as well. While there is a documented effort of Korean parents and communities to maintain Korean, Kim (1981) reported that Korean parents also emphasize learning English as necessary to the educational success of their children.

2.2. The Context of Power

For Korean immigrants and for the three families in this study, the English language was often tied to power. As Bourdieu (1977) explains in his theory of linguistic legitimacy that language is intimately connected to power and a standard or normalized language is one that serves official uses and is tied to social, economic, and political capital. In the history of Korean immigration, the English language functioned as the standard and normalized language through which immigrants might obtain economic and social access to American society. Bourdieu (1977) continued to theorize that speakers who lacked the legitimate language were excluded from domains of power that required this competence. For Korean immigrants who struggled with the English language, they were excluded from domains of power in business, workplaces, and social centers that required knowledge of the English language. English was seen as a prerequisite for immigrants to receive acceptance and integration into the American society, a reality commonly experienced by immigrant groups in the U.S. (Portes & Rumbaut, 1996).

While learning English was viewed as a social and economic advantage, maintaining the Korean language also provided economic, social, emotional, and cultural advantages to Korean families. Korean families sought to continue speaking Korean at home and in Korean institutions, such as Korean churches or Korean cultural groups (Shin, 2005). For Korean families living in the U.S. during the Japanese occupation of Korea, it was critical to maintain Korean ways of life and speaking so that they could return to Korea once it was freed from Japanese rule (Takaki, 1998). Maintaining the Korean language, for these first-wave immigrants, had a patriotic and nationalistic purpose. For the second-wave and third-wave immigrants, maintaining the Korean language had social, cultural, and economic benefits. Speaking Korean was tied to social cohesiveness of Korean communities. Business associations were created for Korean business owners; Korean churches provided services in the Korean language; Korean language radio stations, newspapers, magazines, and websites were made accessible to Korean Americans; ethnic communities and enclaves such as Koreatowns also known as 'K-towns' prospered in California, New Jersey, and New York (Takaki, 1998; Shin, 2005). For instance, the three families in this study participated in Korean churches on a weekly basis, where sermons were preached in Korean and English. The parents of the families regularly browsed Korean websites and showed Korean television programs to their children. The three families also frequented bookstores, grocery shops, and markets in a Koreatown in northern New Jersey.

At the same time, it is important to note the implications of power and language in the three children's lives. Even though the family's homes were a central part of the children's lives, they were also part of a preschool class that had different language policies and practices. As Blommaert (2005) explained, each person is involved in centering institutions at all levels of social life, from the family to the state and even further out to transnational communities. Thus, any individual's social environment is polycentric and involves a range of criss-crossing centers. Not only are the multiple centers polycentric, they are also stratified because every center has a different range and value. Within these polycentric and stratified centers, individuals possess multiple ways of speaking that are ranked in different levels of legitimacy in the multiple linguistic fields they inhabit. Thus, individuals need to acquire different ways of speaking to have a legitimate voice in different fields. This study analyzed how the larger questions of immigration, language maintenance, and language policy shaped the local practices of the family members in the home. It also examined which linguistic repertoires were deemed legitimate in the multiple contexts of the participant and which linguistic repertoires are connected to what types of capital.

2.3. Research Questions

The research questions guiding this study are as follows:
1. What language preferences and practices exist in the participants' different contexts?
2. What policies and practices do participants enact for the purpose of language maintenance?

What do these language practices and patterns reveal about the larger social contexts and balances of power in the lives of the participants?

3. Research Methodology

The present study investigated the locally situated and emergent language practices of the three bilingual children and their families by tracing their creation and use of family language policies. Data were collected through an eight-month ethnography that consisted of field observations, interviews of children and adults in the study,

collection of artifacts, and audio-video-recordings.

3.1. Selection and Recruitment of Participants

The participants were chosen from a preschool Montessori class located in North Valley, New Jersey. Following the sampling methods of Kent (2012), Kim (2009), and No (2011), the current study used a purposeful sample to recruit students from the class to examine a phenomenon in depth. To answer my research questions on the bilingualism and FLPs of families, I enlisted participants who were bilingual. This study drew from the continua of bilingualism approach proposed by Hornberger and Link (2012) to argue that there are multiple ways of being a bilingual person. For example, bilingualism may range from receptive bilingualism, comprehending the spoken language but not producing through speech or writing, to productive bilingualism, producing the language through speech and writing.

In considering the number of participants, the studies of Bhimji (2005) and No (2011) informed this study. For qualitative research, Yin (2003) advised a small number of participants to capture more in-depth analysis of each participant. With the purpose of analyzing the developing directive repertoires of each child with richer detail and greater depth, this study focused on three Korean American children and their families.

The three families who participated in the study were the Kim family, consisting of Bumjoo (father), Bomi (mother), Karis (age 4.7), and her sibling, Ariel (age 1.7); the Chung family, consisting of Daryl (father), Somi (mother), Juri (age 4.5), and her sibling, Sangdo (age 2.11); and the Park family, consisting of Jim (father), Sarah (mother), and Timothy (age 3.8).

3.2. Participant Observation

This study used participant observation to analyze the FLPs used by the participants. Participant observation is a powerful tool for research because it allows the researcher to enter into the participants' worlds. Canagarajah (2009) maintains that participant observation is the researcher's attempt to enter the community and experience the language relationships of community members. By both observing and taking part in the participants' lives, the researcher may understand viewpoints of the participants while collecting data. Furthermore, Gans (1997) argues that participant observation is an effective method for researching minority groups because it can provide empirical data about often stereotyped or less known minority groups by considering the voices of the participants in the group. As a result, participant observation is a method often used by researchers conducting case studies and ethnographies.

I observed the three children's homes for the duration of eight months for a total of 12 observations of at least two hours, which yielded a total of 24 hours per home and a total of 72 hours for all three families. In addition to the 72 hours, the families were asked to video-record their dinnertimes for an hour at least once a week for eight weeks so that there were an approximate total of eight hours per family and a total of 24 hours for all three families (one hour per eight weeks per three families) of

dinnertime recordings. Following the studies of Kent (2012) and Ochs and Taylor (1993), which asked the parents to record family meals so that the researcher's presence did not disturb the family's naturally occurring interactions, this study asked the parents to video record dinnertimes without the presence of the researcher. The total number of recordings included 96 hours (72 daytime hours and 24 dinnertime hours per three families).

For recordings in the home, all field observations were video recorded, and I was present for one hour in each of the three homes for the duration of eight weeks, with a total of 24 hours.

3.3. Interviews with Parents

Semi-structured interviews with parents were conducted to examine the parents' expectations for the child's education in class and at home, goals for language policies, beliefs and attitudes towards the child's developing bilingualism. The purpose of the interviews was also to examine the parents' use of FLPs with their children, their expectations and language policies, and the context of their family's immigration history and trajectory. Following No (2011) and Kim (2009), this study used semi-structured interviews to allow the parents to focus on topics that are of most importance to them. A separate protocol was used for the parents with specific questions related to their expectations for the child's education, goals for FLPs, beliefs, and attitudes towards the child's developing bilingualism in the classroom and at home. The interviews began with a question to 'break the ice' and to assist the parent in becoming comfortable with the interview. Breaking the ice was important because as Cresswell (2007) suggested, qualitative semi-structured interviews may be viewed as conversations. With the purpose of creating an atmosphere that led to comfortable conversations, interviews were held in settings familiar to the interviewee. The interviews began with questions that engaged the interviewee, and the researcher allowed the interviewee to maintain control over how long they would like to discuss a topic.

3.4. Data Analysis

This study was informed by No (2011) and Kim (2009) who both used a thematic approach to data analysis. To elaborate, the thematic approach discovered themes within the data that were related to the research questions. My analysis was informed by Boyatsiz (1998) and Saldana (2009) who described the thematic analysis approach as a process of encoding qualitative information and developing codes that labeled and described sections of data. The codes, according to Boyatsiz (1998) and Saldana (2009) did not refer to the actual themes but to pieces of data that contributed to a larger theme. Codes may be theory-related and theory-driven codes derived from a bottom-up and inductive reading and analysis of the data. The thematic approach was a flexible approach that was often used by ethnographers to examine the larger themes that are present in the rich details collected through multiple sources (Hammersley & Atkinson, 1995; Saldana, 2009). The research questions of this study investigated the developing FLPs of three Korean American families.

Themes that were inductively formed through reading of the data included themes that related to the different characteristics of FLPs, patterns of language use and translanguaging, language maintenance, shift, and loss, bi- and multi-culturalism in the families, and issues of power and legitimacy in the English language.

Conversation analysis and linguistic anthropology contributed to my analysis of the discourse found in the data. For transcription of all discourse, I was informed by conversation analysis to transcribe speech, gestures, and suprasegmental features (Sacks, Schegloff, & Jefferson, 1974). After collecting data, I drew from the framework of communicative competence to analyze the discourse of participants (e.g., Gumperz & Hymes, 1964; Hymes, 1968). Data analysis occurred in three phases: Organizing the data, coding the data, and synthesizing the data.

4. Findings

A thematic analysis of the data revealed several patterns related to family language policies and language learning in the home by participants. The first theme was the parents' concern with maintaining and honoring the native language of Korean. Second, the parents were concerned that children were becoming more dominant in English due to the linguistic power and legitimacy granted by institutions in the family's lives, namely the children's school and church.

4.1. Language Maintenance and Identity

In all three homes, language maintenance was a major concern for the parents. The parents of Juri and Sangdo, and Karis and Ari deliberately spoke Korean at home for children to maintain their knowledge and use of Korean. The family language policy of all three homes was to maintain the use of the Korean language spoken and heard in the homes for the purpose of language maintenance. The practice of this policy varied across the three homes. For example, while the parents of Timothy spoke Korean, English, and a hybrid form of Korean and English to expose Timothy to the Korean language, Sarah and Daryl chose to speak mainly in Korean. When I asked Sarah, mother of Juri and Sangdo, about language use at home during an interview, she shared:

Excerpt 1. Mother Country Language

We speak Korean and sometimes English 'cause my second child seems to understand more when I speak in English. And I speak in Korean because I want to teach them both languages, especially since we're from Korea. We're Korean. I think I believe they should know what their mother country language is.

For Sarah, speaking Korean was a form of identification. South Korea was her "mother country" and speaking the Korean language identified her family with their country of origin. For the same reason, her husband, Daryl, stated that he spoke "95% Korean at home" when he spoke with his children. For Daryl, he described his children's ability to learn both languages as his ambition:

Excerpt 2. Roots, Heritage, and Identity

Starting from now and throughout their lives I

want them to be fluent in both languages. Maybe it's my ambition but I think that's important for them to know their roots, their heritage, and their identity as well.

In his statements about language maintenance, Daryl made it clear that fluency in both languages was important for his children to "know their roots, their heritage, and their identity," which revealed a driving purpose in Daryl's family language policy for developing fluency in both Korean and English. Becoming fluent in both languages, for Daryl, was necessary for his children to understand their past immigration history of how their family had traveled to the U.S., their ever-evolving traditions and forms of heritage in their present time, and the way that their language and culture shapes their multi-cultural identities and trajectories in the U.S.

Another parent, Bomi, mother of Karis and Ariel, discussed how speaking both Korean and English would identify her child as a bilingual and bicultural Korean American. For Bomi, speaking both languages in the home was an important decision for her family:

Excerpt 3. A Conversational Thing

I try to mix languages, Korean and English as much as possible. I want it to be a natural process for her to get Korean and English so umm she's not she doesn't think we're just an English speaking household or just a Korean speaking household but that we're a bilingual household so that you know if in the future if she decides to learn Korean more traditionally then it's not gonna be so foreign to her. It's gonna be a conversational thing. She'll have at least the basic conversational skills.

Speaking in both languages at home was Bomi's way of preparing her daughter for a future of bilingualism. Bomi believed that raising her daughter in a bilingual home would cause the Korean language to be a familiar language, not a foreign one, even though they were removed from the country of South Korea. Bomi's family language policy was not as strict as Daryl's language policy (i.e. 95% Korean in the home) but she made a deliberate effort to use both Korean and English in the home for the language maintenance of her children with a focus on conversational fluency.

For Bomi, the Korean language was a connection to South Korea, and it possessed intimate ties to her identity:

Excerpt 4. Our Mother Tongue

I don't want her to lose our mother tongue. I think that's important for me. Because then it's tied in with our identity. I don't want her to lose that. It's important because there are just some expressions in Korean that you can't express in English, not just conversationally but also poetically. Korean's so poetic and if she loses the ability to speak Korean entirely she's gonna lose those nuances in language when she talks with other people, when she hears like. I don't want her struggling when she speaks with other Korean speakers umm and just like she's only like when someone translates you can only translate the bare minimum you know like when you communicate, but you lose a lot of the depth of the language. I don't want her to lose that. I think that's really important for me because for me, even though my Korean is not perfect I still have a foundation so when I

hear for example, a Korean phrase or Korean hymns or worship songs there's something that really triggers my heart, it really resonates with me.

As evident in this excerpt, Bomi had an intimate connection with the Korean language that was tied in, as she noted, with her identity and helped her to plumb deep emotional responses and form expressions that were difficult to understand and translate in the English language. As a mother, she was afraid that they would "lose our mother tongue," which she stated was extremely important to her family because of the way she connected language to identity: "it's tied in with our identity." Bomi also shared that she wanted to prevent linguistic breaches and struggles when her children spoke with other Korean speakers. Not only did Bomi desire to share this linguistic identity with her children, but she also saw developing multilingualism as an investment in her children's social and cultural wellbeing in the future.

4.2. Language maintenance and community

Another family language policy that families had adopted was the inclusion of cultural communities and relationships. For the purpose of maintaining their native language, families pursued and strengthened relationships with other family and community members who spoke Korean. When I asked Somi about Korean speakers in their families and community members, Somi responded:

Excerpt 5. We Speak in Korean

The grandparents speak in Korean. Some of my church members. When we go to church. I go to a Korean church. Korean ministry. I go to a Korean ministry church and we speak in Korean and we communicate in Korean.

For Somi, her Korean speaking church members were an integral part of the Korean speaking community of her family members. Somi reiterated her belief in the importance of a Korean community for her children by repeating it twice in her last statement: "we speak in Korean and we communicate in Korean." For Sarah's child, Timothy, friends and grandparents who spoke Korean encouraged Timothy to speak Korean:

Excerpt 6. He's Forced to Use It

I think he (Timothy) leans towards English but right now it's changing because like he wants both. Because he knows that his friends speak more Korean. So I think he's trying. He noticed that his friend would ignore him when he said something in English. And I said she's not ignoring you use cause she's being mean. She just doesn't understand what you're saying. I think it helps that he knows they (grandparents) can't speak any other language so he's forced to use it. So I kinda like that aspect.

For Timothy, English was his dominant language but, as Sarah discussed, Timothy began to become interested in learning Korean because of his exposure to Korean-speaking friends. His desire to communicate with his friends and his grandparents was a major factor in contributing to the development of his bilingualism. In addition, Korean language schools or classes were

another way in which the parents pursued maintenance of the Korean language. Somi shared that she wanted to look for a Korean school because she believed that the age of four or five was an appropriate time to send Juri (Interview with Sarah.3). Sarah also shared that her in-laws were Korean teachers:

Excerpt 7. A Whole Curriculum

Going forward I was made aware that Ji's parents they are Korean teachers. um elementary. Yeah they're hardcore. They have a whole curriculum set already. They are retired so they are thinking about using that for him when he turns 5. So I was like oh! Okay, like really rigorously.

From this excerpt, we see that Timothy's grandparents were a major resource for developing Timothy's knowledge of Korean. Timothy's grandparents shared their desire to communicate with their grandson with Sarah, who agreed with and encouraged their plan to teach him Korean. Korean family members, Korean schools, and Korean communities and religious groups were a linguistic resource for these three families who included these connections in their family language policies.

4.3. English in social context

The parents of the three families spoke Korean at home, pursued relationships with Korean speaking family members and communities, and made plans for sending children to Korean language schools and classes to maintain and teach the native language of Korean. The parents' efforts to maintain the Korean language, however, faced many challenges due to the power and legitimacy of the English language. Children in the study were only three and four years old but they were already beginning to forget Korean words they had learned from infancy due to their increasing dominance in English. Bomi discussed her concerns about Karis' diminishing ability to speak Korean:

Excerpt 8. She's Quickly Forgetting

She typically responds in English because that's what's become comfortable for her and if she doesn't know something she'll ask. What does that mean? Sometimes I find myself getting frustrated because I expect her to know because she knew before but she's quickly forgetting. That's why it makes me feel like I have to keep speaking to her and mixing it. I think peers, school, major thing is school. Because when she was home with us she spoke primarily Korean and now that she's at school and most of her peers are speaking English you know she is just more comfortable in English. And I think the video or the television programs that she watches, most of it is in English now so I think that also is a big factor.

According to Bomi, the major factor for Karis' growing dominance in English was that her school, her teachers and friends, all spoke only in English. In addition, the television programs she watched were primarily in English.

Not only the children's school, but the church Sunday school was also English dominant, as Somi shared during an interview:

Excerpt 9. They Prefer English.

The Sunday school is mixed in both languages. Some songs they have English worship songs and I think most of the teaching is in English towards the kids. They prefer English

Even though Somi attended a Korean speaking church, the church's Sunday school pastor and teachers chose to speak in English because the children spoke to each other in English.

Along with the school and church, a participant's medical practitioner encouraged choosing one language and prescribed monolinguistic practices for the child. When Timothy was a baby, Sarah shared that her doctor recommended that she should choose one language and speak to their baby in that language only.

Excerpt 10. Stick with One Language

When he was first born we didn't have a set idea like we have to speak in Korean. We have to speak English but I noticed as he progressed, the doctor did notice that his language development was a little behind. Nothing too drastic. So then she suggested stick with one language. And so that's when we decided to just do English. She was checking. I don't remember the age. But she was checking if he was doing phrases. Four words or something like that. It has to be over a year. Um. But yeah, he wasn't speaking as much so then once we did that, within a month his language just flew, like he was speaking all the time and then we just kinda went with the flow.

As Sarah discussed, Timothy's pediatrician encouraged her and her husband to choose one language. This resulted in the parents' decision to only speak in English at home with Timothy. This decision was a response to the medical practitioner's prescription for their son, which overpowered their desire to raise him bilingually. Timothy's improvement in speaking English encouraged Sarah and her husband to continue with this decision and speak only English with him at home until he was older. This decision, however, led to Timothy's estrangement from his grandparents who could not communicate with him, and a disconnect with his Korean identity and name. He did not recognize or respond to his Korean name, *Jesuk*, and Sarah eventually felt guilty for not teaching him Korean:

Excerpt 11. We Never Used his Korean Name

My in-laws said "He don't understand me". (Laughs.) So I was like I kind of felt bad because I didn't make a conscious effort. We never used his Korean name. "Who's 제석 (Jesuk)?"

Sarah's guilt stemmed from Timothy's inability to communicate with her in-laws. This guilt was compounded by her fear of Timothy's linguistic progress. As evident in Sarah's case, the parents experienced complex and conflicting emotions and thoughts regarding the linguistic preferences and patterns of their children. Daryl, the father of Sangdo and Juri, experienced a desire for his children to maintain their Korean language but faced a reality that his children were already starting to forget Korean words:

Excerpt 12. Speak Korean

I try to speak Korean to them as much as possible

but they're used to speaking English with one another so I try to tell them to speak Korean at least at home. They're free to speak whatever they want outside but at home, I want them to communicate in Korean primarily. Because I don't want them to forget about Korean because they have learned Korean as their first language at home and they're starting to lose it. I want them to retain it.

Daryl acknowledged that his children would speak English outside of the home, but he enforced his family members to speak only Korean at home so that his children would maintain their native language. In his language policy at home, it was clear that Daryl was cognizant of the risk of language loss due to the monolingual polices, and practices of the children's social circles and schools outside of the home.

Similarly, Bomi, Karis's mother, experienced a feeling of hope for her child to become bilingual but she also experienced a fear that the reality of her daughter's context will lead to being more comfortable in the dominant language of English:

Excerpt 13. A Comfortable Bilingual

Ten years from now I hope that she's a comfortable bilingual, that she could just speak like I mean by hope, I hope she can speak both languages as well as each other, you know, perfectly. But realistically I think she's gonna be a lot more comfortable in English and then ummm I just hope that her Korean is like that she's not afraid to speak it, like it'll be a foundation that she has. I hope. I hope."

Even as Bomi hoped for her daughter to be bilingual, she faced the realistic future of her daughter becoming more dominant in English. She emphasized her hope in the face of this dim reality by repeating "I hope. I hope." and voiced her hope that her daughter would build a foundation of bilingualism for her future.

5. Discussion and Implications

In summary, while the larger social institutions of the three families, such as the school and church favored English as a dominant language, the parents did not lose hope of raising their children as bilingual speakers. The parents pursued and maintained relationships with Korean speakers in their families and church community. Although Sarah and Jim were advised by their pediatrician to speak one language and chose to speak in English, they made plans to enroll their child in a Korean language school. Most importantly, all the parents created an environment in which Korean became a familiar and necessary language for children at home.

There are several implications that can be drawn from these findings for research, policy, and practice. The themes that emerged from the interviews of parents revealed the parents' desires for their children to maintain the Korean language. The first implication is that the Korean language was a marker of their bilingual and bicultural identity and heritage. The parents expressed an intimate connection with the Korean language, which they desired to share with their children. At the same time, families faced challenges of the dominance of English and

the imbalance of power in public institutional spaces, such as the school and church. The parents countered this imbalance by setting language policies at home that favored bilingualism and connecting their children with other Korean speakers in their social networks. The interviews in this study presented the families' bilingual language policies and the families' goals of maintaining both languages across generations. These findings shed light on research on family language policy (FLP) in Korean American families and communities and may assist research on families and communities of other language groups as well. FLP has been defined by King, Fogle, and Logan-Terry (2008) as explicit planning regarding language use within the home by family members. This field of research has been especially helpful for bilingual families in diaspora and immigrant contexts to see the explicit decisions that are made by families in the home to maintain, learn, or adopt a language.

For families in diaspora and immigrant contexts, research has documented the policy of consecutive or successive bilingualism also called sequential bilingualism, the practice of teaching a second or third language once the child has fully grasped the first language, often after the age of four (Paradis, 2009). Kouritzin (2000) argued that teaching the native language first would assist in maintaining the minority language under threat of shift or loss. This FLP, often used by parents of minority languages living in primarily monolingual cultures, is a method of preserving the child's bilingualism (Kouritzin, 2000). While consecutive bilingualism has been documented as a successful approach for raising bilingual children (Caldas, 2006; Kouritzin, 2000; Moin, Schwartz & Leiken, 2013), the findings of this study question the effectiveness of this FLP in this specific context in the U.S. Specifically, the study revealed that for the two families in this study that chose the FLP of consecutive bilingualism, the children exhibited a shift from Korean to English at the ages of three and four, after having been exposed to an English-dominant preschool in the U.S. This study advances the field of FLP by unveiling the challenges of adopting consecutive bilingualism as an FLP in language contexts that are monolingual and constricting for the use of the native language. Another implication from this study is the need for administrators of early education to consider how to create practices and policy that invites the child's native language into the classroom and the greater context of the preschool as advocated by Genessee, Paradis, and Crago (2004). Particularly for young children of preschool age, when children are developing foundations of language, it is important to welcome the languages that children are speaking at home into the school (e.g., Schwartz, Koh, Chen, Sinke & Geva, 2015). As the findings in this study revealed, an English-only environment may cause language shift and loss for young children, which may lead to negative consequences in their homes and families, as documented by Wong-Fillmore (1991). Therefore, it is important that policy for early education include the consideration of native languages through policies that support bilingual education, as researchers have documented (e.g., Collier & Thomas, 2004; Combs, Evans, Fletcher, Parra & Jiménez, 2005).

Preschool teachers of bi- and multi-lingual children can support the bilingual development of children by inviting the native languages of these children into their class culture and curriculum, as documented by August and Hakuta (1997). If the teacher is in a bilingual preschool that teaches the child's native language, the children may learn both English and their native language. Even if the child's native language is not the official language of instruction, preschool teachers need to include a consideration of the child's language into the classroom to support the child's linguistic development, as García and Frede (2010) had revealed in their research. Examples of including the native language in the classroom may involve assignments that may welcome family members from home, learning phrases or words from the multiple languages represented in the classroom, inviting children to speak the language or share about their language in the classroom, creating assignments or lessons that may involve translations to encourage the child's participation and engagement in class through their native languages, and including a storytelling corner in home languages and songs from multiple languages and cultures. This study confirmed the harm of an English-only environment on a preschool child's bilingual development (e.g., Wong-Fillmore, 1991). To prevent language shift and encourage the bilingual development of children, therefore, teachers need to include their students' native languages in creative ways in their curriculum and classroom culture.

Furthermore, the benefits of bilingualism need to be shared so that teachers, administrators, and parents may support the teaching of multiple languages to young children. Research on bilingualism has documented benefits of bilingualism to include an increased understanding of interpersonal communication (Genessee, Paradis & Crago, 2004); higher problem-solving skills, more linguistic and cognitive creativity, higher verbal IQ, higher metalinguistic awareness, higher quantity skills, higher degree of spatial concepts (García & Nañez, 2011); and increased gray matter in the brain (Espinsoa, 2010). Moreover, this study found through an examination of the FLPs, that children were able to develop and identify in multiple languages from an early age. Therefore, it is crucial that teachers, parents, and medical practitioners are aware of the many benefits of bilingualism.

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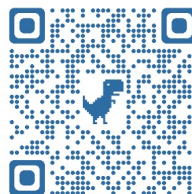## Submit via https://jlt.ac/

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ORIGINAL RESEARCH

Sketching the landscape of corrective feedback by bibliometric analysis and structural topic modeling

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Abstract

Corrective feedback (CF) has been playing an important role in language teaching. Even though previous reviews focused on written or oral corrective feedback, little attention has been drawn to provide a panoramic review of the whole CF field. This study aims to sketch the landscape of CF research over the past two decades (2000-2022) and identify latent topics of the CF field. A total of 1106 CF-related articles were analyzed using bibliometric analysis and structural topic modeling. The most influential journals, references, countries, and authors in CF were identified by bibliometric analysis. Eighteen important topics in CF were discovered by structural topic modeling, among which the most representative topics included eight student-related topics, four teacher-related topics, and four technology-related topics. The findings showed that among these eighteen topics, *implicit and explicit CF*, *teachers' beliefs in CF* and *uptake of recast* accounted for the largest proportion. Meanwhile, the topic trends indicated that more attention should be paid to *peer feedback*, *automated writing evaluation of feedback*, *assessment literacy* and *student engagement* in the future. More importantly, this study clarifies the relationship among teachers, students and technology in the CF field and constructs a conceptual framework in CF. This study contributes to pointing out potential directions for further CF studies and provides implications for deepening the understanding of CF in the language teaching field.

Keywords corrective feedback, language teaching, comprehensive review, bibliometric analysis, structural topic modeling

1. Introduction

Corrective feedback (CF) refers to both written and oral forms of response to learners' production of the second language (L2) (Li, 2010; Li & Vuono, 2019) and the purpose of CF is to assist learners in understanding and correcting their errors, enhancing their learning experience, and ultimately improving their performance. CF issues have obtained substantial attention and experienced a long history since the 1950s (Kang & Han, 2015). Looking back to the previous studies on CF and its scientific production, it is indicated that CF, a key feature of language teaching in the classroom (Sheen, 2011) has been receiving great attention from plenty of scholars and remains a crucial vehicle to facilitate L2 knowledge construction and enhance knowledge use (Han, 2002). Meanwhile, previous reviews have summarized the factors influencing oral feedback (Yu et al., 2018), the typology of feedback (Panadero & Lipnevich, 2022) and the effect of feedback on the learning environment (Cai et al., 2023). Considering the importance and popularity of the CF field, it is necessary to conduct a comprehensive review to delve into the development trajectory of CF and identify the knowledge gaps.

The study seeks to adopt a more convincing approach to make a comprehensive review of CF. Ever since 2000,

some reviews on CF have been carried out (e.g. Brown, 2014; Kang & Han, 2015; Li, 2010; Lyster & Saito, 2010) and most of these studies were conducted via meta-analysis. However, some limitations existed in previous meta-analysis studies due to restricted sample size and ambiguous conclusions when the included studies yielded divergent results (Higgins, 2003). Meanwhile, another limitation of meta-analysis lies in its publication bias (Rothstein et al., 2006), which might also result in a lack of validity of meta-analysis results. In this regard, a more rigorous and objective method is needed.

Bibliometric analysis, a popular and rigorous method to perform a synthesis review, combines both quantitative and qualitative analysis to summarize large quantities of data to present the state of the intellectual structure (Donthu et al., 2021), which is more suitable for analyzing large volumes of scientific data in the CF field. To be further, bibliometric analysis can accomplish the theoretical contributions from four core elements (Mukherjee et al., 2022), which can enhance the theoretical contribution of this study.

To date, there have been two bibliometric reviews carried out by Crosthwaite et al. (2022) and Miao et al. (2023). The focus of the two reviews was written corrective feedback (WCF) and excluded oral CF, which cannot provide a bird's eye of the whole CF field. Moreover, previous reviews employed keyword occurrence network

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analysis to predict CF topics, which generally ignored the dynamic changes of each topic in a certain period. To improve the validity of the results, structural topic modeling (STM), a type of more objective and machine learning technique for the extraction of latent topics from numerous textual data (Lester et al., 2019) is conducted in this study.

Via bibliometric analysis and STM, this study aims to analyze the annual development and topic trends of CF from a more panoramic perspective. This study is guided by the following research questions:

(1) What is the yearly publication production and what are the most influential journals and references in the CF field?

(2) Which countries and authors have the most significant influence, and how do they collaborate?

(3) What are the most influential topics and how do they evolve?

2. Methodology

## 2.1. Data collection and data cleaning

The most relevant articles, books, and book chapters from 2000 to 2022 were retrieved from the Scopus database. Scopus was chosen due to its largest curated abstract and citation database. Additionally, Scopus provided comprehensive metadata records of scientific articles (Baas et al., 2020), which ensured high precision of the data. Based on the definition of CF and the previous CF-related academic terms (Li, 2010; Li & Vuono, 2019), the search terms of this study included 15 words and phrases, that is '*feedback*', '*corrective feedback*', '*grammar correction*', '*written corrective feedback*', '*oral corrective feedback*', '*error feedback*', '*error correction*', '*feedback research*', '*teacher feedback*', '*peer feedback*', '*implicit feedback*', '*explicit feedback*', '*recast*', '*metalinguistic feedback*' and '*negative feedback*'. As long as these search terms appeared in the title, keywords, or abstract, the articles were downloaded at the initial time. Then, conference papers, erratum, and notes were excluded. Afterward, the author retained the journals

whose aims and scopes are related to L2 learning and teaching. Consequently, the search scope was confined to 42 SSCI language teaching and learning journals, as the publications from these journals might contain CF-related studies. At last, 1465 articles were obtained.

To ensure the validity of the retrieval results, data cleaning is indispensable, which includes cleaning out misspellings, matching abbreviations, and normalizing the letters. In addition, the author carefully read the abstracts of all the chosen articles to check whether the research topic was relevant to CF. The specific inclusion and exclusion criteria are shown in Table 1. Hence, the final 1106 articles, books and book chapters were kept (All the data was retrieved on 15th January 2023). Referring to the latest WCF research by Crosthwaite et al. (2022) which included 493 L2 WCF-related articles, the present study covered both WCF and oral CF articles in language teaching and language learning. As a consequence, all the CF-related articles were roughly doubled, which also suggested that our retrieval process and the result were reasonable. The search strategy and analysis procedures are shown in Figure 1.

Table 1. Inclusion and exclusion criteria of manual process for metadata

Criteria	Descriptions
Inclusion criteria	1. Studies focusing on WCF or oral CF regardless of various types, such as recast, metalinguistic, implicit or explicit feedback and so forth. 2. Studies focusing on CF conducted in different L2 learning contexts or carried out with various methods for language teaching purposes. 3. Studies focusing on different factors influencing the effect of WCF or oral CF.
Exclusion criteria	1. Excluding conference papers, erratum, and notes. 2. Excluding articles without complete information (e.g., authors, abstract). 3. Excluding articles irrelevant to CF or beyond the language teaching and language learning field.
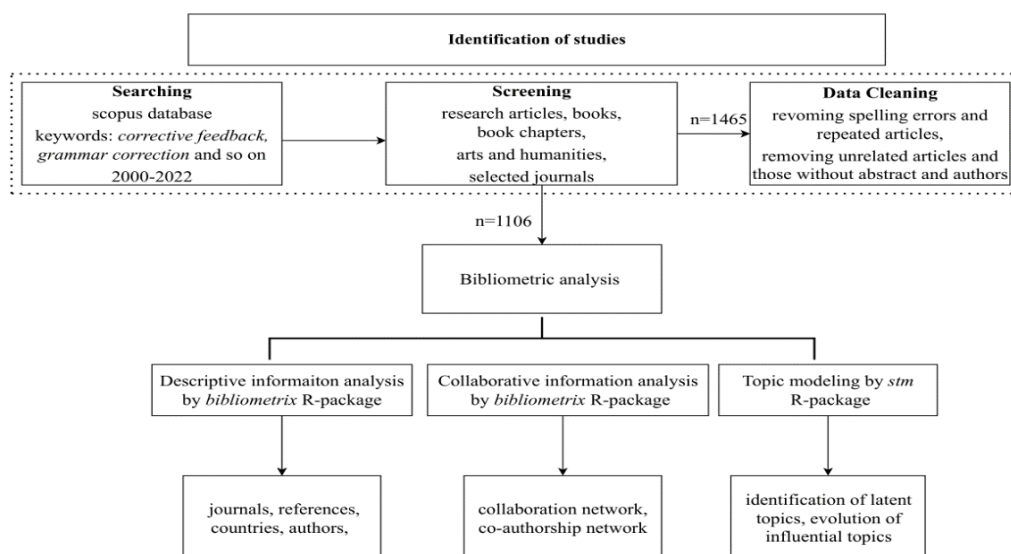
Figure 1. Data collecting process and analysis process

2.2. Data Analysis

To answer the first and the second questions, *bibliometrix* R-package was employed to figure out the descriptive information of the CF field, as well as the collaborative information. Descriptive information analysis, as an evaluation to assess productivity and impact (Mukherjee et al., 2022), includes annual production, journals, references, countries and authors. Collaborative information analysis mainly focuses on collaboration networks and co-authorship networks. These networks are further visualized by Gephi 0.9, which is an open-source and free visualization and exploration software for comprehensively figuring out collaborations in the CF field.

To answer the third question, STM was utilized to estimate latent topics and visualize the trends of topics along with other covariates (Roberts et al., 2019). It has been proven that this technique can discover the underlying topics from the text. However, as the results of the STM were a series of isolated words, the AntConc was further adopted to reconstruct the meaning of words to identify latent topics. That is, the isolated words were brought back to the article abstract to interpret the specific meaning in the context. In this way, the latent topics were figured out.

3. Results

3.1. Yearly publication production

The number of yearly publications is displayed in Figure 2. The overall trend can be roughly divided into two stages. The first stage ranged from 2000 to 2011, during which the number of CF-related articles remained at 30 to 40 or so. The other stage started from 2012 to 2022, which kept an overall rise. The number of relevant articles increased with continuous fluctuation after 2011. After that, the annual publication was at least 47 and the number even exceeded 90 from 2020 to 2022. As a whole, the annual scientific production of CF presented a significantly upward trend.
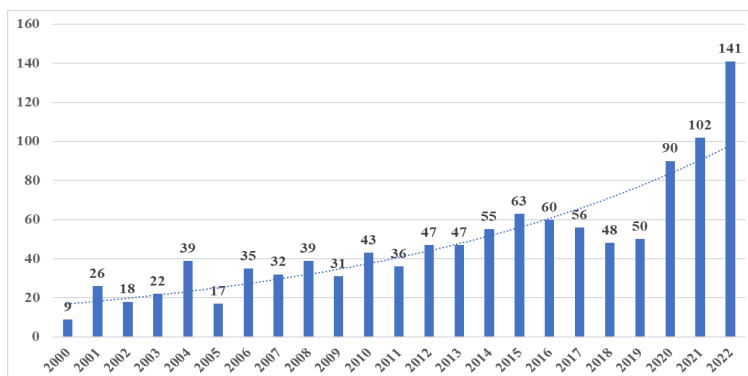

Figure 2. Publications per year of corrective feedback studies (2000-2022)

3.2. The most influential journals

The most influential journals were identified through the number of published papers and journal citations with the values of the h-index, g-index, and m-index, which were used to quantify an individual's scientific research output (Hirsch, 2010). The results in Table 2 demonstrated that the top six influential journals were the *Journal of Second Language Writing*, *System*, *Studies in Second Language Acquisition*, *Language Learning*, *The Modern Language Journal* and *Language Teaching Research*. All of these journals have boasted high h-index and total citations since 2000. The rest were also influential with large productions, which indicated these journals exerted great influence on the CF field.

Table 2. Top 20 journals

Journal	h_index	g_index	m_index	TC	NP	PY_start
Journal of Second Language Writing	43	82	1.792	8058	82	2000
System	40	65	1.739	5067	143	2001
Studies in Second Language Acquisition	35	48	1.458	5312	48	2000
Language Learning	32	49	1.333	3689	49	2000
The Modern Language Journal	31	51	1.292	3324	51	2000
Language Teaching Research	30	53	1.25	2951	100	2000
Computer-Assisted Language Learning	26	44	1.3	2268	80	2004
ELT Journal	25	42	1.087	1911	61	2001
Language Learning and Technology	20	30	0.952	1556	30	2003
ReCALL	20	36	0.87	1394	50	2001
TESOL Quarterly	16	26	0.696	1472	26	2001
Assessing Writing	15	29	0.714	875	30	2003
Foreign Language Annals	13	24	0.565	614	37	2001
Journal of English for Academic Purposes	12	23	0.571	554	33	2003
RELC Journal	12	19	0.5	430	52	2000
Language Teaching	10	22	0.5	1016	22	2004
English for Specific Purposes	9	10	0.409	404	10	2002
Innovation in Language Learning and Teaching	9	14	0.692	217	22	2011
Annual Review of Applied Linguistics	8	10	0.471	652	10	2007
Linguistics and Education	8	14	0.444	217	17	2006

Notes: The h-index indicates that a given author has had h articles published, each of which has h or more citations; the g-index is defined as a number such that the top g articles are cited an average of g times; the m-index is defined as an individual's h-index divided by the number of years since his or her first publication. (TC: total citations; NP: number of publications; PY_start: start from the publication year.)

Table 3. Most influential references

Author	Title	Journal	Citations
Lyster, R., Ranta, L. (1997)	*Corrective feedback and learner uptake: negotiation of form in communicative classrooms*	Studies in Second Language Acquisition	97
Truscott, J. (1996)	*The case against grammar correction in L2 writing classes*	Language Learning	89
Ellis, R., Loewen, S., Erlam, R. (2006)	*Implicit and explicit corrective feedback and the acquisition of L2 grammar*	Studies in Second Language Acquisition	70
Lyster, R. (1998a)	*Recasts, repetition, and ambiguity in L2 classroom discourse*	Studies in Second Language Acquisition	68
Lyster, R. (2004)	*Differential effects of prompts and recasts in form-focused instruction*	Studies in Second Language Acquisition	66
Schmidt, R. (1990)	*The role of consciousness in second language learning*	Applied Linguistics	64
Chandler, J. (2003)	*The efficacy of various kinds of error feedback for improvement in the accuracy and fluency of L2 student writing*	Journal of Second Language Writing	57
Li, S. (2010)	*The effectiveness of corrective feedback in SLA: a meta-analysis*	Language Learning	55
Sheen, Y. (2016)	*Corrective feedback and learner uptake in communicative classrooms across instructional settings*	Language Teaching Research	50
Lyster, R. (1998b)	*Negotiation of form, recasts, and explicit correction in relation to error types and learner repair in immersion classrooms*	Language Learning	48

The top ten impactful references are displayed in Table 3. Based on the thematic relevancy, these ten articles can be roughly divided into three categories. The first category focused on the role of consciousness in L2 learning and the dispute between the effectiveness and harmfulness of WCF (see Schmidt, 1990; Truscott, 1996). The second category pertained to the studies concerning the efficacy of different types of CF (see Chandler, 2003; Ellis et al., 2006; Li, 2010; Lyster, 1998a, 2004). These relevant articles examined whether the error should be corrected by teachers and how to correct was a continuous focus in the CF field. For instance, Ellis et al. (2006) pointed out that employing metalinguistic explanation (explicit feedback) was superior to recasts (implicit feedback) through testing instruments (e.g. oral imitation test, grammaticality judgment test and metalinguistic knowledge test). Chandler (2003) lent support to prove that direct correction and teacher's correction with simple underlining errors was the best way to inform the student. The last category dealt with the negotiation between CF and learners' uptake (e.g. Lyster, 1998; Lyster & Ranta, 1997; Sheen, 2016). For instance, Sheen (2016) emphasized the importance of context on CF and learners' uptake. In addition, Lyster and Ranta (1997) explored that

students tended to respond to teachers' correction with student-generated repair when teachers stood to use the recast strategy under a communicative context.

3.3. The most influential countries and collaboration among countries

Table 4 demonstrates the most productive countries, among which the USA, New Zealand, Canada, China and the UK ranked top five. Betweenness, closeness and PageRank were used to further evaluate the country's impact. The result revealed that the USA and the UK emerged as the most influential countries in the field. Furthermore, the collaboration world map depicted in Figure 3 provided insights into the frequency of collaborations between different countries. The thickness of the lines on the map represented the proximity of collaboration between countries. Notably, the frequencies of collaboration between the USA and China, China and New Zealand, the USA and Japan, New Zealand and Australia, as well as the USA and the UK, were all above 6, indicating a strong and close collaborative relationship between these countries.

Table 4. Collaboration network among the top 15 countries

Country	Articles	TC	AAC	Cluster	Betweenness	Closeness	PageRank
USA	246	8940	36.34	5	405.213	0.017	0.167
New Zealand	35	3647	104.2	5	97.961	0.014	0.065
Canada	57	3418	59.96	2	35.748	0.014	0.056
China	49	1057	21.57	5	90.198	0.014	0.075
UK	40	1007	25.18	2	120.384	0.015	0.078
Australia	25	927	37.08	5	79.117	0.014	0.059
Iran	78	435	5.58	1	77.299	0.011	0.037
Netherlands	17	413	24.29	3	1.008	0.011	0.017
Spain	34	401	11.79	2	59.372	0.013	0.050
Korea	16	292	18.25	5	0.000	0.011	0.013
Japan	20	287	14.35	5	20.053	0.013	0.037
Chile	9	201	22.33	2	0.000	0.010	0.007
Belgium	4	158	39.5	3	0.633	0.012	0.013
Singapore	5	147	29.4	5	0.000	0.009	0.008
France	6	140	23.33	5	11.251	0.013	0.019
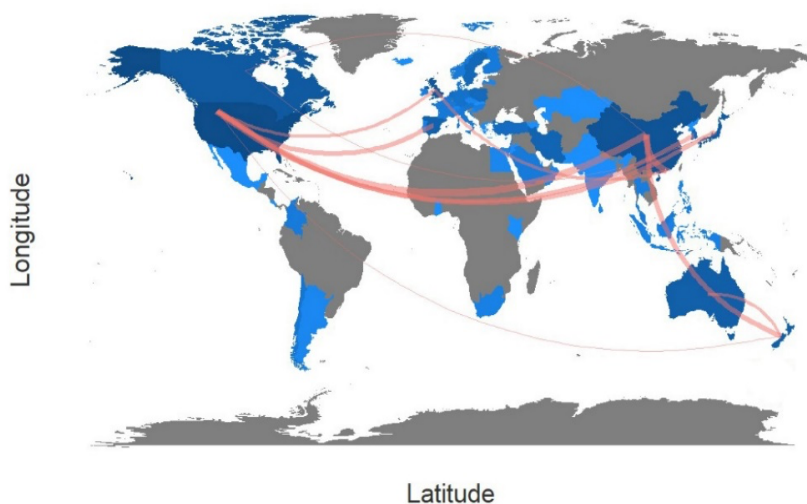
Figure 3. Collaboration World Map

3.4. The most impactful authors and authors' collaboration

Table 5 presents the most influential authors including Lee, Ellis, Lyster, Mackey, Loewen, Bitchener, Nassaji, Saito, and Yu, all of whose h-index values were at least 10, and the rest were also prolific. Their most important representative works were listed as follows. First, Lee has conducted a series of professional and influential studies on CF, especially in the teacher's role in WCF (see Lee, 2018, 2019, 2020). Second, Ellis also made a great contribution to the CF field. For instance, Ellis (2008) pinpointed a specific typology of WCF types and also further emphasized the theoretical and practical concern of CF when it referred to the effect of both oral and written CF (2010). Afterward, Lyster (1998) examined the relationship between the negotiation of CF and learner uptake, pointing out factors influencing the effect of CF. In addition, Bitchener and Knoch (2008) gave support to confirm the efficacy of CF and investigated the value of written CF for migrant and international students. At last, Li et al. (2016) explored the effect of the timing of CF on the acquisition of a new linguistic structure and Sheen (2010) found that CF effectiveness largely relied on the degree of explicitness of both oral and written CF. As a whole, numerous authors have done relevant research on CF issues, but the above prolific scholars are the most prestigious contributors to the CF field.

Table 5. Top 15 most impactful authors

Author	h_index	g_index	m_index	TC	NP	PY_start
Lee I.	18	23	0.857	1330	23	2003
Ellis R.	14	16	0.609	2192	16	2001
Lyster R.	14	15	0.609	2430	15	2001
Mackey A.	13	13	0.542	1599	13	2000
Loewen S.	11	12	0.478	1507	12	2001
Bitchener J.	10	10	0.526	1689	10	2005
Nassaji H.	10	11	0.588	530	11	2007
Saito K.	10	12	0.714	1089	12	2010
Yu S.	10	19	1	440	19	2014
Mcdonough K.	9	12	0.375	1094	12	2000
Yilmaz Y.	9	11	0.692	303	11	2011
Hyland F.	8	8	0.333	1115	8	2000
Li S.	8	13	0.533	848	13	2009
Rassaei E.	8	10	0.727	238	10	2013
Sheen Y.	8	8	0.4	1717	8	2004

Figure 4 plots the co-authorship among authors, which was composed of several major clusters with different color lumps. The result presented that Ellis, Sato, Mcdonough, Lee and Rahimi were the most collaborative, collaborating with five, two, five, three and two scholars respectively. Moreover, Knoch and Bitchener, Cucchiarini and Strike were the closest collaborators, followed by Lee, Liu and Yu. The representative collaborations were as follows.

The first cluster in light green shows the collaboration among Ellis, Shintani, Li, Loewen, Sheen and Kamiya. They enjoyed a close co-citation network and cooperation, such as exploring the effects of timing of CF (Li et al., 2016), examining the comparative effectiveness of different types of CF (Ellis et al., 2006; Kamiya, 2015), identifying mediators to the effect of CF (Shintani & Ellis, 2015; Shintani et al., 2014), as well as presenting focus-on-form in a different context (Ellis et al., 2001, 2002). The second cluster in yellow unfolded that Lee, Liu, Yu and Crosthwaite had a very strong collaboration. Yu and Lee (2016) put much emphasis on peer feedback, providing a critical interpretation of extant peer feedback research from 2005 to 2014 and clarifying the literature into seven important themes. Yu et al. (2022) developed a scale to assess learners' writing literacy, teachers' emotional experience and feedback literacy.
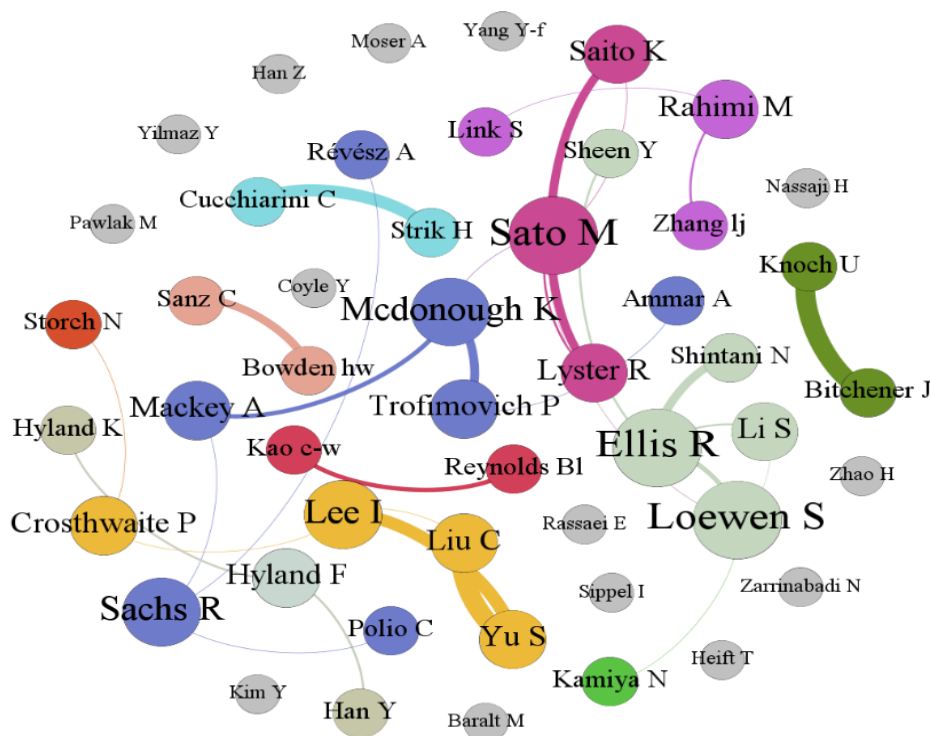
Figure 4. Author's collaboration

3.5. Latent topics and topic trends

The topic trend is an effective method to delineate the development trajectory of the CF field and point out future directions. Two indexes, semantic coherence and exclusivity, were usually used to evaluate the number of topics. Semantic coherence is based on the frequency of individual words or word pairs and its value is maximized when the keywords of a specific topic co-occur most frequently. The higher the semantic coherence is, the more relevant the topics are clustered (Zou et al., 2022).

Exclusivity was used to indicate the terms linked to a particular topic. If the exclusivity is high, it reveals that the terms are more relevant (Kuhn, 2018). Figure 5 presents the semantic coherence and exclusivity scores for 40 topics. The topic number ranged from 1 to 40 and each point indicated that a model was fitted with the number of topics. The figure also shows that 18 topics obtained the largest semantic coherence and exclusivity values. Therefore, 18 was finally chosen as the number of latent topics for further STM analysis.
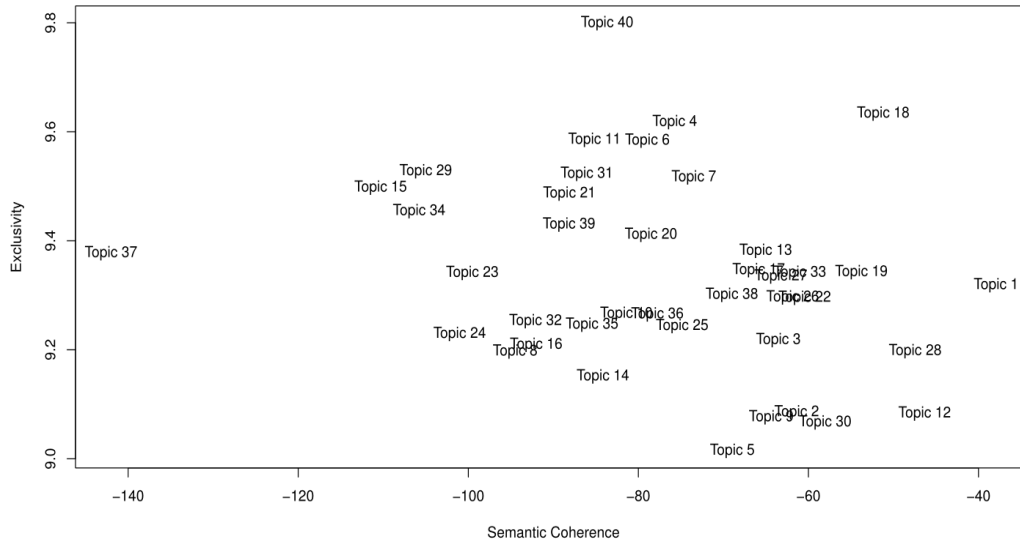

Figure 5. Semantic coherence and exclusivity in CF-related topics

Accordingly, the results of 18 topics on CF were identified (see Appendix A). Furthermore, based on the topic relevancy, the identified 18 topics can be grouped into four clusters shown in Figure 6, which were related to the student, teacher, technology and others. Specifically, student-related topics included *peer feedback*, *perceptions of CF*, *mindsets in CF*, *writing revisions*, *uptake of recast*, *interactional feedback*, *student*

engagement and *CF for children*. Teacher-related topics encompassed *implicit and explicit CF*, *assessment literacy*, *teachers' beliefs* and *direct and indirect CF*. In addition, technology-related CF studies included *web-based CF*, *corpus-informed CF*, *automated writing evaluation* and *computer-assisted CF*. At last, *experimental designs for CF* accounted for a large proportion, while *reading-related CF* merely obtained scant attention till now.
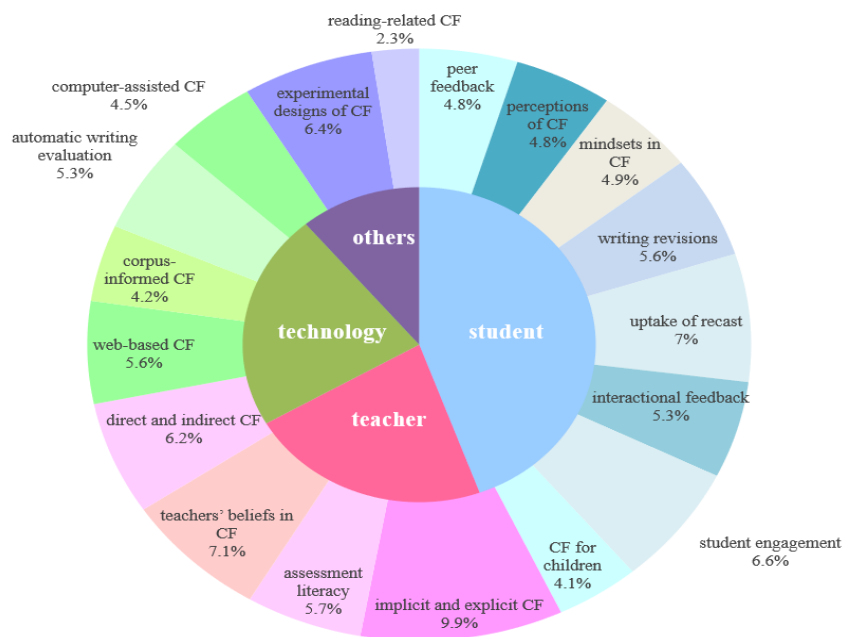

Figure 6. Clusters of 18 CF-related topics

To better understand the topic development, the annual distributions of each topic proportion and the trends of each topic (see Appendix B). Through the topic trends, readers can intuitively observe what each topic has experienced over the last two decades. For instance, *peer feedback*, *automated writing evaluation*, *assessment literacy* and *student engagement* showed a markedly increasing tendency, and the rate of these topics is expected to rise in the future. Meanwhile, *uptake of recast*, *interactional feedback*, and *computer-assisted CF* presented a sharp drop, particularly from 2005 to 2010. In addition, some topics had some fluctuations in the whole period, such as *corpus-informed*, *experimental designs for CF*, *reading-related CF* and *direct and indirect CF*.

4. Discussion

The first research question pertained to the yearly publication production, the most influential journals, and references in CF. The result showed that publication production had a yearly increasing tendency, especially after 2013. It suggested that CF has been drawing more and more attention in the language teaching domain. As to the most influential journals, the *Journal of Second Language Writing* and *System* ranked in first and second place respectively. One explanation might be that CF is a major issue in the L2 writing domain and the scope of these two journals is dedicated to L2 writing and language teaching respectively. The finding was consistent with that of Crosthwaite et al. (2022) and Miao et al. (2023), which also indicated that the *Journal of Second Language Writing* ranked first place.

The second question examined the most influential countries, authors and their collaborations. Concerning the most influential countries, the majority of the research was predominantly from developed countries and English-speaking countries, such as the USA, New Zealand, and Canada. The finding suggested that in the future more attention should be paid to other underexplored areas, like Asian and African countries, South American areas and so on. Considering the most impactful author in the CF field, Lee is the most influential author with the most publications, especially in recent years. The number of her publications on CF issues has exceeded that of Ellis and Lyster. One possible explanation might be Lee's CF publications emerged in a certain successive period and she has collaborated with massive Chinese and foreign scholars. In terms of the author's collaboration networks, it is pointed out that close cooperation is generally conducted among impactful authors, such as Lee, Ellis, Lyster, Sheen, Bitchener, Li and so on, in that these authors have very similar research orientations. This also implies that author collaborations are likely to carry on if the authors are from the same institutions. For instance, both Ellis and Li are from the University of Auckland and they collaborated to explore the effects of the timing of CF on the acquisition of past passive construction (Li et al., 2016). Thus, it suggests that research orientation and the background of the author's institution would be the factors promoting author collaboration.

The third research question explored the most influential topics and their evolving trajectory. It was mainly grouped into three clusters, namely, student-related cluster, teacher-related cluster, and technology-related cluster. With further analysis of these topics, a conceptual framework was constructed as Figure 7 exhibited. This framework was proposed based on the analysis of all the previous CF studies over the past 23 years, which pinpointed the most essential variables in CF. The two-way arrows in Figure 7 represent that the relationship between these three variables was not isolated but interacted with each other. Students are usually the CF receivers, teachers are the CF providers, and the technology-assisted mechanism generally functions as a medium to give impetus to the CF process. Meanwhile, experimental design played a key role in controlling each CF-related study. The further discussion of these variables was as follows.
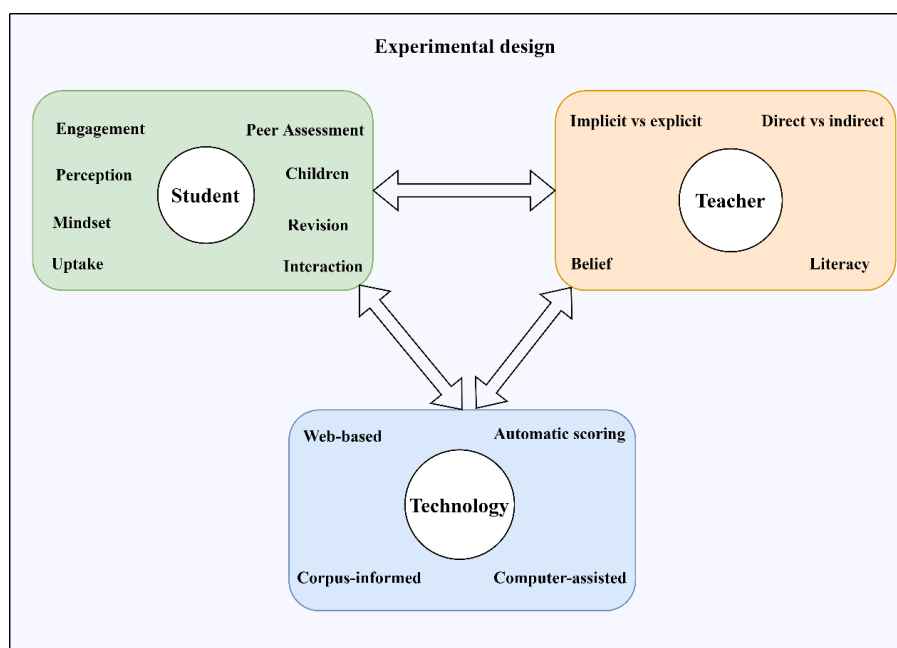

Figure 7. Conceptual framework of CF

When it comes to *student engagement* in the student-related cluster, relevant research was reflected by different theoretical and practical perspectives. Theoretically, sociocultural theory is essential to guide student engagement, such as adopting sociocultural theory to unpack insights into student engagement (Mao & Lee, 2022), and scaffolding student engagement (Nguyen, 2021), as well as delving into the impact of written languaging on the grammatical accuracy of writing with Vygotskyian sociocultural theory (Moradian et al., 2017). Practically, students' empirical participation via the automatic writing evaluation (AWE) system (see Ranalli, 2021; Zhang, 2017; Zhang & Hyland, 2018) was also an important focus. Future studies can further explore the factors influencing the effect of student engagement. Regarding the *perception and uptake of CF*, it was concerned with the adoption of various CF types, such as the directiveness type (Baker & Hansen Bricker, 2010) and supervisory CF (Neupane Bastola, 2020), as well as the effects of different types of WCF on learners' accuracy in revision (Sinha & Nassaji, 2021). Moreover, learners' perceptions had relationships with their foreign language anxiety levels (Rassaei, 2013). But till now, previous studies hardly considered positive emotions in learners' perceptions. Thus, the future direction could consider positive emotional factors on learners' perceptions of CF. Concerning *peer assessment*, *students' interactional feedback,* and *students' mindsets*, it is indicated that peer assessment was beneficial to students' learning and its summative assessment use (Joh & Plakans, 2021), as well as benefiting the feedback provider and optimizing the cognitive process (van Popta et al., 2017). Students' interactional feedback played an important role in classroom activities (Lyster & Mori, 2006) and mindsets would impact students' CF preference (Papi et al., 2021). Furthermore, apart from students, children's language development is a kind of targeted learner group. When it comes to *children's feedback*, the children's learning ability to learn and generate targeted language structure was a major focus (e.g. Ferman et al., 2022). Considering *students' revision*, Karim and Nassaji (2018) explored whether students' revision abilities can be carried over when students encounter new pieces of writing and new forms of errors. Previous studies mainly focused on the accuracy of revision under the usage of different CF but neglected the influence of contexts on revision accuracy. In the future, more focus can be put on students' revisions in different forms and different contexts. Overall speaking, these eight topics represented the most important concerns in CF in terms of students. This can cast important light on the further direction for the CF in terms of students. Moreover, other important individual factors, such as students' age, children or teenagers, and learning abilities, as well as students' emotional factors, should be taken into consideration.

Four topics were teacher-related CF issues. For *implicit and explicit CF* and *direct and indirect CF*, they pertained to teachers' strategies to provide CF (Ellis, 2009). A line of studies showed that teachers preferred to provide implicit and indirect CF, which can engage students in "guided learning and problem-solving" (Lalande, 1982), as well as inspire them with a reflection about linguistic forms

to foster long-term acquisition (Ferris & Roberts, 2001; James, 1998). For *teachers' beliefs*, Nahid and Mostafa (2019) examined that in providing CF, L2 teachers' beliefs would be influenced by their experience and it served as a substantial factor in guiding their practice. However, in real practice, mismatches existed between teachers' beliefs and their practice (Lee, 2008). In addition, in the classroom context, inconsistency existed between what teachers said or teachers' beliefs and what they truly did (Yüksel et al., 2021). One possible reason is due to the imposition of institutional context, and values, such as exam pressure and school policy. For *teachers' assessment literacy*, it was concerned with the shift from focusing on feedback information to feedback process and feedback ecology (Chong, 2022). That is, the teacher, as the feedback provider, should have a good command of assessment literacy, which would influence the feedback effect (Lee, 2017). Carless and Winstone (2020) found that teacher feedback literacy enabled students' uptake of feedback and seeded the development of student feedback literacy.

Moreover, four technology-related topics were identified. Regarding *corpus-informed CF*, it was found that corpus-based correction and consultation can help students improve their writing ability (Zaki, 2020). However, scholars also pointed out that it was imperative to ensure the effectiveness of applying the corpus for error resolution (Crosthwaite et al., 2020) and error types should be taken into account (Satake, 2020). Regarding *computer-assisted CF*, it was a special tactic used in CF, especially in WCF, because it can solve the issue that teachers cannot manually provide WCF for huge numbers of learners in the classroom. With the computer-assisted CF method, modern devices, like *MY Access!*, *Pigai,* and *Grammarly* can provide synchronous and asynchronous corrective feedback to learners, which is quite effective in improving L2 writing accuracy (Shintani & Aubrey, 2016). Concerning topic tendency, *computer-assisted CF* wholly presented an abrupt decrease after 2003 and kept a minor fluctuation since then. One possible reason for this phenomenon might be due to controversy. That is, researchers advocated that applications of computer machines in WCF should aid L2 development (e.g. Huang & Renandya, 2020). However, the effectiveness of this computer-assisted feedback was uncertain (Bahari, 2020) and it was unsure to foster learners' L2 writing ability development (Godwin-Jones, 2008). Therefore, in the future, the application of computer-assisted CF should further consider whether it is advantageous to learners' L2 development.

Concerning *web-based CF,* automatic speech recognition technology has been applied to provide corrective feedback for students (Chen, 2011) and students can get personal feedback via web-based language tutoring systems (Heift, 2001; Yeh et al., 2014), which indicated that web-based mechanism has been applied in different forms. As to the growing topic trend, it can be predicted that web-based mechanisms will continuously play an essential role in the CF field, in that it can narrow the distance to provide feedback in remote locations (Murphy, 2010), provide new forms of collaborative writing (Yang, 2017) and expand the scope writing tasks (Harker &

Koutsantoni, 2005). Concerning *automated writing evaluation*, it has attracted more and more attention over the past two decades (Link et al., 2022). The popularity of this topic may be due to the rapid technological revolution, such as the development of machine learning and natural language processing (Zhu et al., 2020).

Taken together, studies on these topics have endeavored to investigate how AWE impacted student engagement (Zhang & Hyland, 2018), students' acceptance (Zhai & Ma, 2022), and writing accuracy (Barrot, 2023). With the development of natural language processing (e.g., GPT-4), AWE has been gaining high popularity. More researchers are expected to conduct CF-related studies with the help of AWE tools in the future.

Aside from these three important aspects of CF, the *experimental design of CF* is also an essential topic. Experimental designs predominate most CF empirical studies because in real situations different experimental designs could directly influence research results. For instance, one unexpected finding was that some mismatches existed in previous research results. Ellis et al. (2006) and Sheen (2007) interpreted their results that metalinguistic feedback was more effective than recasts. On the contrary, some research construed that recasts were more effective (e.g. Iwashita, 2003; Mackey et al., 2001). The reason might be related to the different experimental designs, like differences in the adoption of the control group and the sequence of experiments. Meanwhile, three points should be regarded in the later research. First, in the future, when conducting experimental design, researchers should define the theoretical and operational definitions of different CF types clearly. Second, ecological validity should be given due attention in the experiment for CF (Liu & Brown, 2015). Third, potential moderators (e.g. participants' age, language proficiency, background) should also be taken into account.

5. Conclusion, implications and limitations

To detect the overall development of CF from 2000 to 2022, the study conducted analyses on 1106 CF-related articles by bibliometric analysis and STM. The most influential journals, the most cited references, the most productive countries, the most impactful authors, and their collaborations were identified. This descriptive information gives us a bird's eye view of the CF field and a handful of research proves that CF is a popular and important issue in language teaching. Compared with previous reviews, this study manages to figure out 18 latent topics and provide topic trends to relevant researchers in a more objective way. The topic trends show that more studies are worthwhile in *peer feedback*, *automated writing evaluation of feedback*, *assessment literacy* and *student engagement* in the future, while the studies on *corpus-informed feedback* are inclined to decrease in the future. Meanwhile, the contributions of this study lie in both theoretical and pedagogical perspectives.

Theoretically speaking, this study provides a conceptual framework for CF research. This framework vividly and intuitively presents what has been done in previous CF-related research, which can help us understand where the field is going. Moreover, with this framework, it can better showcase the interactions of student, teacher and technology factors in the CF field and further help us recognize potential knowledge gaps to situate future research directions. Pedagogically speaking, to improve students' CF quality, the current study can inspire teachers to realize that the CF process is an integral part of a class. It highlights that the effectiveness of CF is not solely dependent on students but also teachers and the application of technological mechanisms. More importantly, the study informs that teachers should comprehensively consider these factors, especially learners' mindset in CF, learners' age, and learners' perception of CF before employing a specific CF method. The study is not without limitations. The research database is confined to Scopus and excludes other databases like Web of Science and ERIC. Therefore, the final research articles may not cover all the academic outcomes. Nevertheless, the study can provide a general development trajectory of the CF field, which provides new sights for language practitioners, teachers, and researchers in language teaching, as well as offers new lenses for the advancement of the CF field.

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Conflict of Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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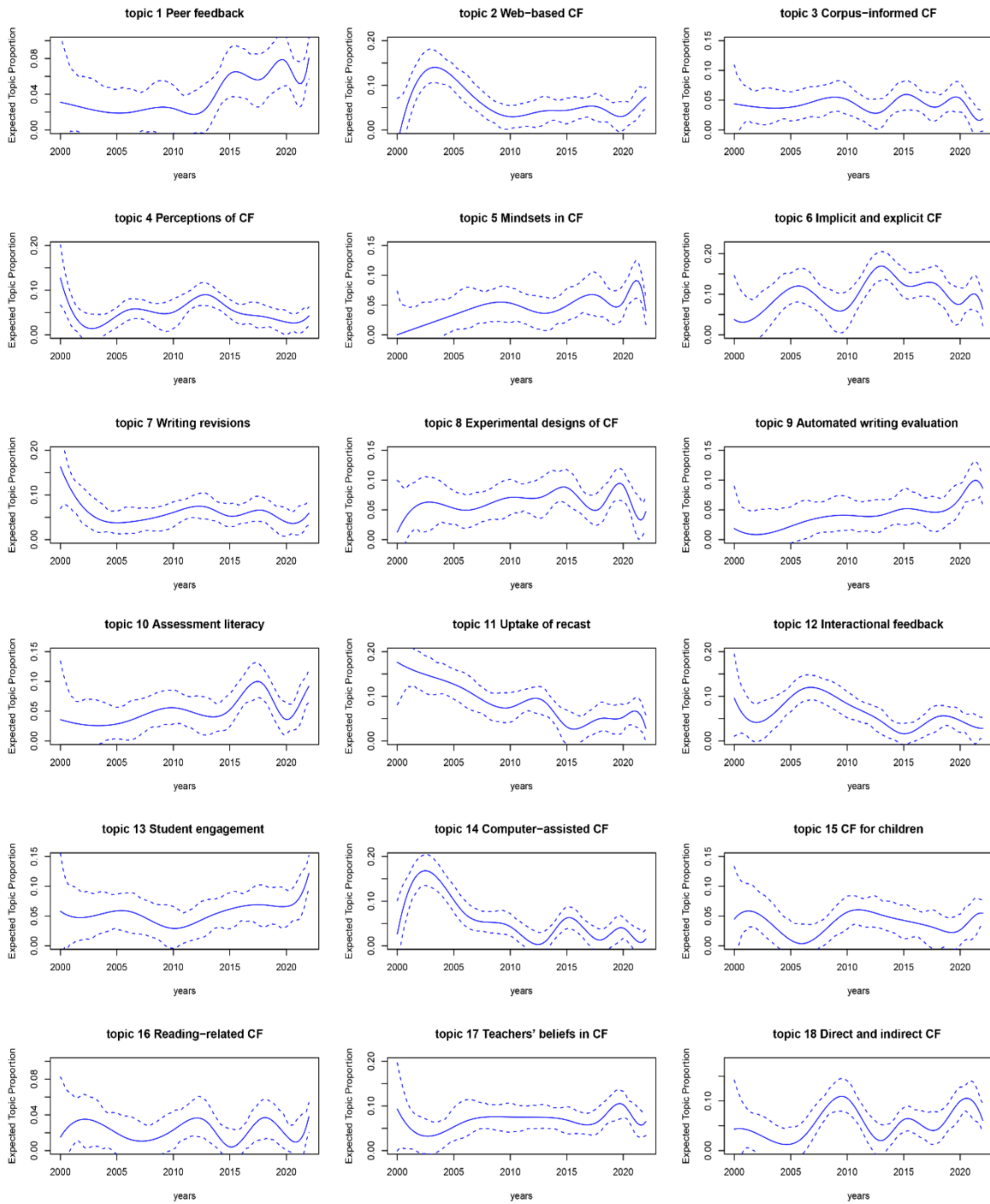# Appendix A: Top words associated with each topic

Topic No.	Keywords	Latent topics
Topic 1	Highest Prob: peer, feedback, group, writing, study, interaction, language FREX: peer, review, peers, video, intervention, mobile-assisted, face--face Lift: belonging, demanding, dominant, expert, novice, listened, multi-draft, posting Score: peer, writing, givers, receiver, rater, receivers, mobile-assisted	peer feedback (4.8%)
Topic 2	Highest Prob: learning, language, students, online, technology, english, skills FREX: technology, listening, presentation, web, skills, implementation, journals Lift: backdrop, byrams, cloud-based, computing, disrupt, enhancements, films Score: technology, listening, web, online, presentation, competencies, website	web-based CF (5.6%)
Topic 3	Highest Prob: error, correction, errors, corpus, language, students, study FREX: corpus, error, correction, corpora, correct, errors, corrected Lift: detects, missed, appropriacy, consonant, critiques, deletion, discipline-specific Score: corpus, error, correction, errors, corpora, featural, consultation	corpus-informed CF (4.2%)
Topic 4	Highest Prob: learners, feedback, language, study, perceptions, corrective, anxiety FREX: anxiety, condition, noticing, affective, perceptions, modes, learners Lift: card, ftf, non-verbal, self-assessments, think-alouds, assumed, filled Score: anxiety, wtc, ftf, condition, noticing, communicate, high-anxiety	perceptions of CF (4.8%)
Topic 5	Highest Prob: language, english, learners, study, learning, feedback, development FREX: mindsets, languages, mediation, feedback-seeking, intelligence, nonverbal, orientation Lift: -initiated, childhood, kanji, parents', pure, whatsapp, aiding Score: mindsets, feedback-seeking, priming, speakers, languages, pure, lres	mindsets in CF (4.9%)
Topic 6	Highest Prob: group, feedback, learners, groups, two, recasts, study FREX: implicit, ffi, treatment, explicit, control, memory, randomly Lift: -hr, analogical, batteries, battery, benefiting, classifiers, compos Score: recasts, ffi, implicit, control, grammaticality, assigned, posttests	implicit and explicit CF (9.9%)
Topic 7	Highest Prob: students, feedback, writing, study, comments, two, strategies FREX: draft, comments, revisions, strategy, essay, organization, drafts Lift: -proficient, boring, copied, drafted, electronically, files, higher-proficiency Score: writing, revisions, draft, essay, comments, revision, -proficient	writing revisions (5.6%)
Topic 8	Highest Prob: research, studies, language, feedback, second, learning, written FREX: empirical, methodological, sla, theoretical, linguistics, future, applied Lift: academics, contrasted, engagement-mediator-feedback, meta-analytic, recognised, sct, timeline Score: wcf, sla, methodological, published, meta-analytic, replication, ids	experimental designs of CF (6.4%)
Topic 9	Highest Prob: writing, study, students, academic, feedback, awe, language FREX: awe, writing, conferences, writers, automated, awcf, rhetorical Lift: -group, adolescent, anothers, audiorecordings, cause--effect, citation, collective Score: writing, awe, adolescent, awcf, academic, writers, automated	automated writing evaluation (5.3%)
Topic 10	Highest Prob: assessment, students, academic, english, feedback, learning, study FREX: assessment, literacy, eap, formative, instrument, academic, emi Lift: biology, cael, cda, desired, reproduction, responsibilities, scripts Score: assessment, eap, academic, literacy, formative, emi, socialization	assessment literacy (5.7%)
Topic 11	Highest Prob: recasts, feedback, errors, learners, study, uptake, corrective FREX: uptake, recasts, repair, recast, gaze, modified, form Lift: deictic, facial, fss, grammar-oriented, observational, pushed, subject-verb Score: recasts, repair, recast, uptake, errors, scmc, ocf	uptake of recast (7%)
Topic 12	Highest Prob: classroom, students, teacher, language, feedback, learning, use FREX: talk, conversation, discourse, classroom, irf, conversations, majority Lift: accomplished, lifeworld, transitions, troubles, -rf, arguing, inhibiting Score: talk, irf, conversation, repair, turns, discourse, markers	interactional feedback (5.3%)
Topic 13	Highest Prob: feedback, student, teacher, writing, students, engagement, study FREX: engagement, student, emotions, awe, clil, students', papers Lift: observers, behaviourally, fed, mle, teacher-centred, behaviorally, behavioural Score: awe, engagement, writing, student, emotions, clil, supervisors	student engagement (6.6%)
Topic 14	Highest Prob: learning, learners, language, system, pronunciation, feedback, call FREX: misspellings, capt, spell, pronunciation, system, computer-assisted, automatic Lift: attractive, nlp, nocf, programmed, spell, alternatives, arabic Score: pronunciation, capt, misspellings, spell, system, icall, asr	computer-assisted CF (4.5%)

Topic 15	Highest Prob: feedback, learning, language, lexical, results, words, effect FREX: spacing, childrens, children, words, young, bilinguals, spaced Lift: chinese–english, hvpt, latencies, richness, toddlers, word-object, autism Score: spaced, children, spacing, bilinguals, massed, referent, childrens	CF for children (4.1%)
Topic 16	Highest Prob: reading, students, language, study, english, online, results FREX: reading, non-native, health, comprehension, raters, reaction, read Lift: dialogism, friends, habits, health, knoch, portrayed, signs Score: health, reading, dmcs, comprehension, raters, reception, wtc	reading-related CF (2.3%)
Topic 17	Highest Prob: teachers, teaching, beliefs, teacher, language, practice, practices FREX: beliefs, professional, teaching, pre-service, teachers, teachers', practices Lift: -service, drama, mismatches, qualifications, cognitions, collegial, counts Score: beliefs, teachers, teaching, professional, practices, pre-service, ocf	teachers' beliefs in CF (7.1%)
Topic 18	Highest Prob: feedback, writing, accuracy, written, wcf, corrective, group FREX: direct, wcf, indirect, accuracy, pieces, explanation, written Lift: animation, conditional, drills, fifty-three, happening, icf, meta-linguistic Score: wcf, writing, direct, indirect, pieces, dcf, swcf	direct and indirect CF (6.2%)

Notes: The keywords and the proportions of these 18 topics were identified via structural topic modeling (STM) using the *stm* package. Highest Prob (Highest probability) means containing the words within each topic with the highest frequency of occurrence. FREX weights words by how frequent words are in a particular topic and also by how exclusive they are to that particular topic. Lift is a similar metric that weights words by dividing by a word's frequency in other topics thereby giving higher weights to words that appear less frequently in other topics. Score weights words by the log frequency of a word in a topic divided by the log frequency of the word in other topics.

Appendix B: Development trajectory of each topic

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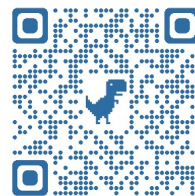
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A study on the content validity of TEM4 listening comprehension (2016-2023)

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Abstract

Test for English Majors-Band 4 (TEM4) is a large-scale nationwide criterion-referenced test for English majors in Chinese colleges and universities. Since its implementation in 1990, there have been continuous studies on its validity. However, most focused on its reading comprehension section and were based on the traditional classification validity view. Moreover, TEM4 was officially reformed in 2016, especially its listening comprehension section, but relevant validity study is still limited. Therefore, this study aims to assess the content validity of TEM4 listening comprehension after the reform, attempting to enrich the relevant validity study, helping test developers improve question types and promoting the pedagogical teaching to strengthen college students' listening comprehension ability.

Based on Bachman and Palmer's framework of task characteristics and reference to the interlocutor characteristics proposed by Weir, this study established its framework and analyzed quantitative statistics on the linguistic characteristics of TEM4 listening comprehension. Three dimensions are included in the verification framework: language input characteristics, expected response characteristics, and the relationship between input and response. The study found that the selected TEM4 listening comprehension tests meet the requirements of the teaching and testing syllabuses in terms of length, vocabulary, topic, speech speed, and accent; the question types and expected skills are varied with prominent emphasis; the range and scope of relationship between input and response align with the test proposition principle. All the research results demonstrated a high content validity of TEM4 listening comprehension since its reform in 2016.

Keywords content validity; listening comprehension; TEM4; language task characteristics

1. Introduction

Test for English Majors (TEM), a criterion-referenced test independently developed by researchers and language assessment professionals in China, has been regarded as one of the most important English proficiency tests in China (Pan & Zou, 2020). There are two bands of the test: Band 4 for English majors at their fourth semester of studies, and Band 8 for English majors before graduation. This study mainly chooses Test for English Majors-Band 4 (TEM4) as the research object. Given TEM4's importance, it is necessary to assess its quality based on two significant indexes: validity and reliability, especially validity, because it is the starting point of language testing research (Yang, 1998).

Since the first TEM4 test in 1990, many Chinese researchers have conducted considerable validity studies in this filed. However, according to the current research results, most studies were based on the traditional classification validity view; they mainly concentrated on reading comprehension (e.g., Cui & Liu, 2019; Hou, 2012; Liu & Hu, 2018; Xu, 2013), while few research reports focused on its validity in other skills, especially in listening comprehension. Additionally, since the official reform of

TEM4 in 2016, the number of questions, question types and even allocated time were significantly different, especially in the listening comprehension section, but the relevant topic is still less explored.

Considering the above research gaps and based on the widely accepted unitary concept of validity, this study was conducted to assess the content validity of TEM4 listening comprehension by collecting and analyzing related evidence to understand the current situation, existing problems, and aspects to be improved, attempting to provide some references to the development of TEM4 test design and promote pedagogical teaching of English listening in colleges and universities to strength students' listening comprehension ability.

2. Literature Review

2.1. Development of Validity Concept

The validity concept was first put forward in the 1930s, and the development of it follows the validity theory and development approach in the field of education and psychometry (Liu & He, 2020). When it comes to the development stages of validity, researchers hold different opinions. In this study, the author summarized it into

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three main stages: single validity, classification validity, and unitary validity.

At the single validity stage, validity is the extent to which a test examines what it intends to measure. Namely, it is the relatedness between the test and criterion (Gulliksen, 1950) or a correlation coefficient to show how test scores evaluate or predict standard scores (Li, 2006). However, due to the difficulty in finding a suitable test as a reference standard, this view was quickly replaced by the classification validity view.

Since the 1940s and the 1950s, many researchers have argued that validity can be divided into different categories. In 1954, the American Psychological Association (APA) divided validity into four categories: content validity, predictive validity, concurrent validity, and construct validity (APA, 1954). Later, APA introduced the concept of criterion-related validity in 1966 and 1974, replacing the previously proposed predictive validity and concurrent validity and forming a classification of content validity, criterion-related validity, and construct validity (APA, 1966; AERA, APA, & NCME, 1974). Till now, the classification view still influences the development of language testing.

Unitary validity, which takes construct validity as the core, has been gradually accepted by the academic community since the 1970s, especially in the 80s and 90s. In 1985, *the Standards for Educational and Psychological Testing* (shorted as *Standard* in the following paper) published by the American Education Research Association (AERA), APA, and National Council of Measurement in Education (NCME) regarded validity as a unitary concept, referring to the appropriateness, meaningfulness, and usefulness of the specific inferences made by test scores (AERA, APA, & NCME, 1985). Moreover, the validity in the classification stage became the relevant evidence of the unitary validity, including content-related evidence, criterion-related evidence, and construct-related evidence. Later, Bachman (1990) introduced the concept of validity in *Standard* (version 1985) and the validity view of Messick (1989) into the field of language testing, from which the unitary validity view formally entered the language testing field. Moreover, APA released *Standard* (version 1999) and emphasized that the unitary validity was to provide scientific and valid evidence for the interpretation of a particular test score rather than the test itself, suggesting that various sources of evidence may illuminate different facets of validity, while these sources do not represent different types of validity but a unitary concept (AERA, APA, & NCME, 1999).

2.2. Content Validity and Verification Framework

The language testing community has not formed a unified definition of content validity for a long time (e.g., Heaton, 1988; Henning, 2001; Hughes, 2002; Kerlinger, 1973; Messick, 1989; Weir, 2005), but all their definitions shared a similar connotation: content validity is the extent to which elements in an assessment tool are relevant and representative of the target structure in a particular assessment. Such connotation is consistent with Bachman (1990)'s view on studying content validity from two perspectives: content relevance and content coverage.

As mentioned before, evidence of unitary validity comes from various sources, and this study only focused on evidence related to content validity by referring to Bachman and Palmer's (1996) language task characteristics framework. This framework consists of test setting, test rubrics, input, response, and the relationship between input and response (See Table 1).

Table 1. Task characteristics framework

Characteristics of the setting
Physical characteristics   Participants   Time of task
Characteristics of the test rubrics
Instructions   Structure   Time allotment   Scoring method
Characteristics of the input
Language of input
a. Language characteristics
b. Organizational characteristics
c. Grammatical (vocabulary, syntax, phonology, graphology)
d. Textual (cohesion, rhetorical/conversational organization)
e. Pragmatics characteristics
f. Functional (ideational, manipulative, heuristic, imaginative)
g. Sociolinguistic (dialect/variety, register, naturalness, cultural references, and figurative language)
h. Topical characteristics
Characteristics of the expected response
Language of expected responses
a. Language characteristics
b. Organizational characteristics
c. Grammatical (vocabulary, syntax, phonology, graphology)
d. Textual (cohesion, rhetorical/ conversational organization)
e. Pragmatics characteristics
f. Functional (ideational, manipulative, heuristic, imaginative)
g. Sociolinguistic (dialect/variety, register, naturalness, cultural references, and figurative language)
h. Topical characteristics
Relationship between input and response
Reactivity (reciprocal, non-reciprocal, adaptive)
Scope of relationship (broad, narrow)
Directness of relationship (direct, indirect)
Source: Bachman & Palmer (1996, p. 26)

Bachman & Palmer (1996) designed this framework to collect evidence related to content validity with high flexibility and applicability, indicating that it aims to provide research ideas rather than require and limit the relevant research to collect validity evidence according to each item listed. Therefore, considering the features of TEM4 listening comprehension and its teaching and testing syllabuses, the author added the interlocutor characteristics (Weir, 2005) and made some adjustments to Bachman and Palmer's task characteristics framework to establish a new framework (See Table 2).

Table 2. Framework of the content validity of TEM4 listening comprehension

Elements	Description
Test Language Input Characteristics	
Language Features:	Features of listening materials
Length:	The length of the discourse input
Vocabulary:	In principle, the words in the listening materials do not exceed the scope stipulated in the Syllabus.
Topic:	Topics related to daily life of English-speaking people, as well as news and information at normal speed, including cultural customs, finance and trade, current affairs, science and technology communication, entertainment and life, etc.
Interlocutor Characteristics	
Speed:	The sound characteristics of listening materials
	The number of words per minute in the recording materials, like 120 words per minute as stipulated in the Syllabus.
Accent:	Identify different varieties of English (e.g., American English, British English, Australian English, etc.)
Expected Response Characteristics	
Question Type:	Types of questions (including literal interpretation, information reorganization and interpretation, reasoning, and judgment)
Expected Test Skills:	The ability to understand the main idea and generalization of the listening material; the ability to understand the purpose and attitude of the speaker; the ability to understand the details of the listening material; the ability to integrate information from what you hear; the ability to interpret listening materials; the ability to deduce and interpret listening materials
The Relationship Between Input and Response	
Range:	Relationship range (wide, narrow)
Directness:	The degree of directness of the relationship (direct, indirect)

2.3. Previous Studies on Listening Comprehension

Listening comprehension is a complex cognitive process occurring in the human brain. As Buck (2011) mentioned in the guidance of *Listening Assessment*, in the field of language testing and evaluation, compared with other language skills assessment studies, the literature and results of listening assessment research are relatively limited.

In international studies, the epitomized researchers in second/foreign language listening comprehension are Dunkel, Henning, and Chaudron (1993), Bejar, Douglas, Jamieson, Nissan, and Turner (2000), and Buck (2011). Dunkel et al. (1993) proposed a tentative model to assess second language listening comprehension proficiency, but few empirical studies have adopted it so far. Bejar et al. (2000) proposed the TOEFL 2000 listening model, holding that listening comprehension consists of listening and response. Based on Bachman and Palmer's task characteristics, Buck (2011) sketched the listening task framework, and many his views on the listening test have won other scholars' recognition.

In China, Chinese researchers have conducted considerable listening comprehension assessment and research in various kinds of English tests such as College English Test Band 4 (CET4), College English Test Band 6 (CET6), two vital criterion-referenced tests for non-English majors in Chinese colleges and universities, as well as TEM tests for English majors. This study mainly focused on the listening comprehension of TEM tests.

After reviewing a large number of Chinese studies on TEM listening tests, the author noticed that they mainly focused on the validity, authenticity, interaction, and washback effect. For example, Peng (2010) explored the validity of TEM4 tests through two different perspectives: assessment use argument and construct validity. The next year, Peng (2011) addressed a specific construct validity issue of TEM4 listening comprehension and explored task characteristics that affect listening comprehension proficiency. Dang (2004) analyzed the TEM4 listening tests from 1997 to 2001, summarizing that the listening materials in these five years were authentic, and the results were reliable and had high validity. In the same year, Zou (2004) explored the interaction within elements in TEM listening test from three aspects: the discourse characteristics of listening materials, the way of listening proposition, and the form of listening test. More recently, Chinese researchers have been paying more attention to the washback study. For instance, Yang (2023) conducted an empirical study to explore the positive washback effect of TEM listening on English majors' learning experience. Her study highlighted that TEM listening did have a

washback on students' daily English learning, and the positive washback outweighed the negative one.

Although there are many fruitful studies on TEM listening test, the current research results show that their number is much less than that of other language skills, like reading comprehension and writing. Besides, the author noticed that after the reform in 2016, the validity study on TEM4 is limited, and the study on listening comprehension is less discussed. To enrich the relevant study, the author selected the listening comprehension section of TEM4 from 2016 to 2023 and assessed its content validity through careful analyses. The purpose of this study is to understand the current situation of TEM4 listening comprehension's content validity, the possible deficiencies for further improvement, and provide certain reference for the development of test design and pedagogical teaching in college English.

3. Research Design

3.1. Research Questions

Three research questions are explored in this study:
1. What are the task characteristics of TEM4 listening comprehension after the reform?
2. To what extent do the materials selected in the TEM4 listening comprehension conform to the teaching syllabus and testing syllabus?
3. What is the content validity of TEM4 listening

comprehension after the reform?

3.2. Research Object

This study selected the text materials of TEM4 listening comprehension from 2016 to 2023 as the research object. The specific provisions of the new testing syllabus for the question type, number, scoring, proportion, and time allocation of the reformed listening comprehension section are shown in the table below. As can be seen from Table 3, TEM4 listening comprehension consists of two sections: Section A Talk and Section B Conversations, and each section includes 10 questions, that is, there are 20 questions in each year. This study analyzed the TEM4 listening comprehension test from 2016 to 2023, a total of seven test papers in the past eight years (there was no test in 2020 because of the pandemic). The total listening texts of the selected seven years were 21, including 7 talks and 14 conversations. 140 questions were analyzed, equally distributed in Section A and Section B.

3.3. Research Instruments

3.3.1. Teaching Syllabus

The new national *English Teaching Syllabus for English Majors (2000)* (Syllabus hereafter) revised by the English group of the College Foreign Language Teaching Steering Committee is still in use today. This Syllabus includes six sections, and this study mainly focuses on the teaching requirements (See Table 4).

Table 3. Relevant provisions of the TEM4 listening comprehension section

Part Name	Question Type	Question Number	Scoring	Proportion	Time
Section A Talk	Fill in the blanks	10	20	20%	20 mins
Section B Conversations	Multiple choice	10			

Table 4. Listening teaching requirements for English majors

Requirements:
a. be able to understand the conversations on daily life and social life in English countries.
b. be able to understand the listening materials at the level of medium-difficulty like the mini-talk in TOEFL, and seize the main theory point or plot, according to the listening material do some inference and analysis.
c. be able to understand the gist.
d. be able to understand the speaker's attitudes, emotion and intentions.
e. be able to understand the news like the main content of BBC at the normal speed of VOA.
f. be able to discriminate kinds of varieties of English like American English, British English, Australia English and so on.

Source: The Teaching Syllabus (2000)

3.3.2. Testing Syllabus

To provide better guidance, the professional testing committee revised the TEM4 testing syllabus for English majors in 2015. Compared with the previous tests, the reformed test changed a lot, especially in the listening comprehension section. It added a mini-lecture for the first time and replaced the original Section B (composed of one conversation, one passage, and one piece of news) with two conversations in around 450 words each.

Table 5. TEM4 testing syllabus (listening comprehension section)

Test requirements:
a. Understand speeches and conversations about daily life, social life and study by English speakers, and understand general ideas, attitudes, feelings and true intentions. b. Take simple notes. c. Identify various varieties of English (e.g., American English, British English, Italian English, etc.). d. The exam lasts about 20 minutes
Test forms:
In Section A and B, there are 20 questions. Section A: Talk This section consists of a mini-lecture of about 500 words and a fill-in-the-blank task. Listen and take notes. Then fill in the blanks. The exam lasts 10 minutes. There are 10 blanks in this passage. Section B: Conversations This section consists of two conversations of approximately 450 words. There are 10 multiple choice questions after the conversation. Students are asked to choose the best answer from the four choices given after listening to the question. The recording is spoken once at about 120 words per minute.
Test purpose:
Test students' ability to obtain oral information.
Materials selection principle:
(a) The content of the micro-lectures and conversational components is relevant to daily life and social and learning activities. (b) The listening material is of medium difficulty.

Source: The Testing Syllabus (2015)

By comparing Table 4 and Table 5, we can see that the requirements of TEM4 listening comprehension in the teaching and testing syllabuses are consistent. Meanwhile, as Table 5 shows, the testing syllabus specifies the components of listening comprehension, the length of listening materials, the topic selection of Talk and Conversations, as well as the recording speed, the play count of listening materials, the answering time, the identification of English varieties and the difficulty of listening materials. Based on the above, the author collected evidence of content-related validity of TEM4 listening comprehension.

3.4. Data Collection and Analysis

First, the author compiled the selected seven years' TEM4 listening comprehension texts and conducted a careful comparative analysis to ensure the contents are consistent with the original tests. Secondly, when collecting objective data, such as the length, vocabulary, and speed of language material, the author utilized Word and Excel as calculation tools. When collecting subjective data such as topic, test types and expected test skills, the TEM4 task characteristics framework was mainly used. To ensure the author's proficiency in applying the framework, the author first did a small range of research (for the test questions in 2016) based on the established framework and then conducted a statistical analysis on all the listening comprehension questions. Finally, the author analyzed and sorted the content-related validity of TEM4 listening comprehension.

4. Results and Discussion

The task language characteristics of the selected tests were analyzed from three dimensions within the framework: language input characteristics, expected response characteristics, and the relationship between input and response. On this basis, this study could get the conformity of the task materials with the teaching and testing syllabuses as well as the content validity of TEM4 listening comprehension after the reform.

4.1. Language Input Characteristics

4.1.1. Features of Language Materials
(1) Length

Many researchers consider text length as one of the factors that cause listening tasks difficult (Chen, 2005; Mohamadi, 2013; Robinson, 2001). Generally, the longer the text length is, the more language points it might have. Therefore, it is essential to know the length of TEM4 listening material.

When calculating the listening material's length, this study divided it into two parts: one for the test rubrics and the other for the listening material (excluding test questions and options). As the length of the rubric category is relatively stable, this study only took the listening material length into account.

Table 6. Length of TEM4 listening comprehension

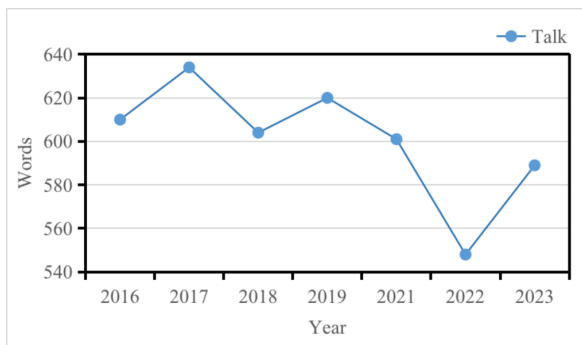| Year	Talk	Conversation 1	Conversation 2
2016	610	339	457
2017	634	383	524
2018	604	402	452
2019	620	408	412
2021	601	397	483
2022	548	431	437
2023	589	556	479
Average	601	417	463

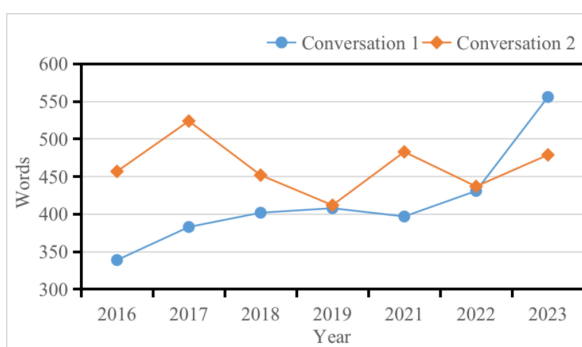**Figure 1.** Length of Talk in TEM4 (2016-2023)

Figure 2. Length of Conversations inTEM4 (2016-2023)

As Table 6 and Figure 1 suggest, the average length of Talk is 601 words, slightly longer than the stipulated 500 words in the testing syllabus. Given the input principle of "i+1" (Krashen, 1982), it is desirable to increase the difficulty of listening materials, but how to control the quantity and quality of "i" is what the test designers must pay attention to.

Moreover, Figure 2 displays that the average length of the second conversation is generally longer than the first. As mentioned before, the length of input materials directly affects listening comprehension's difficulty, so the second conversation is at a higher difficult level, which is in line with Zou (2011)'s statement that the difficulty degree of questions should be gradient. Thus, from this point of view, the length design in TEM4's Section B Conversations indicates that test developers have followed the proposition principle in arranging the order of test questions.

(2) Vocabulary

Weir (1993, p. 89) mentioned that "texts with more high-frequency vocabulary tend to be easier than texts with more low-frequency vocabulary", suggesting that vocabulary frequency affects the difficulty of test questions. In other words, new words in listening can affect learners' listening comprehension.

When determining the number of new words in listening materials, this study removed proper nouns (such as the names of people, places, and businesses) and compared the texts with the vocabulary range specified in the teaching syllabus. Since the proportion of new words needed to be compared with the text length, the author counted all the times that a new word repeatedly appeared in the same year. This study utilized Word and Excel as calculation tools and found the average proportion of new words was 0.96 (See Table 7), which is well below the 3% given by Nuttall (1982) in determining the difficulty degree of vocabulary in the discourse.

Table 7. Number and proportion of new words in TEM4 listening comprehension

Year	2016	2017	2018	2019	2021	2022	2023	Total
N of new words	18	17	17	20	10	13	4	99
N of words	1406	1541	1458	1440	1481	1416	1624	10366
Proportion of new words (%)	1.28	1.10	1.17	1.39	0.68	0.92	0.25	0.96

In the listening comprehension test, the existence of a reasonable proportion of new words has some justifications:

(1) From the perspective of the listening principle, candidates who have completed the basic stage of English learning should be able to use an interactive model when listening to English materials. That is, candidates should be able to use both top-down and bottom-up interaction structures to decode the input material. In this process, the ability to predict or guess new words' meanings is an important listening activity.

(2) Considering the communicative nature of listening comprehension, authentic listening materials in English-speaking countries are encouraged to use. As Nunan (1989, p. 54) put, "authentic material is any material that has not been specifically produced for the purpose of language teaching". Thus, from this point of view, when we choose listening materials, the overall length and difficulty level are two main factors to consider. Therefore, it is acceptable and even inevitable to contain a proper number of new words in the material.

(3) From the perspective of promoting listening learning, when students encounter certain new words, they can activate schema concepts such as existing language knowledge and background knowledge or use listening strategies such as prediction and speculation to understand the text. Such processes are also conducive for students to improve their listening comprehension ability.

(4) From the perspective of teaching guidance, in language teaching activities, teachers are encouraged to guide students not only focus on the word's meaning but on the whole text's understanding. To a certain extent, more difficult language tasks, such as a reasonable proportion of new words, can achieve this effect and help improve students' language ability.

(5) From the perspective of test proposition requirements, test questions should maintain a certain degree of difficulty to ensure the discrimination and overall quality of the test paper.

From the above points, the proportion of new words in TEM4 listening comprehension from 2016 to 2023 is within an acceptable range, and all the seven test papers

are consistent with modern teaching and testing theories and basically meet the requirements of the teaching and testing syllabuses.

(3) Topic

According to the requirements of the testing syllabus, the contents of TEM4 listening comprehension should relate to daily life, social and learning activities, and the listening material is of medium level of difficulty.

To analyze the selected texts' topics, the author referred to Zou et al. (2012)'s classification method. Given the content analysis of the selected listening materials, this study only adopted their classification of general topics.

Table 8. Topic distribution of TEM4 listening comprehension

General Topics	Year							
	2016	2017	2018	2019	2021	2022	2023	Total
Learning	0	0	0	1	2	1	0	4
Employment	1	0	0	0	1	0	0	2
Work/Life	1	2	0	0	0	1	1	5
Recreation/Entertainment	0	0	1	0	0	1	0	2
Character/History	0	0	0	1	0	0	1	2
Current Events	0	1	1	0	0	0	1	3
Social Humanities	1	0	1	0	0	0	0	2

As Table 8 shows, each year covers different topics, and they all conform to the requirements of the two syllabuses. The diverse topics intend to enable candidates to be more familiar with various scenes in life and learning and motivate them to enrich their background knowledge as well as subject matter knowledge in English learning.

However, this study also noticed that professional topics (including financial trade, science and technology communication, environment/medicine, international relations, legal/criminal investigation, and history) were less involved in the listening comprehension section. For one thing, such design can effectively ensure the difficulty level of text materials and measure candidates' English proficiency; for another, if test designers involve certain professional topics, it may be more helpful to stimulate students' scope of knowledge.

4.1.2. Interlocutor Characteristics

Listening comprehension differs from other skill tests because of the immediacy of phonetic materials and the unrepeatable nature of language input. There are many factors influencing learners' listening comprehension ability. Given the realistic conditions and operation feasibility, this study only focused on speech speed and accent.

(1) Speech Speed

Some studies (e.g., Buck, 2010; Stanley, 1978) have shown that speech speed is an influencing factor affects listening comprehension in native and foreign languages. Generally speaking, the faster the speaker says, the lower understanding the listener gets.

To verify whether the speed of the selected listening materials satisfies the requirements of the teaching and testing syllabuses, the author calculated the speech speed of the selected test papers. The average speed of TEM4 listening comprehension was 140 words per minute, including a minimum speed of 129 words per minute in 2016 and a maximum speed of 147 words per minute in 2021. More detailed information can be found in Table 9.

Table 9. Average speed of TEM4 listening comprehension

Year	2016	2017	2018	2019	2021	2022	2023	Average
Length	1406	1541	1458	1440	1481	1416	1624	1481
Speed	129	146	146	136	147	141	135	140

To vividly reflect the speed situation of TEM4 listening comprehension, the author made Figure 3. As it shows, the speech speed in the selected seven years slightly fluctuates around 140 words per minute, which conforms to the requirements of teaching syllabus.
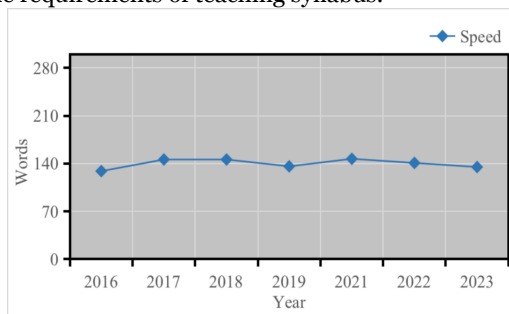
Figure 3. Average speed of TEM4 listening comprehension (2016-2023)

Additionally, it is clear that the recording speed of language materials, 120 words per minute suggested in the testing syllabus, has been appropriately increased in all the selected years. On the one hand, it reflects that with the improvement of listening and speaking teaching quality, the TEM4 listening test has increased the demand for students' listening comprehension ability. On the other hand, as the teaching syllabus suggests, students should be able to understand news like the main contents of BBC at the standard speed of VOA, which is widely accepted as 140 words per minute.

(2) Accent

According to the requirements in the teaching and testing syllabuses, students should be able to verify various varieties of English (e.g., American English, British English, Italian English, and so on). Based on the analysis of the selected listening comprehension materials, the

study found that speakers' accents in recordings were generally American English or British English or similar to the two accents, and their pronunciation was clear and standard. Thus, from this point of view, the recording materials meet the requirements of the two syllabuses.

However, the voice of TEM4 listening comprehension phonetic materials is different from the daily way most native speakers speak. To ensure the authenticity of listening comprehension, recording speakers close to the typical accent in the target language's speaking domain are strongly recommended.

Table 10. Analysis on question types of TEM4 listening comprehension

Year	Literal Comprehension		Information recognition and interpretation		Inference		Judgment	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
2016	10	50%	6	30%	3	15%	1	5%
2017	10	50%	7	35%	2	10%	1	5%
2018	8	40%	10	50%	2	10%	0	0%
2019	4	20%	9	45%	5	25%	2	10%
2021	5	25%	10	50%	4	20%	1	5%
2022	5	25%	12	60%	2	10%	1	5%
2023	5	25%	12	60%	3	15%	0	0%
Average	7	35%	9	45%	3	15%	1	5%

According to Table 10, the average percentage of literal comprehension, information recognition and interpretation is about 80 %; the average proportion of inference and judgment is about 20%, which shows that TEM4 listening comprehension mainly tests candidates' ability to understand the literal meaning of details and information integration under the premise of understanding the general idea of the material. In addition, Table 10 also reveals that the proportion of test questions requiring reorganization and interpreting information has risen from 30 % to 60 %, which indicates a rising difficulty level of test in recent years. Such design is of great help to differentiate candidates in different language levels and motivates them to keep improving their listening comprehension ability.

To sum up, the test questions of TEM4 listening comprehension assess students' ability at different levels, and their distribution proportions are comprehensive, which not only conform to the test characteristics but also satisfy the related requirements of the teaching and testing syllabuses.

4.2.2. Expected Test Skills

The validity of any test should be checked to see if the range of skills expected to test is sufficiently comprehensive. Based on Weir (1993)'s classifications of listening skills and the characteristics of TEM4 listening comprehension, this study summarized them as follows:

I: Ability to understand the main idea of the content and generalize the listening material

II: Ability to understand the speaker's intentions and attitudes

III: Ability to understand the details (literal) of the listening material

IV: Ability to integrate and interpret information from the listening material

V: Ability to deduce and infer from the listening

4.2. Expected Response Characteristics

4.2.1. Question Type

According to Zou et al. (2012)'s study, TEM4 listening comprehension questions are generally divided into literal comprehension, information reorganization and interpretation, inference, and judgment. Based on this classification method, a total 120 test questions were analyzed. All the question types are listed below:

material

Table 11. Distribution of listening skills in TEM4

Year	I	II	III	IV	V
2016	1	0	10	6	3
2017	0	1	10	7	2
2018	0	0	8	10	2
2019	1	1	4	9	5
2021	0	1	5	10	4
2022	0	1	5	12	2
2023	0	0	5	12	3
Total	2	4	47	66	21

Table 11 suggests that the selected 120 test questions tested all the expected skills in the two syllabuses, except for some expected skills in some years. Meanwhile, the study also noticed that the ability III and IV are two listening skills that have been paid much attention to, which indicates that the comprehension of literal meaning is the basic listening skill that students should master. However, it is not enough to test candidates' understanding of simple questions. English majors at the basic stage are supposed to have the ability to analyze and synthesize information. That's why the ability to integrate and interpret information from the listening material is the focused expected skill in TEM4 listening comprehension test.

4.3. Relationship between Input and Response

4.3.1. Scope of Relationship

According to Bachman and Palmer's theory of task characteristics, the range of relationships has two types: wide range and narrow range. Wide range refers to tasks requiring language users to process a large amount of language input, and narrow range calls for processing a limited language input (Bachman & Palmer, 1996).

Based on the above definition, it is clear that literal comprehension questions, information reorganization and interpretation questions belong to the narrow-range questions; inference and judgment are wide-range questions. More detailed information is shown in Table 12.

Table 12. Scope of relationship between listening task input and response in TEM4

Scope of relationship	2016	2017	2018	2019	2021	2022	2023	Proportion
Wide	4	3	2	7	5	3	3	19.3%
Narrow	16	17	18	13	15	17	17	80.7%

As can be seen from Table 12, more than 80% of test questions are narrow-range questions, which only require candidates to understand the literal meaning of the phonetic material, grasp or integrate the details in small range, and understand the meaning of a part of the material. Meanwhile, over 19% of the test questions belong to the wide range, requiring candidates to summarize and infer most of the length or even the whole listening material, which is more difficult than the questions in a narrow range.

Considering the theory of normal distribution of test scores, college students with high English ability are still in minority. Therefore, to test candidates' language abilities, it is necessary to design a large percentage of narrow-range questions. On this point, the scope of relationship of the reformed TEM4 listening comprehension is reasonably designed.

4.3.2. Degree of Directness of Relationship

According to Bachman and Palmer's task characteristic theory, relationship directness refers to the degree to which the expected response depends on the input information. Direct means the answer includes most of the information provided by the input; indirect means the answer covers information provided by non-verbal input (Bachman & Palmer, 1996). In other words, the candidates who can directly answer test questions can get the answers from the language material, while those who indirectly answer test questions must utilize their contextual knowledge and background knowledge. Based on the above understanding, this study sorted all the test questions' relationship directness (See Table 13).

Table 13. Directness of relationship between listening task input and response in TEM4

Directness of relationship	2016	2017	2018	2019	2021	2022	2023	Proportion
Direct	17	17	18	14	15	17	17	82.1%
Indirect	3	3	2	6	5	3	3	17.9%

As Table 13 indicates, over 82% of test questions can be answered based on the phonetic material itself, and nearly 18% of the questions require extra knowledge, such as contextual knowledge and candidates' background knowledge. However, test developers need to ensure that candidates answer the test questions mainly based on the listening material rather than too much of their background knowledge to guarantee test fairness. Through the analysis of the selected listening comprehension tests, the study found that all the test answers, whether direct or indirect, require the use of the information provided by the listening material, and there are no irrelevant answers, which is consistent with the test proposition principle.

5. Conclusion

Based on the established framework for the content validity of TEM4 listening comprehension, this study found that the latest seven years' tests meet the requirements of the teaching and testing syllabuses in terms of length, vocabulary, topic, speech speed, and accent. The question types and expected skills are varied with prominent emphasis, and the scope and relationship directness between input and response align with the test proposition principle. All the above is sufficient to demonstrate a high content validity of TEM4 listening comprehension after the reform.

Although this study is a significant attempt in this field, some limitations still exist. First, it only focused on the content-related validity of TEM4 listening comprehension, which may lead to a partial understanding of the relevant study. Second, the established framework was not quite comprehensive for the test environment, test instruction, and some other aspects were not involved, which may affect the comprehensiveness of the research results. Last but not least, validity is a multi-faceted concept that calls for multi-level and multi-type of evidence to support it, but this study was only one part of it. Therefore, we hope in the future, more research can be conducted on TEM4 validity, not only in listening but also in other language skills and establish more comprehensive frameworks to assess TEM4 validity.

To conclude, the listening comprehension test of TEM4 from 2016 to 2023 has high content-related validity, and validity verification is an endless process that requires researchers to carry out various studies to get the research in this field improved theoretically and empirically.

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Conflict of Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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Review

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A systematic review of the application of metaverse in language education: Prominent themes, research methods, impacts, and future challenges

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Abstract

In the era of human-computer symbiosis, extensive research has examined the influence of educational technologies on education. The nascent field, metaverse, driven by advancements in 5G, VR, and AR, has emerged as a new frontier. Although some scholars have explored the application of the metaverse in education, there is a lack of research specifically focusing on its implications for language education. This systematic literature review aims to comprehensively examine empirical studies on the use of metaverse in language education, including, research topics, methodologies, common tools, impacts, and challenges. Through searching authoritative databases (i.e., Web of Science and Scopus) following the Preferred Reporting Items for Systematic Review and Meta-Analyses guidelines (i.e., PRISMA), 12 relevant articles were selected. Statistical analysis showed that South Korea and China are active contributors in this field, primarily investigating university students. Platforms like Ifland, Gather Town, and Metaverse Studio were commonly used for metaverse construction, along with tools such as VR. Quantitative and mixed-method approaches were favored, with research mostly focused on student and teacher perspectives and language proficiency outcomes. Overall, findings suggest positive attitudes towards metaverse implementation and its beneficial impact on learning outcomes, but caution against considering it a complete solution for language learning. Despite valuable insights, the existing literature on metaverse in language education remains limited compared to other technological domains. Further research is necessary to enrich the understanding of research directions, sample choice, experimental findings and so on.

Keywords language education; metaverse; systematic review

1. Introduction

Since internet giant Facebook changed its name to Meta in 2021, the concept of metaverse has dramatically re-emerged into the spotlight from all walks of life (Tlili et al., 2022). Its characteristics of high immersion, strong sociality, and decentralization have attracted all fields (i.e., finance, entertainment, education, etc.) to focus on this trade trend and try to find new development opportunities to step into. In education, metaverses transcend the constraints of conventional two-dimensional online learning, specifically the lack of interactivity (Hwuang, 2023). By leveraging three-dimensional environments and heightened immersion engagement the metaverse can stimulate student interest (Rojas et al., 2023), motivation, facilitate collaboration, and group activities, improve teacher-student interaction, (Irene et al., 2023) and even learning outcomes (Arita et al., 2022). Additionally, foreign language education has been criticized for decontextualization, but metaverse platforms may aptly compensate by situating lessons in virtual settings (Lee,

2023). Moreover, preliminary evidence suggests the metaverse enabled learning continuity during the pandemic (e.g., Onggirawan et al., 2023; Hyun, 2021) which magnets lots of researchers. Hence, myriads of empirical research on its educational applications (e.g., Han & Noh, 2021; Talan & Kalinkara, 2022; Wang & Shin, 2022) but studies focused on language education are scarce. Therefore, this study aims to systematically review existing literature on metaverse integration in education and its affordances for the language class, which encapsulates the current state of knowledge, analyzes critical themes emergent in this nascent field, and evaluates the promise and limitations of the metaverse for enhancing language teaching and learning thus far. Findings will inform future research and practice on balancing novel immersive modalities with sustained pedagogical principles to realize the potential of this emerging paradigm across diverse language education contexts.

2. Literature Review

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2.1. What is Metaverse?

De facto, the metaverse is not a new word. The origin of the term metaverse was conceived in literature and film, with the earliest known usage in Neal Stephenson's 1992 sci-fi novel *Snow Crash* (Wang, 2022; Suh & Ahn, 2022). In this book, Stephenson (1992) depicted a surrealist digital space where people can escape the barriers of geographical space and live productively through their own Avatars. As society advances in technology, the concept of the metaverse is constantly being enriched. Gradually, some film and television productions have started to try to visualize the metaverse concept with special effects technology, such as Ready Player One and The Matrix (e.g., Buhalis et al. 2023; Wu, 2022; Yao & Yao, 2023). Propelled by these cultural forerunners, the video game market has been quick to grasp this industry windfall and has taken the lead in exploring the metaverse market for the first time. Examples like Second Life, Roblox, Fortnite, and VRChat are taken as the forerunners to the Metaverse (Dwivedi et al., 2022).

Such explorations in literature and film to entertainment games represent the culmination of longstanding aspirations to transcend geographic and physical barriers through technology. In addition, the key technologies of the metaverse: 5G, big data, AR, VR, blockchain, brain-machine interface, holography, etc. are developing very rapidly, which makes the metaverse concept full of infinite possibilities (Zhang et al., 2022; Park & Kim, 2022). Consequently, there has not been a clear definition of the metaverse so far (Dahan et al., 2022). Proposed definitions characterize the metaverse as a shift in human-technology interaction (Zhu, 2022), or an immersive, multi-sensory network integrating physical and virtual worlds (center for Journalism Studies of Tsinghua University, 2023). Researchers categorize academic metaverse conceptualizations into aspects like digital identity mapping, virtual-real integration, production transactions, and informational exchange (Zhao et al., 2022). Likewise, the metaverse represents human activities through interconnected 3D virtual spaces mirroring the real world (Kim & Lee, 2022). Academically, metaverse concepts encompass digital identity mapping, integrating physical and virtual worlds, enabling virtual transactions, and facilitating informational exchange (Zhao et al., 2022). In essence, the metaverse aims to simulate real-life activities and communities in immersive digital environments.

In tandem, COVID-19 has increased people's desire to break down the barriers of time and space (Kye et al., 2021; Zou et al., 2021). Under this milieu, the metaverse has shown a broad scenario and diverse forms of its future development on its practical application, which aids a plethora of fields, like e-commerce, education, digital games, tourism, social, and so on (e.g., Pesce, 2021; Monaco & Sacchi, 2023; Park & Kim, 2022). In entertainment, game platforms like Second Life and Roblox are popular. For tourism, South Korea's Incheon airport provides augmented reality navigation allowing visitors to virtually travel through history (e.g., Um et al). Regarding e-commerce, the metaverse helps unite online and offline experiences through digital twins. Luxury brand Prada launched a virtual spokesmodel (Sands et al., 2022), with other companies like KFC, Netflix, and the World Health Organization creating virtual celebrities (Baklanov, 2019).

This also provides a new opportunity for education. Specifically, on the theoretical level, Wang (2022) proposed the idea of collaborative classrooms at primary and secondary levels with the help of XR and the "three teachers". Additionally, with the aid of metaverse concepts, Jovanović et al. (2022) introduced a 3D virtual learning environment (3D-VLE). In terms of practical applications, Stanford University improved the course Virtual People (Kornfein, 2021). In the same vein, National Taiwan Ocean University (NTOU) cooperated with the XRSPACE company and promoted the world's first GOXR Metaverse University (XRSPACE, 2022).

Despite the differences in conceptual expression, the technical support at this stage is mainly reflected in two types of applications in the metaverse. The first one is to create virtual parallel worlds to strengthen the connection between the virtual world and the real world by constructing virtual identities for users. The second is to interact with users by creating a digital body, shaping the corporate image, and strengthening and shaping brand awareness while obtaining users' emotional identity. Overall, the metaverse application market is broad, diverse, and has infinite potential. Its high degree of immersion and interactivity can have a great impact on various industries in the post-epidemic era, providing good reference and thinking.

2.2. Metaverse and Education

Education, as the foundation of the country, its development is inseparably influenced by the pace of the times. By virtue of being resourceful, accessible, affordable, and flexible, online learning has become another form of supplementing traditional face-to-face learning (Zhang et al., 2022). However, the completion of online courses is not optimistic (Suresh & Mallikarjuna, 2019; Sinclair & Kalvala, 2016), mainly due to the limitations of current 2D learning platforms in terms of the users' interaction, which has led to a decline in learners' motivation and participation (e.g., Kang et al., 2020; Pursel, 2016).

However, this phenomenon can be eased by metaverse, which integrates the features of digital games, remote interaction, AR, VR, social sharing, etc. By combining these auditory, visual, and somatosensory devices, the metaverse can stimulate learners' senses, which can impel students to achieve active learning (Gürkan & Bayer, 2023) and relieve their demotivation (Park & Kim, 2022). Additionally, the metaverse implements the ability to link experiences to location-based triggers, which could help the learners interact with other speakers and virtual places (MacCallum & Parsons, 2019), thereby achieving social attributes and offering sustainable content. This is one of the hallmarks of Metaverse, which many other AR and VR tools have not been able to do previously (Park & Kim, 2022). This has attracted many scholars to discuss education in the era of the metaverse. The existing literature on the metaverse and education is centered around two main subjects of

learning, teachers, and students.

Extant research on teacher-metaverse dynamics predominantly examines educator perspectives (Aydin, 2023; Gürkan & Bayer, 2023; Han & Hong, 2023; Rachmadtullah et al., 2023). For example, Gürkan and Bayer (2023) surveyed 122 Turkish primary and secondary teachers, finding that 65% comprehended metaverse concepts and applications, but most only understood gaming applications (45%) vis-à-vis educational uses (11%). Just 30.3% recognized potential metaverse benefits for education. Similarly, Han and Hong (2022) quantitatively assessed South Korean elementary teachers' metaverse perceptions using a 5-point Likert scale. Results showed while over half express openness to integration, actual adoption remains scarce. Attitudes are mixed - teachers perceive that the metaverse enables personalized and interactive learning, yet worry about student concentration, misuse, and evading control. Findings concur that metaverse is better suited to upper primary grades, problem-solving, and hands-on activities.

Mirroring research on teacher perspectives, a myriad of researchers on metaverse and students have also focused on students' perceptions (e.g., Rojas et al., 2023; Hwang et al., 2023; Almarzouqi et al., 2022; Pyo, 2022; Yang et al, 2022). In addition to similar concerns about understanding, acceptance, and possible concerns that are prevalent in research on teachers, engagement, immersion, satisfaction, fun, and so on are often mentioned in the metaverse and student-related research. For instance, Rojas et al. (2023) implemented an educational metaverse platform for engineering students at four universities and quantitatively analyzed the students' perspectives, the conclusions of which showed that the students' perceptions of the platform's ease of use, satisfaction, fun, and immersion were positive, while in terms of learning experience and usefulness, the students' attitude was ambiguous. Also, students felt that the platform still fell short in terms of interactivity compared to face-to-face instructions.

Apart from perceptions, studies on metaverse and students had also foci on the learning outcomes. As proof, Arita et al. (2022) selected a sample of 75 fifth-grade primary school students for a before-and-after experiment on the use of metadata applications in science class, and the result of the t-test showed that the application of metaverse could positively impact the learning outcomes. Meanwhile, Hua and Fu (2022) built three interactive scenarios with the help of two metaverse platforms (i.e., Minecraft Studios and Roblox Studios), to verify their learning effects. The result showed that the avatars provided by the metaverse platform were conducive to the physiological representation of "high arousal-positive emotion", which could indicate that the metaverse had a facilitative effect on learning, by collecting electrocardiographic (ECG) data from the subjects. This consensus has been reached by some scholars (viz. López-Belmonte et al., 2022; Al Yakin et al., 2023). Paradoxically, Zhang (2023) failed to replicate the result. By using a mixed method to investigate the undergraduate students' use of Metaverse for learning. The data showed that students were highly engaged, motivated, and socially aware, but their academic performance was not improved, mainly due to the interference of device network problems and the novelty of the metaverse platform that attracted the students' attention (Zhang, 2023).

Additionally, ethical concerns and risks surrounding metaverse integration in education have spurred scholarly debate (Hu & Wang, 2022; Kaddoura & AI Husseiny, 2023; Yang & Zhu, 2022). For instance, Hu and Wang (2022) delineated four core ethical perils of educational metaverses: diminished interpersonal communicative rationality, problematic learner immersion and overindulgence, disjointed cognition and behavior across real-virtual divides, and human-technology tensions under AI inducement. Proposed mitigation strategies span bolstering intersubjective communication and perspective-taking, nurturing learner self-awareness and self-regulation, and synergizing physical and virtual spaces. Specifically, rational discourse and empathetic imagination could smooth social interactions. Learners should also strengthen self-discipline to avoid over-immersion in virtual environments. Further research and deliberation are imperative to unravel and address the array of ethical challenges introduced by educational metaverse integration.

In summary, metaverse has been well-researched in the field of education, and in general teachers and students have a positive attitude toward its development in this field, but they still have a rudimentary understanding of this nascent technology which triggers a raft of concerns and challenges, which means there is still a long way to go. In addition, the aforementioned research on the application of metaverse in education is mainly empirical, which suggests that there is an urgent need for an overview study of metaverse research in education. In addition, although previous authors (e.g., Samala et al., 2023; Tlili et al., 2022; Alfaisal et al., 2022; Chua & Yu, 2023) have provided reviews of the metaverse in the field of education, they have not been specific to a particular subject of education. Meanwhile, Wu et al. (2023) pointed out that most of the studies on metaverse in education are foci on disciplines like science, technology, engineering, and math (i.e., STEM), vis-à-vis language learning. Accordingly, this article aims to provide a systematic literature review of empirical articles on the use of metaverse techniques in language education. The issues to be addressed are as follows.

RQ1: Which countries have made outstanding contributions to language education in the metaverse?

RQ2: What participant samples were used in the study on metaverse-empowered language education?

RQ3: What kind of tools have been employed in metaverse-empowered language education?

RQ4: What are the research methods and the measurements of these empirical research?

RQ5: What are the main topics of the research on metaverse-empowered language education?

RQ6: How the application of metaverse will affect language teaching?

RQ7: What are the challenges of metaverse-empowered language education?

3. Methods

3.1. Research Design

This systematic review is strictly in accordance with the requirements of Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA), which is highly recommended by Page et al. (2021). The author selected Web of Sciences (WoS) and Scoups as the sources for articles for several reasons. Firstly, these two databases are considered to be the titans of bibliographic information (Pranckutė, 2021), which integrate myriad influential publications on educational technology (Mystakidis et al., 2022). Secondly, we referred to previous review studies in this area of computer-assisted language teaching and found that these two databases were commonly chosen (e.g. Zou, et al., 2020; Cramarenco, et al., 2023; Amores-Valencia et al., 2022, Darmawansah et al., 2023). And for the choice of literature type, the author chose "article". And in terms of the time limit, the author selected all articles up to 14 July 2023. In addition, using keywords searched in Soups as an example, the author (ALL (metaverse) AND ALL ("language education") OR ALL ("language learning") OR ALL ("language teaching")) AND (LIMIT-TO (DOCTYPE, "ar")) as search keywords, and unlike other authors who limited their search to titles and keywords, the authors chose to involve the full text in a finer and more comprehensive filter.

The primary results showed that there are 22 articles and 168 articles in WoS and Scopus respectively. Subsequently, the author screened the initial selection of articles according to the inclusion and exclusion criteria (see Table 1). The specific screening process is displayed in the PRISMA flow diagram (see Figure 1). Firstly, the author deleted nine duplicate articles. Secondly, six articles were deleted as they were not available. Thirdly, 40 articles that did not explicitly define the used technology as metaverse in the body of the text were excluded. Finally, researchers ruled out 90 articles that were not related to language education and 28 articles non-empirical articles. In the end, 12 articles were included in this review (see Appendix I).

Table 1. Inclusion and exclusion criteria

Inclusion criteria	Exclusion criteria
1) The use of technology is explicitly defined as metaverse in the body of the text.	1) The use of metaverse tools is not explicitly indicated in the article.
2) Articles must be empirical research.	2) Metaverse technologies were used in other fields.
3) Full text available.	3) Duplicate articles.
4) Articles on metaverse in the field of language education.	4) Non-empirical research.
	5) Articles that were not available.
	6) Reports, book chapters, thesis, conference proceedings, dissertations.

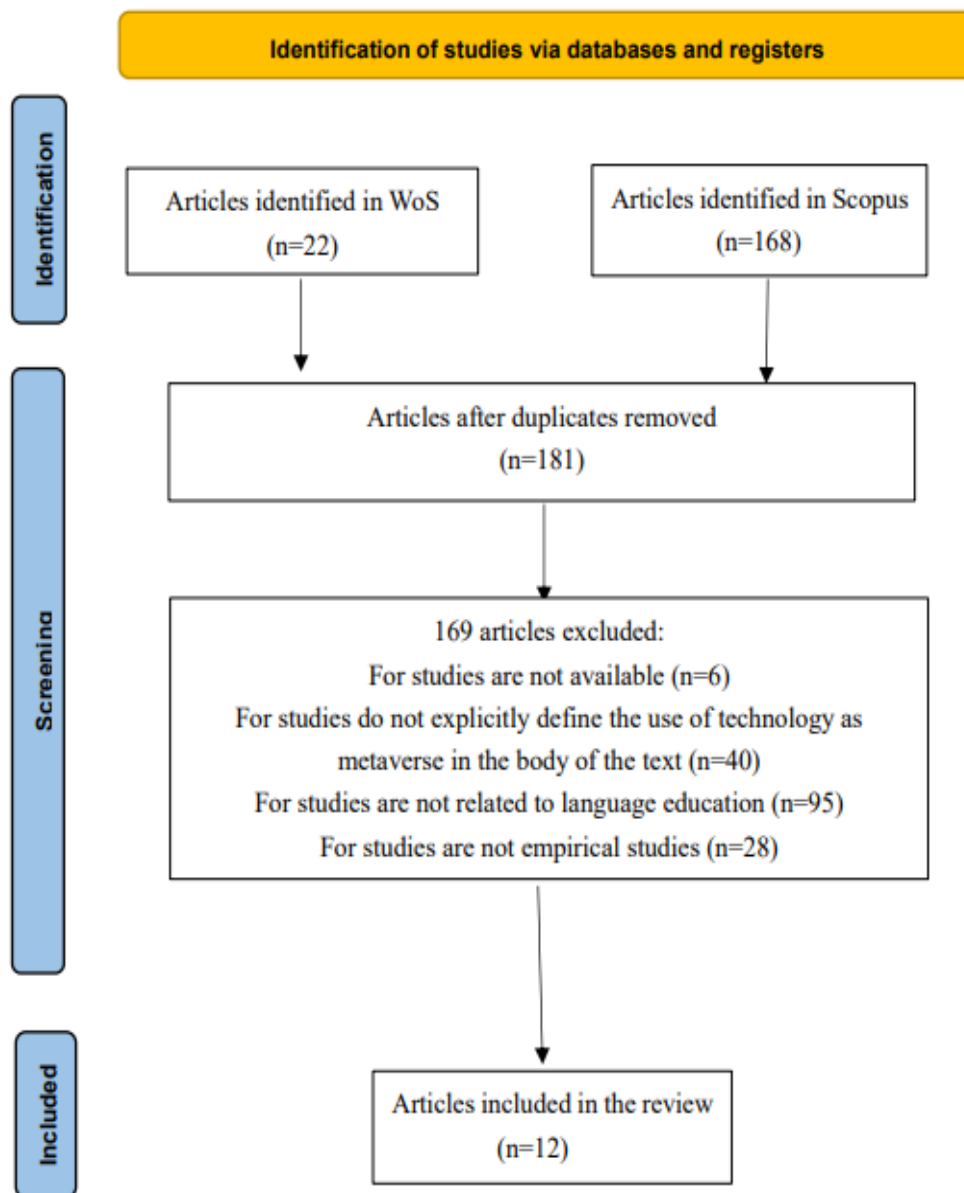**Figure 1.** PRISMA flow diagram

4. Results and Discussion

RQ1: Which countries have made outstanding contributions to language education in the metaverse?

Twelve articles were left after close scrutiny had been conducted. Therefore, to address the first question, the country of affiliation of the first author of the article was taken into account in this question, and the author found that South Korea (n=5) and China (n=4) are the two countries that made the main contributions to the metaverse and language education, with South Korea contributing the most. Secondly, other countries such as Turkey, Spain, and Italy each contributed one relevant empirical study.

The predominance of research output from South Korea and China is unsurprising given these countries" reputation as global leaders in technological advancement and metaverse development. With strong financial investment, South Korea and China present fertile environments for piloting innovative educational metaverse platforms (Ning et al., 2023; Cheng, 2023). However, the lack of studies from Western contexts indicates a need to expand this research area globally to encompass more diverse student demographics, learning needs, and pedagogical models. Insights from countries where English is natively spoken can complement the pioneering work emerging from Asian contexts.

Overall, this breakdown of authors' country affiliations reveals a research landscape still in its infancy but held by a handful of leading nations. To mature into a robust field, metaverse language education scholarship requires a greater contribution from academics across the world to assess the generalized promise and pitfalls of these technologies. International research collaborations may help disseminate expertise while enabling locally tailored implementations that avoid one-size-fits-all assumptions. With the prudent global expansion of this research domain, the full potential of metaverse language education can be revealed.
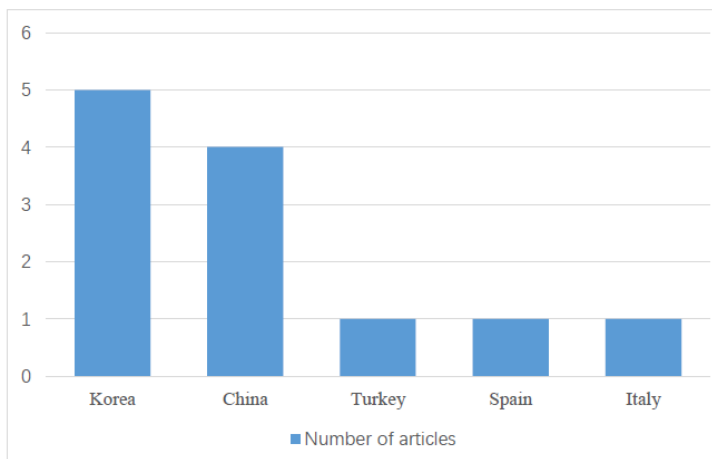
Figure 2. Number of articles from countries

RQ2: Selection of samples

In metaverse language education scholarship, students represent the predominant research subjects, reflecting their vanguard role as digital natives. Quantitatively, students featured as participants in nine of the twelve examined studies, constituting three-quarters of the sample (Figure 3). Within student populations, university learners predominated, serving as subjects in seven articles and underscoring their avant-garde status. Elementary and high school students represented the focus in one study each (Lee, 2023; Çelik & Ersanlı, 2022 respectively), though Lee (2023) enriched perspectives through supplementary teacher interviews. Beyond student-centric foci, instructors received explicit attention as subjects in two studies (Manna, 2023; Lee & Huwang, 2022), with Manna (2023) examining pre-service teachers specifically. Uniquely, Wei (2023) targeted users aged 25-30 years old.

This disproportionate emphasis on students, especially undergraduates, mirrors their vanguard exploration of nascent metaverse platforms and pedagogies. The few teacher-focused studies acknowledge educators' equally integral role in manifesting education's metaverse future. Ultimately, the prevalence of student-oriented research underscores their generational primacy as pioneers of virtual learning. Meanwhile, the rare teacher-centered investigations highlight the infrastructural and professional development requirements for successful metaverse integration in schools.
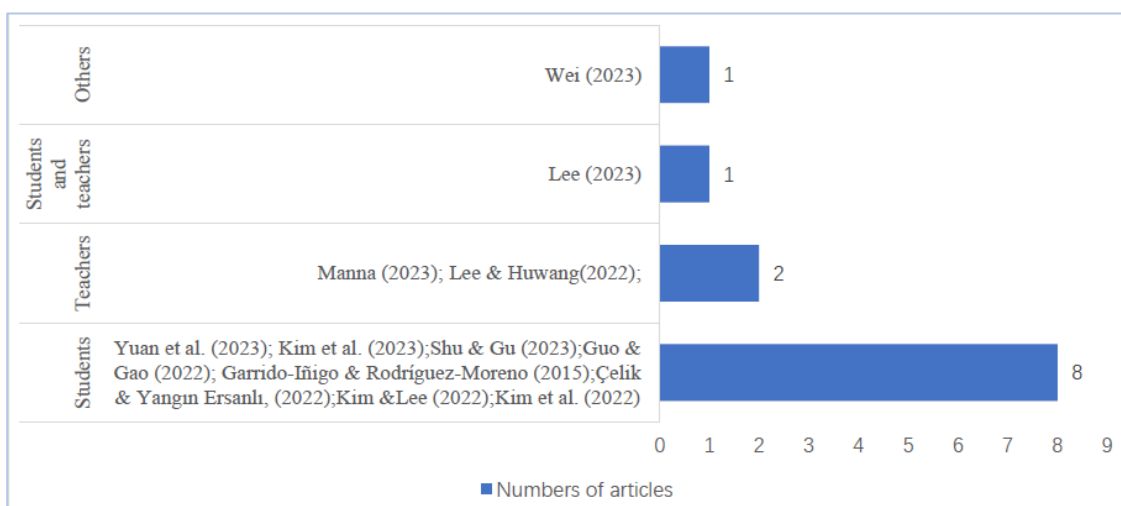

Figure 3. Selection of research object

RQ3: Choice of the tools

In general, the instrumentation for metaverse-based research bifurcates into the direct deployment of extant platforms and the creation of customized metaverse environments. Namely, the direct use of popular software such as gather town, ZEPETO, ifland, and so on. Or with the help of other software, VR, AR, or other tools that provide a metaverse environment for their research subjects. The results are shown in the Rising Sun chart (Figure 4). As evidence, eight scholars chose existing metaverse platforms, of which ifland (Kim et al., 2022; H. Kim et al, 2023), gather town (Lee, 2023; Kim & Lee, 2022) and metaverse studio (Çelik & Ersanlı, 2022; Manna, 2023) are frequently used. Other readymade platforms like Opensim (Garrido-Iñigo & Rodríguez-Moreno, 2015) and Frame VR (Lee & Huwang, 2022) afforded additional out-of-the-box facilities. Complementarily, bespoke metaverse environments enabled through virtual reality (VR) tools represent a second instrumental approach (Wei, 2023; Guo & Gao, 2022; Yuan et al., 2023). Expanding beyond VR, Shu and Gu (2023) incorporated artificial intelligence components to enrich their customized metaverse setting. As depicted in the radial chart (Figure 4), this bifurcation between leveraging extant metaverse platforms and constructing custom virtual environments underscores the diversity of instrumentation underpinning contemporary metaverse research. The creative synthesis of prefabricated solutions and purpose-built tools suggests a way in flux, poised to evolve apace with technological advances that promise an ever more immersive and multi-modal metaverse experience.
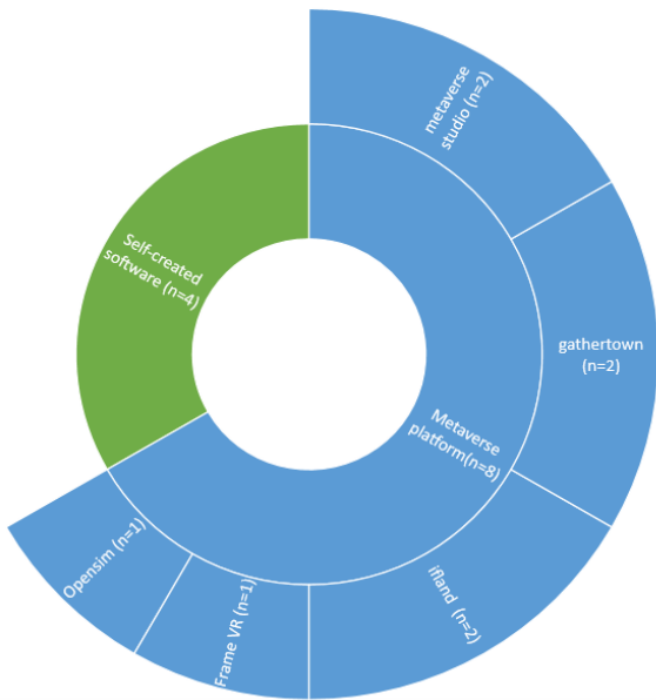
Figure 4. Selection of the tools

RQ4: Research methods and the measurements

Table 2 illustrates the authors' statistical results for the experimental methods and measurement tools of these studies. It displayed that the research methods used by the researchers were diverse, with quantitative methods being the most commonly used by the researchers, with about 6 articles, namely, 50% of the studies employing quantitative methods. This was followed by 5 mixed method studies and 1 qualitative study, in which the authors also used a wealth of measurement methods to testify their findings, with questionnaires being the most commonly used measurement tool, with 9 studies choosing questionnaires as the experimental tool, and interviews and tests being frequently used as measure tools, with 5 studies each using these means respectively. To make the conclusions more convincing, Lee (2023) used student journals, reflective journals, and discussions. Notably, Guo and Gao (2022) leveraged EEG in their experiments to fulfill the specific objectives of their study.

In summary, metaverse language education research to date has favored quantitative, questionnaire-based methods to objectively gauge impacts on student performance, motivation, and perceptions. However, the meaningful incorporation of qualitative tools by over half the studies recognizes the value of subjective insights to fully understand learners' virtual experience. As the field evolves, studies leveraging mixed methods and neuroscientific technologies can further unpack the nuances of language pedagogy in immersive digital environments. Rich multidimensional perspectives will be crucial to guiding evidence-based best practices in this rapidly emerging domain.

Table 2. Research methods and measurements

Methods	Authors	Measurement
Mixed methods	Yuan et al. (2023)	questionnaire
		interview
		test
	Shu and Gu (2023)	pre-test and post-test
		interview
		questionnaire
	Lee (2023)	pre-test and post-test
		questionnaire (post-survey)
		interviews with the teachers
		screen recordings
		students' journal
	Garrido-Iñigo & Rodríguez-Moreno (2015)	test
		survey (discussion)
	Kim et al (2023)	pre-test and post-test
		interview
		questionnaire
Quantitative methods	Çelik & Ersanlı (2022)	questionnaire
	Guo & Gao (2022)	EEG
	Kim & Lee (2022)	questionnaire
	Lee & Huwang (2022)	reflection papers (text mining, sentiment analysis)
		questionnaire
	Kim et al. (2022)	questionnaire
	Wei (2023)	questionnaire
Qualitative methods	Manna (2023)	semi-structured pre- and post-interviews

RQ 5: Main topics of these research

The author categorized the themes of the twelve articles into the following three categories students' perceptions, teachers' perceptions, and learning outcomes. However, it is worth noting, that there are several authors who focus on multiple aspects (see Figure 5). Overall, 6

articles (50%) encapsulated 2 topics in their articles and mainly focused on students' perceptions and learning outcomes.

Besides, in articles that focus on only one topic, students' perceptions are the major topic that has been discussed a lot, which took up to a quarter of the select studies and the variables focused in these studies were very diverse. For example, Wei (2023) investigated users' satisfaction with the efficiency of interactions and the feeling of immersion. Kim (2022) investigated the students' knowledge of the metaverse, whether they were interested in the metaverse's application to the teaching of the Korean language, and which specific language skills (e.g. listening, reading, speaking, and writing) they would like to see the metaverse applied to. Another example is that Guo and Gao (2022) explored the students' interactivity, immersion, and cognition by employing EEG.

Also, in terms of the number of studies, teachers' perceptions got scant attention within the field of metaverse language education, with only 2 articles (i.e., Lee & Huwang, 2023; Manna, 2023) that include teachers as subjects of research.

Finally, learning outcomes as an isolated theme appeared in one study examining academic performance (Shu & Gu, 2023), which displayed that the metaverse is a boon to language learning (i.e., English speaking, vocabulary and grammar, reading, writing, and translation).

All in all, existing research exhibits a student-centered nexus exploring virtual learning experiences and measurable gains. This reflects students' avant-garde position as pioneers of emerging metaverse platforms. However, the paucity of teacher-focused and multi-perspective investigations represents a considerable knowledge gap. A comprehensive understanding demands increased research attention on instructor readiness, pedagogical requirements, and potential challenges alongside student outcomes. Though still in its infancy, metaverse education research has unveiled promising learning potential through learners' eyes, while illuminating avenues for fuller elucidation.

RQ6: Pros and cons of metaverse platforms for language learning

From the conclusions of various scholars, in general teachers' and students' attitudes towards the application of the metaverse to language education are positive, as far as the students are concerned, they express their interest in the metaverse, their level of satisfaction, and their opinion that it is helpful for learning (Wei, 2022; Garrido-Iñigo & Rodríguez-Moreno, 2015, Kim & Lee, 2022), Lee's (2023) study also noted the metaverse's democratizing potential, as students would have more equal opportunities for some less confident students to actively participate in the classroom. Teachers also believe that it is effective for language education when applied appropriately (Manna, 2023; Lee & Huwang, 2022) Also from the results of some experiments, the metaverse is favorable for improving students' language learning performance (Yuan et al., 2023; Shu & Gu, 2023; Çelik & Ersanlı, 2022) In addition, Guo & Gao (2022) verified that when learners learn English in a metaverse environment, the student's learning state basically belongs to the medium-high cognitive

engagement state using EEG device tests. It shows that metaverse-empowered English teaching can improve students' learning outcomes.

However, teachers have also voiced apprehensions regarding the adoption of Metaverse in education. Specifically, they express concerns that students' attention may be diverted toward these technological tools, potentially undermining their focus on language learning itself (e.g., Manna, 2023). Additionally, students participating in Kim et al.'s (2023) study conveyed dissatisfaction with the Metaverse platform, highlighting its intricate usability and the disproportionate amount of time spent on system operation rather than language acquisition.

Thus, while predominately applauding the metaverse's motivational and pedagogical potential, stakeholders aired caveats about appropriately scaffolding environments and activities to maintain target language centrality. These nascent quantitatively demonstrated benefits coupled with emergent best practices could inform institutional integration policies and teacher training to maximize the metaverse's advantages while mitigating risks.
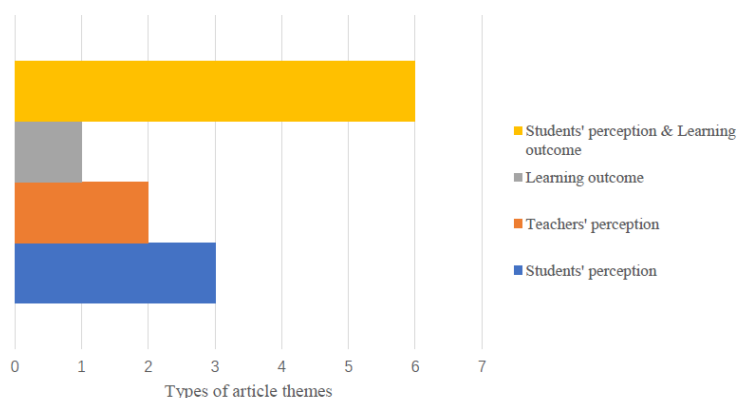

Figure 5. Topics in Metaverse and Language Education

RQ7: What are the challenges of metaverse-empowered language education?

Researchers have identified two primary categories of challenges associated with the utilization of Metaverse in education technology. On the one hand, there are user-related challenges stemming from the unfamiliarity of many teachers and students with this emerging concept. This lack of familiarity hinders their ability to effectively utilize Metaverse, thereby indirectly impacting their language learning experience in a negative manner (Lee, 2023; Yuan et al). In addition, Kim et al. (2022) noted that although the metaverse facilitated language learning, students felt it could not fully replace traditional face-to-face classrooms, as they craved teacher assistance. Despite differing samples, Garrido-Iñigo and Rodríguez-Moreno (2015) reached comparable conclusions, with students expressing a desire for teacher presence to support their learning and provide a sense of authenticity. This highlights the importance of balancing technological innovation with sustained teacher guidance and interactive pedagogy. While leveraging the experiential benefits of immersive virtual environments, the metaverse

cannot supplant fundamental human elements of teaching and social learning which remain pivotal to quality educational experiences, student development and outcomes. Moreover, the use of metaverse is perceived differently by students with different levels of foreign language proficiency and is particularly counterproductive for beginners due to language limitations and unfamiliarity with new technologies. Thirdly, teachers in Lee's studies (2023) claimed that not every teacher can construct the metaverse and it will take a lot of time and energy, which was in alignment with Manna's conclusion, namely, teachers considered this work to be complex and not easy to carry out.

On the other hand, many authors have expressed that the software used has many technical or design flaws, such as noise, power drain, difficulty in connecting to the platform, limited changes in avatars that are difficult to recognize, overlapping speech bubbles, and other user experience degradation, all of which are expected to be improved in future research (i.e., Kim, 2023; Çelik & Ersanlı, 2022, Lee, 2023; H. Kim et al, 2023). It is worth adding that Manna (2023) also expressed apprehension that the infrastructural and economic constraints of different social contexts must be taken into account before such technologies are used on a large scale in order to avoid widening the digital chasm.

Consequently, realizing the vaunted disruptive potential of metaverse language learning relies on addressing engrained human hesitancies and suboptimal technical infrastructure in tandem. Success requires research insights to guide best practices responsively tailored to diverse users' needs and skill levels. Beyond isolated technological fixes, a holistic approach is imperative encompassing pedagogical, ethical, and access considerations to ensure metaverse environments enhance rather than compromise learning.

5. Implications for future research

The findings indicate that overall, students and teachers have a positive attitude towards the metaverse, which provides high immersion and interactivity. This not only stimulates students' interest in language learning but also improves acquisition to some extent. However, concerns were raised including students' lack of concentration in class and increased workload for teachers. Nevertheless, research on the metaverse as a novel technology in language education remains scarce, concentrated primarily in Korea and China. Given differences across countries in educational philosophy, learning styles, and even metaverse adoption, these contexts may not represent diverse language environments, pedagogical systems, and learning preferences. Studies from other countries are needed to enrich the field.

Moreover, compared to research on other educational technologies, current metaverse topics in language education center on student and teacher perspectives alongside learning performance. Also, in the field of educational technology, D. Zou's (2020) literature review on the flipped language classroom revealed additional themes like influences of external factors, influences of learner factors, etc. The limited research scope in language education is likely attributable to the nascent state of metaverse-related research. Hence, a broader diversity of themes is hoped for as the field matures. Additionally, most studies sampled university students, with less representation of other groups. Expanding research to varied populations is recommended.

In terms of methodology, current research relies heavily on quantitative surveys with minimal qualitative investigations. Future efforts would benefit from enriched methodological plurality encompassing quantitative, qualitative, and mixed-methods designs to fully elucidate the complex phenomena surrounding metaverse-based language pedagogy. Also, current studies tend to employ short-term experiments. Longitudinal tracking is necessary to assess the metaverse's lasting influences on language acquisition.

6. Conclusion

Through a systematic literature review, this paper charts the contours of the metaverse in language education. It elucidates which countries have made the greatest contributions in this nascent field, the predominant focus on university student samples, the range of technologies employed, the scope of research topics, diverse research methods and instruments utilized, and the benefits as well as challenges of metaverse integration in language pedagogy. Key findings indicate an overall positive attitude among both instructors and learners, with the immersive quality of metaverse environments stimulating student interest and improving language acquisition to a certain degree. However, concerns persist regarding diminished student focus during lessons, increased teacher workloads, and how to navigate the relationship between technology integration and sustained teacher direction. Additionally, hardware problems and design issues still need to be ameliorated.

Moreover, this systematic review has several limitations that should be acknowledged. First, the small number of studies included (n=12) indicates the nascent state of research on the metaverse in language education, constraining analyses, and conclusions drawn from the evidence. Second, the predominant focus on university student samples restricts generalizability to other populations. Further studies among younger learners and non-academic contexts are required. Third, the narrow geographic spread of the reviewed literature concentrated in China and Korea may limit applicability to other cultural settings. The international diversity of samples would enrich understanding. Finally, the scope of technologies, languages, learning scenarios, and outcome measures was constrained. Expanded research across contexts would strengthen the knowledge base regarding optimal applications of the metaverse for language learning enhancement. In conclusion, this review represents an early step in elucidating the role of the metaverse in language education, but inherent limitations highlight the necessity of more expansive, diverse, and sophisticated inquiries to advance the field.

In conclusion, though research remains limited in this burgeoning area, the metaverse shows early promise as an emerging technology in language education. As the field matures, more expansive research is called for by focusing on various topics, and broadening the diversity of populations examined will also strengthen the generalizability and utility of findings. This review represents an inaugural step toward consolidating knowledge and mapping trajectories for future inquiry. The metaverse is poised to grow as a paradigm-shifting force in educational innovation. Continued research across diverse linguistic and cultural contexts will further unravel its potential.

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Data availability

The data analyzed for this systematic review consist of information extracted from the studies retrieved from the selected databases (i.e., WoS and Scopus), using the search strategy detailed in the Method section. References were managed using Excel software.

The extracted data support the findings and conclusions presented in this review. The data and materials are available upon request to the corresponding author. Interested researchers may contact the corresponding author for details on the selection process and overall literature search and data extraction methodology.

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Conflict of Interest

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Appendix I

Authors	Title	Publication
Wei (2023)	Metaverse-based online English teaching scheme in multi-source and cross-domain environments	Fractals
Yuan et al. (2023)	Educational metaverse: an exploration and practice of VR wisdom teaching model in Chinese Open University English course	Interactive Technology and Smart Education
Kim et al. (2022)	A Study on foreign students' perception of Metaverse-Based Korean Language Course as general education	The Korean Association of General Education
Shu & Gu (2023)	An empirical study of a smart education model enabled by the Edu-Metaverse to enhance better learning outcomes for students	Systems
Lee (2023)	Second language learning through an emergent narrative in a narrative-rich customizable metaverse platform	IEEE Transactions on Learning Technologies
Çelik & Ersanh (2022)	The use of augmented reality in a gamified CLIL lesson and students' achievements and attitudes: a quasi-experiment study	Smart Learning Environments
Kim et al. (2023)	Exploring the potential of Metaverse as a future learning platform for enhancing EFL learners' English proficiency	Korean Journal of English Language and Linguistics
Manna (2023)	Teachers as augmented reality designers: A Study on Italian as a foreign language teacher perceptions	International Journal of Mobile and Blended Learning
Lee & Huwang (2022)	Technology-Enhanced Education through VR-Making and Metaverse-Linking to foster teacher readiness and sustainable learning	Sustainability
Garrido-Iñigo & Rodríguez-Moreno (2015)	The reality of virtual worlds: pros and cons of their application to foreign language teaching	Interactive Learning Environments
Kim & Lee (2022)	Analysis of Chinese Education cases and learner experiences using metaverse: focusing on Chinese-Korean tandem classes	중국학 [Chinese Studies]
Guo & Gao (2022)	Metaverse-powered experiential situational English-teaching design: an emotion-based analysis method	Frontiers in Psychology

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Pedagogical complementation of functional-cognitive interface

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Abstract

This commentary contributes to the understanding of integrating functional-based teaching and cognitive pedagogy by offering a mutually complementary account. Systemic functional linguistics (SFL) attaches importance to sociological aspects of language and proposes that language as a meaning-making process is simultaneously shaped by context and culture (Thompson et al., 2019). Cognitive linguistics (CL), based on the second generation of cognitive science and experiential philosophy, was born based upon the rejection of transformational-generative grammar, arguing that the creation, learning, and use of language must be explained basically through human cognition as the basis of knowledge constitution (Goldberg, 2011). Surrounded by the dialogue of these two linguistic schools, the paper is guided by two overarching questions: (1) What is the theoretical compatibility between SFL and CL? (2) How can SFL and CL complement each other or produce a synergetic effect that benefits second language (L2) pedagogy?

It is demonstrated that SFL and CL are theoretically compatible as they agree upon the embodied experiential and sociocultural nature of language (Littlemore, 2009; Thibault, 2004), the categorial continuum of phonology-lexicogrammar-semantics (Meng, 2009), and corpus-based positivist epistemology (Feng, 2006). To complement one another in L2 pedagogy due to their compatibility, functional pedagogy can optimize cognitive pedagogy by facilitating learners to be aware and recognize communicative intention and socio-contextual cues, especially in the context of acquiring metonymic constructions. Cultural immersion and acculturation are keys to functional pedagogy that fill the gap of CL pedagogy lacking systematic training in cultural literacy and appreciation. Cognitive pedagogy, in turn, can complement functional pedagogy by applying image schemata in teaching to present how to select collocated verbs that can be assigned to diverse types of constructions.

Keywords systemic functional linguistics, cognitive linguistics, functional-cognitive interface, pedagogical complementation

1. Introduction

The theoretical foundations of SFL and CL are against pure structuralism and transformational-generative linguistics. SFL treats meaning as a semiotic, social, multidimensional, and intersubjective system rather than a single product of the computational mind (Muntigl, 2002; The University of British Columbia, 2010). This linguistic school also regards grammar as a meaning-making resource by exploring the interrelation between form and meaning. Structuralist linguistics insists on researching the disembodied view of the mind, which has been critiqued by functional linguists like Thibault (2004), arguing that individuals' inner minds should not be severed from meaning-making, semiotic activities. Similarly, CL is theoretically consistent with SFL, which adheres to researching embodied and extended cognition as the keys to meaning-making. Humans conceptualize their minds as inextricably tied and adaptive to the

physical world and external environment, which largely shapes language use. Therefore, independent extraction of the mind in language use is rejected (Littlemore, 2009). Instead, the experiential philosophical view constitutes the basis of CL. A cross-disciplinary account shared by SFL and CL acknowledges the roles of humans' proprioception, environmental structure, and social contexts that model adaptive language use.

Apart from the proposition of anti-structuralism of both linguistic schools, SFL and CL "postulate a continuum between grammatical and lexical phenomena" (Meng, 2009, pp. 539-576). The three-strata continuum constitutes the linguistic system in SFL: semantics, phonology, and lexicogrammar. SFL values the descriptive approach to document non-mainstream language variants associated with meta-analysis regarding their relationship with other mainstream language variants on a fuzzy three-strata continuum. That being said, language use is not either grammatical or ungrammatical in a binary sense, yet it is an extensive spectrum containing unusual and usual

grammaticality and idiomaticity across language variants. In comparison, categorization as a central construct in CL is also characterized by a fuzzy continuum. Categorization is a subjective generalization of the properties of the objective physical world, in which an item with a prototypical category within the continuum may experience categorical change that lies in a peripheral category over time. For instance, "worm" used to refer to "crawling insects" in general, but now refers to a certain kind of crawling insect, which suggests the transformation from prototypicality to peripherality. Another example of the "fuzzy-categorial" continuum approach in CL is the semantic-pragmatic interface that forms a spectrum. Specifically, meaning is part of the holistic conceptual system. Semantic and pragmatic modules are not independent of each other but jointly determine linguistic meaning (Li & Wang, 2019). Meaning lies between this interface rather than the extreme ends of this continuum. Consequently, the SFL Cardiff model suggests the reasonability to extend the categorization of the system network in SFL to enrich the "fuzzy-categorial" continuum approach in CL for cross-disciplinary reference and integration (Bartley, 2018).

Usage-based linguistics aligns with the central proposition of CL, arguing that constructional frequency accumulated over time results in form-function-meaning pairing (Butler & Gonzálvez-García, 2014). Corpus propels the development of usage-based linguistics by offering firsthand data about the frequency and association strength of verb-argument constructions of different language variations (Blumenthal-Dramé, 2012). For instance, when comparing two verb-argument constructions "I agree with the overarching statement" and "sports require teamwork and the ability to cooperate", the corpus will abstract the constructional types, namely "noun subject-agree-object" for the former one and "noun subject-require-direct object-direct object" for the latter one. The verb-argument binding of the former is found to be weakly collocated than the latter (Kyle & Crossley, 2017). What is less well-known is that such integration with the corpus algorithm in CL can be traced back to SFL, which corroborates linguistic hypotheses with observations and statistics by using corpora as data sources (Feng, 2006). This theoretical compatibility underlies the basis of the positivism research paradigm that is favored by both linguistic schools.

2. Pedagogical Implications of Functional-Cognitive Interface

Halliday's legacy is left with the sociocultural approach of language learning, namely learning about the world through language and learning about communicative abilities through language. This value underlies the cornerstone of Language Development Project as an Australian national curriculum project launched in 1977, which started to fully recognize L1 and L2 language acquisition as a semiotic procedure and an approach to stimulate learners' meaning potential

(Moncada & Xin, 2020). The meta-functional theories and principles of SFL have been extensively applied to language education, particularly analytical and metalinguistic interpretation of diverse text genres (Forey, 2020; Ryshina-Pankova & McKnight, 2023). This is because L1 and L2 language students have been commonly found to be weak in locating textual structure and recognizing functions, genres, intentions, and ideologies (Coffin & Donohue, 2012). Many have difficulty comprehending how language is weaved and manipulated in real-life situations (García, Sagre & Lacharme, 2014). Consequently, the educational application has aimed to raise learners' awareness of the functional organization of different text types through their lexical-grammatical realizations. By implementing such linguistic-based literary analysis, language learners under the pedagogical framework of SFL have been pushed to move beyond summarizing texts and critically examine the functional stance. Acquiring metalanguage and discussing how meaning is functionally constructed enables language learners to articulate how writers employ language to achieve particular purposes (Xuan, 2022).

To corroborate the research findings, we have investigated a representative language education program in an English-speaking country, namely Australian Victorian curriculum, in which English (as a first language) and English as an additional language (EAL) are characterized by SFL embedded in the syllabus and assessment design (Victorian Curriculum & Assessment Authority, 2022). By going through its assessment scheme in year 12 (Victorian Curriculum & Assessment Authority, 2022), it is found that listening, literary analysis, and language analysis all emphasize language learners' awareness to employ metalanguage to deconstruct how meaning or ideology is conveyed through authors' or speakers' purpose and control of lexical-grammatical features within an assigned sociocultural context (e.g., Figure 1).

Figure 1. An excerpt of 2022 VCE English as an additional language exam question (listening section)[1]

Figure 2. An excerpt of 2022 VCE English as an additional language exam question (language analysis section)[2]

It is noted that pure functional pedagogy entrenched in the British Commonwealth language education system

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does not address or integrate with other theoretically compatible pedagogical orientations, including cognitive pedagogy.

Before reviewing the pedagogical implications of CL that may complement the limitations of SFL-driven pedagogy, it is necessary to generalize the commonalities of the key constructs in CL. Polysemy, metonymy, form-meaning iconicity, and cognitive grammar all deal with the type of meaning encoded by humans' cognitive construal and abstract schemata of situations rather than reality with absolute objectivity, different from the first generation of cognitive science. Current literature has documented the contemporary pedagogical application of polysemy and metonymy. Instructors with the cognitive approach usually start with explaining the archetypal senses of a target metaphoric construction (which can be a lexical item, a phrasal verb, or a sentence), followed by using image schemata to materialize the peripheral or extended meanings of it (Littlemore, 2009). For instance, when teaching the metaphorical use of the preposition "in" with an exemplary construction *we are in love*, the instructor may introduce the basic cognitive sense of *in*, namely something enclosed or surrounded by a container. By referring to the container theory characterized by image schema through concept-based instruction, the instructor can materialize the extended cognitive sense that an emotional state, parallel to an object, can also be confined within a narrow space. As to metonymy that represents one entity referring to another identical and pre-existing entity, it is underlain with cognitive association and connectionism that naturally emerge. One pedagogical approach can be to use a conceptual family tree to organize associative learning, which helps learners comprehend how a word has the referential function of another one. For instance, *white house* and *US president* are acquired simultaneously within an associative conceptual diagram. Similarly, the pedagogical application of construction grammar also emphasizes abstract generalization of different types of constructions that convey meaning. For instance, the instructor may invite learners to independently discover the abstract pattern of ditransitive construction through an inductive approach. Language learners' cognitive induction as a form of deep processing can significantly enhance retention (Littlemore, 2009).

After summarizing the features of pedagogical applications of both linguistic schools, it is found that parallel to SFL-driven pedagogy, the teaching application solely based upon CL is also uni-dimensional as it mainly prioritizes the role of cognition, abstraction, and construal. Although cognition is partially shaped by sociocultural mediation, CL less emphasizes how socio-semiotics and systemic grammar affect language use. Therefore, a synergetic effect between SFL and CL is worthy of exploration as their complementation and integration are beneficial to optimize modern pedagogy.

When teaching metonymy, as aforementioned, CL-driven pedagogy initiates associative learning. SFL-oriented pedagogy can complement the gap that metonymy is less explored from the perspective of meeting discourse metafunction. The nature of metonymy is to implicitly substitute a word by referring to an attribute for the thing that is meant. Thus, comprehending metonymy requires much more than associative learning of conceptual networks in CL, but pragmatic ability and inference from social context (Dornyei & Thurrell, 1994). Metonymy usually occurs in the context of an indirect speech act in which a speaker or writer may omit some information in metonymic substitution that can be originally expressed through a canonical expression. It stems from the fact that language is not sufficiently informative. It is neither necessary nor possible to express all required information precisely. Presupposition reduces much information in a metonymic construction. Metonymy can be hardly taught in pure CL-driven pedagogy because presupposition is the product of pragmatic communication and is unable to be simply acquired in associative conceptual networks.

Table 1. Chinese metonymic expression with glossing

你	是	什么	垃圾？
nǐ	shì	shénme	lājī?
You	are	what	garbage?
What garbage are you?			

Understanding *what garbage are you* (cf. Table 1) must rely upon the context of garbage collection. Conscious garbage classification is encouraged in China, so the original sentence is the metonymic substitution of "what type of garbage do you intend to throw" in a shortened, concise form. SFL-oriented pedagogy can complement the limitation of CL-oriented pedagogy by training learners to build an alert awareness of recognizing socio-contextual cues, the speaker's communicative purpose, and encyclopedic knowledge about broader communication skills. All socio-communicative discourse is unable to be severed from discourse metafunctions. By guiding learners to analyze experiential process (i.e. ideational metafunction), role relationship (i.e. interpersonal metafunction), and delivery modality (i.e. discourse metafunction) as manifested in the case of *what garbage are you*, they can be better informed about comprehending those substituted forms with missing information in metonymic expressions rather than invariably searching their memory in associative cognitive network with "unanalyzable" form-meaning pairing. Specifically, the ideational metafunction is the relational process that conceptually identifies the relation between garbage and its type; the interpersonal metafunction is questioning based upon an equal social status; the discourse metafunction is concise orality, which improves communication efficiency by omitting some information in this metonymic construction. Moreover, Kasper and Roever (2005) suggest that it is necessary to associate metonymic expressions with indirect speech acts from the early stages of language acquisition. Language learners will even benefit from starting with an analysis of indirect speech acts in their L1 so that they are likely to comprehend the referential function in foreign languages.

Another aspect that functional pedagogy can complement cognitive pedagogy is teaching idiomatic constructions. Hoffman and Trousdale (2013) propose that one of the characteristics of construction grammar is

idiomaticity. The investigation of constructions starts with the examination of idioms. They categorize idioms as substantive idioms and formal idioms. The former is fixed, for instance, the Chinese idiom 一日三秋 (days creep by like years). The latter is partially open to be filled in, for instance, the Chinese construction *V 来 V 去*, where V stands for a verb. CL-oriented pedagogy can be applied to teach formal idioms. If we take *V 来 V 去* as an example, a verb that fills in this construction must carry the characteristic of short-term re-occurrence or continuity, such as 打来打去 (fight), 跑来跑去 (run back and forth), 看来看去 (look around). A verb that displays an action unable to repeatedly occur in a short time is not allowed to be assigned to this type of construction, such as 病来病去 (fall ill back and forth) and 死来死去 (die back and forth) (Chen, 2012). Language instructors can be explicit about these rules or invite advanced learners to generalize the rules of some given formal idioms by themselves.

On the other hand, learners will benefit more from acquisition if instructors apply functional pedagogy to teach substantive idioms. While many formal constructions have a rule for learners to comprehend (e.g., passivity=be+V+ed), some substantive idioms are the product of cultural accumulation as form and meaning do not seem to have inductive, schematic relations. This is what cognitive pedagogy seems to be difficult to convey in teaching. Conversely, functional pedagogy has a complementary effect because it emphasizes sociocultural immersion and acculturation in language teaching. Culture is inseparable from language, so cultural connotations of substantive idioms are often introduced in a classroom with a functional pedagogical curriculum. For instance, when instructors teach L2 Chinese, substantive constructional idioms with the character 土 (land) may not make sense to learners at first glance (cf. Table 2).

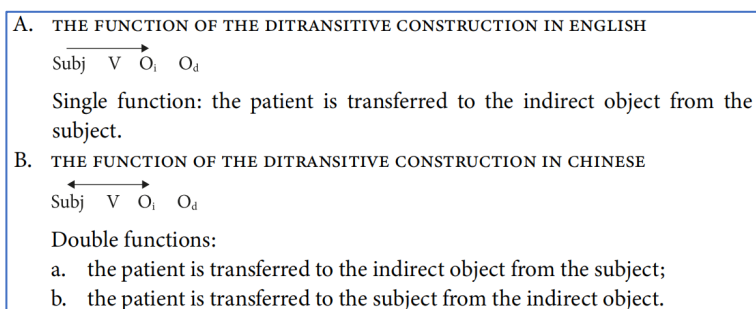**Table 2.** Substantive constructional idioms

Substantive constructional idioms	Glossing
皇天后土	the ancient honorific for heaven and earth
土生土长	be born and brought up on one's native land
寸土不让	never to yield an inch of ground
土崩瓦解	be disintegrated

However, if instructors implement functional pedagogy that is culturally responsive, idioms with 土 may impress learners and become much easier to memorize. Concerning these substantive constructional idioms, China is rich in resources, vast in size, and has an extensive area of arable land, which is conducive to the rapid development of ancient Chinese farming civilization under certain conditions. Ancient Chinese people regard lands as their most important resource and show worship and reverence for nature (He, 2023). Therefore, many substantive constructional idioms carry ancient Chinese people's dependence on and love for their lands. If L2 Chinese teaching is designed for L1 English students, instructors can explain comparative cultural differences

that affect idiomatic constructions. Britain is surrounded by the North Sea, the English Channel, the Celtic Sea, the Irish Sea, and the Atlantic Ocean. Such an open marine environment has resulted in people's various activities closely related to the sea, navigation, fishing, and salt production (Hamblyn, 2021). Therefore, Western idioms are featured by expressions related to the sea, such as *teach fish to swim*, *all at sea*, and *a big fish*. Consequently, history and culture are indispensable components in language teaching embedded in the educational ideology of SFL, which is worthy of reference by instructors who adopt a pure cognitive pedagogy to optimize their lesson delivery.

While SFL can complement the limitation of CL in teaching metonymy and substantive idiom, CL can also have a complementary effect on SFL in the area of teaching the selection of appropriate verb types that fill in constructional phraseology. In systemic grammar, whether a linguistic unit can enter a system is determined by syntagmatic and paradigmatic relations with other lexical-grammatical items, not by the choice of itself. A syntagmatic relation is a sequential relationship in which linguistic symbols are linearly arranged. For instance, when teaching modern Chinese as a second language (CSL), the instructor can be explicit about the phonological rule that [j], [q], [x] instead of [g], [k], [h] can combine with [i], serving as syntagmatic relation. A paradigmatic relation refers to a relationship formed by linguistic constituents that are interchangeable in a given context. For instance, in CSL teaching, an instructor may ask learners to substitute the constituent of 我们 (we) in the monotransitive construction 我们看书 (we read books). Through practice, learners may gradually acquire that only animate subjects like 学生 (students) and 家人 (family members) can form a paradigmatic relation with 我们 (we), while 木头 (wood) is not acceptable.

Similar to syntagmatic and paradigmatic theories in SFL, construction grammar and pattern grammar in CL propose that a linguistic constituent entering into a construction must be restricted by holistic constructional phraseology. That said, an open choice is hardly allowed (Noel, 2002). Compared with SFL-oriented pedagogy, CL has the advantage of generalizing what type of verbs are allowed to enter what type of particular construction, not item-based learning of syntagmatic and paradigmatic rules. Shi's study (2020) explores English-Chinese cognition-typology interface of ditransitive construction with the type of verbs that allows entrance (cf. Figure 3).

A. THE FUNCTION OF THE DITRANSITIVE CONSTRUCTION IN ENGLISH

Subj   V   O$_i$ O$_d$

Single function: the patient is transferred to the indirect object from the subject.

B. THE FUNCTION OF THE DITRANSITIVE CONSTRUCTION IN CHINESE

Subj   V   O$_i$ O$_d$

Double functions:
a. the patient is transferred to the indirect object from the subject;
b. the patient is transferred to the subject from the indirect object.

Figure 3. The function of ditransitive construction in English & Chinese (Shi, 2020)

Only verbs with the semantic characteristic of "output" or "transference" from a subject to an indirect object are allowed to enter an English ditransitive construction. If a speaker intends to present a verb with the superficial semantic characteristic of "receiving" in English and simultaneously insists on choosing the ditransitive construction, the superficial semantic characteristic of "receiving" of that verb will be destroyed and replaced by an implied "output" transference meaning from subject to indirect object. As an example, the sentence *Jane bought Kate a book* is only allowed to be interpreted as *Jane bought a book for Kate* in English, where *for* implies the subsequent action of transference to Kate. Thus, a patient is still transferred from a subject to an indirect object, as *bought* ultimately serves as the archetypal semantic function that implies "giving". The sentence cannot be interpreted as *Jane bought a book from Kate* because presenting a verb with the pure semantic feature of "receiving" without any output action in an English ditransitive construction is unacceptable.

This in-depth analysis with relevant image schemata, however, is not prioritized in SFL-oriented pedagogy but can be readily and explicitly delivered through CL-oriented pedagogy. Cognitive pedagogy can complement the limitation of functional pedagogy when learners need to receive instruction regarding verbal selection in diverse constructions. The aforementioned analytical method (i.e. comparative constructional study for verbal selection) designed for output instruction applies to other constructional types as well. To have a synergetic effect for both pedagogical approaches, writing instruction should not only emphasize developing students' organization of cohesive, syntagmatic, and paradigmatic relationships among different lexical-grammatical items but also an appropriate selection of verbs that fill in different types of constructions.

3. Conclusion

SFL is characterized by sociality, functionality, and systemic selectivity. CL is experiential, humanistic, cognitive, and embodied in nature. This synthesis review demonstrates the congruence between both linguistic schools. The sociocultural and communicative natures of SFL cannot be separated from the humanistic and embodied cognitive essence in CL. In other words, meaning potential is concurrently accumulated from social context and human body. Whether cognitive or functional, it is mediated through language that humans can exist and communicate in the material world. In modern pedagogy, the adoption of one single linguistic school in curriculum and teaching is uni-dimensional and less comprehensive to reveal how language is acquired through multi-theoretical, multi-paradigmatic, and multi-methodological foundations. This idea elicits the need to integrate theoretically compatible schools like SFL and CL and investigate how they can generate a synergetic effect in pedagogy. SFL can complement CL by guiding learners to recognize socio-contextual cues and discourse metafunctions when they acquire metonymic constructions that traditionally exist in a cognitive-based

lesson. Comparative cultural literacy, as the critical component of SFL-driven pedagogy, can also complement cognitive pedagogy when teaching substantive constructional idioms. Cognitive pedagogy can in turn produce a synergetic effect on functional pedagogy when learners acquire verbal assignment to diverse types of constructions. This practice can be achieved by offering image schemata and organizing inductive discussion based upon a sufficient constructional database, which is advantageous in cognitive pedagogy. Moreover, this approach to teaching verbal assignment can be combined with teaching syntagmatic and paradigmatic constructional relations in functional pedagogy. Ultimately, these integrative and complementary approaches to the functional-cognitive interface will benefit modern pedagogy.

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Conflict of Interest

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Review

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A review of the effect of textual enhancement on L2 learners' grammar acquisition: An analysis of topic familiarity and TE types

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Abstract

The relationship between textual enhancement and L2 learners' grammar acquisition has been widely explored by researchers, while mixed results were provided by various empirical research. This review aims to examine whether textual enhancement has a positive impact on the grammar acquisition of second language learners. Furthermore, the possible concurring moderating factors of topic familiarity and textual enhancement type are discussed in terms of their impact on form acquisition. The review concludes by acknowledging the challenges in definitively establishing the positive impact of textual enhancement on form acquisition, emphasizing the need for rigorous empirical research and critical evaluation of outcomes to enhance the integration of grammar instruction into meaning-based approaches.

Keywords textual enhancement, grammar acquisition, topic familiarity, textual enhancement type, second language acquisition

1. Introduction

The perceived importance of L2 instructions and input enhancement was not put forward at the very beginning. Opposing Krashen's (1985) argument that deliberate formal grammar instructions were unnecessary, empirical studies have shown that sole exposure to the input is not sufficient for successful form acquisition (Schmidt, 1983; Swain, 1985) and the occurrence of successful SLA has to involve learners' attention to certain linguistic forms (Doughty, 2001; Robinson, 1995; Schmidt, 2001). Following Sharwood Smith's (1993) proposal of using the input enhancement approach as a way to attract learners' attention to the targeted forms and Schmidt's (1995) noticing hypothesis, the input enhancement approach was introduced as a way of focus on form, aiming to capture learners' focus on the specific forms being targeted. Among the various techniques, textual enhancement was widely used in empirical studies to examine the effectiveness of the enhancement techniques on grammar acquisition because it is a less obtrusive technique to implicitly draw learners' attention to the target forms (Lee, 2021). Textual enhancement aims to make certain parts of the input texts (written or oral) more salient and thereby to facilitate form-meaning connections (Benati, 2021). Typographical cues such as italicizing, underlining, embolding and coloring are commonly used in the related studies.

Many empirical studies have shown inconsistent results as to the influences of textual enhancement on grammar acquisition due to methodological idiosyncrasies (Han et.al., 2008). Some of them support the hypothesis that textual enhancement has positive effects on form acquisition (Doughty, 1991; Shook, 1994; Lee, 2007; Al-Shammari & Sahiouni, 2023). Some provide evidence of the moderate effect of the enhancements on noticing but not on acquisition (Winke, 2013). Nonetheless, some other studies showed no effects on form acquisition (Overstreet, 1998; Leow, 2001; Izumi, 2002; Wong, 2003). The divergence can be attributed to many variables, such as research designs and other moderating factors (Lee and Huang, 2008; Benati, 2021). A moderating variable, also known as a moderator, is any factor that has the potential to influence the dependent variables (Dodge et al., 2006, as cited in Wu, 2022).

In a meta-analytic review by Lee and Huang (2008), 16 primary studies were studied for investigating the relationship between visual input enhancement (VIE) and grammar learning. Lee and Huang (2008) categorized the variables in the selected studies into four parts: publication characteristics, learner differences, research design and treatment intensity. In order to find out the magnitude of VIE's impact on grammar acquisition, Cohen's *d* values (Cohen, 1988) were calculated by comparing the mean scores of the experimental group and the comparison groups on immediate posttest assessments. After analyzing the data, the authors found that the experimental group with VIE treatment outperformed the comparison groups by 0.22 standard deviation units (*d* = 0.22), which indicated a small-size effect in accordance with Cohen's (1988) suggestions that d values around 0.20 should be considered as small effects. However, Lee and Huang (2008) also pointed out that the result need to be

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considered cautiously because the comparison groups were also provided with other interventions, which means those groups were not true control groups. Additionally, Lee and Huang (2008) also found a negative effect of VIE on learners' meaning processing. The idea provided in this meta-analysis review is that learners may have difficulty simultaneously focusing on both form and meaning, which lead to the consideration that topic familiarity may facilitate the effect of textual enhancement on learners' grammar acquisition since it may help free some cognitive resources from meaning processing thus making the form acquisition more salient (Lee, 2007). Benati (2021) later pointed out that input enhancement might facilitate learners' notice for grammatical forms and mentioned that many studies on textual enhancement have involved some other variables (e.g., explicit instruction, other input enhancement types such as input flood), which resonates with Lee and Huang's (2008) conclusion that the small-size effect of VIE on grammar acquisition has to be considered cautiously since the comparison groups are not real control groups. Benati (2021) further investigated the offline and online effects of textual enhancement and also provided mixed results. When comparing the enhancement with explicit instruction, Doughty (1991) found a positive effect of salient visual clues on the form acquisition, while an online study by Cintrón-Valentín and Ellis (2015) reported no differences between the typographical enhancement group and the control group with explicit treatment. When comparing textual enhancement with other input enhancement types, offline studies unsurprisingly offered mixed results. Some provided positive results (Shook, 1994; Rassaei, 2015; Wong, 2002; Izumi, 2002; Simard, 2009; LaBrozzi, 2014), while some others offered less favorable effects (Overstreet, 1998; Leow et al., 2003; Boers et al., 2017; Meguro, 2017). Simard's (2009) and LaBrozzi's (2014) research stand out by investigating the different impacts of certain typographical cues, which leads to the consideration of regarding textual enhancement type as a possible moderating factor in this review. As for online effects, most studies demonstrated a positive influence (Simard and Foucambert. 2013; Issa et al. 2015; Alsadoon, 2015; Lee and Révész; 2020). Winke (2013) provided a different result by showing that enhancement facilitated learners' noticing but not necessarily the acquisition of the target forms. This result calls for further exploration of the relationship between noticing and the acquisition of the target forms. With the lack of further investigation into the possible moderating factors of topic familiarity and textual enhancement type, this review aims to fill the gap and analyze the effects of these two elements in detail.

Based on the mixed results in previous literature, it is difficult to firmly state whether textual enhancement has a positive effect on the form acquisition of L2 learners due to divergent research designs (e.g., measures of enhancement, control groups, textual enhancement types, and intensity of treatment) and salient learner differences (e.g., prior knowledge of target forms, topic familiarity, age, L2 proficiency, etc.). In accordance with the rationale stated before, this review will examine the roles topic familiarity and enhancement types play in examining the effect of textual enhancement on learning the target forms.

To identify the effectiveness of the two factors, this review will examine empirical studies focusing on the relationship between textual enhancement and grammar learning with specific consideration of the possible influence of the two aforementioned variables.

2. Possible moderating factors

2.1. Topic Familiarity

The efficacy of textual enhancement cannot be identified without measuring the influence on comprehension, as the proposal of typographical enhancement is premised on the learners' acquisition of meaning (Han et al., 2008). However, many studies have neglected the need to measure comprehension, thus it is unclear as for whether textual enhancement may have a negative effect on meaning acquisition. Also, as a concurring factor in empirical studies, topic familiarity did not arouse much of SLA researchers' attention. Therefore, the related empirical studies are limited (Overstreet, 1998; Lesser, 2004, 2007; Lee, 2007; Combs, 2008) and inconclusive results are provided. However, it is reasonable to consider topic familiarity as a potential moderating factor for the following reasons.

By involving culturally familiar topics, researchers would be able to better detect the imbalance for meaning and form processing, thus being able to investigate whether input with familiar topics can positively influence the impact of textual enhancement on both meaning and form acquisition. Different from native speakers, L2 learners need to attend to both meaning and form when reading an enhanced text (Lee, 2007). Lee and Huang (2008) pointed out that a slight negative impact of VIE on meaning processing was shown in the meta-analysis review, which indicated a possible competition between learners' meaning and form processing. As many studies have shown that textual enhancement successfully drew learners' attention to form (Simard and Foucambert, 2013; Issa et al., 2015; Lee and Révész, 2020), it is plausible to consider whether the enhanced texts with familiar topics would facilitate the impact of textual enhancement on form acquisition based on the hypothesis that cognitive resources freed from meaning processing would be used for form acquisition.

Lee (2007) investigated the effects of textual enhancement and topic familiarity on learners' acquisition of both the target grammatical form of passive voice and the comprehension of meaning. Textual enhancement was utilized in this research because of its positive effects on drawing attention to form and the less obtrusiveness characteristic of this focus-on-form technique (Doughty, 1991; White, 1998). Culturally familiar topics were also employed to test the hypothesis that attentional resources freed from reading comprehension could be available for form acquisition. Four teachers and 259 high-school students who had been studying English as a foreign language for nearly four years participated in this experimental study. Students were randomly allocated to four treatment groups based on the two manipulated variables: textual enhancement and topic familiarity, i.e., +E/ +F, +E/ -F, -E/ +F, -E/ -F. To ensure the

comparability of these groups, in the first session, a reading proficiency test was administered to check the reading ability of these students, and a form correction task was provided to test whether there was a preexisting difference of grammatical knowledge among groups. In the following two sessions, students were exposed to two treatments reading the same articles (with textual enhancement or baseline version) individually and discussing with their classmates. However, in the last session, participants read articles with different familiarity and experienced enhanced or baseline version of the texts and then took the two post-tests.

The results of correction task demonstrated a positive effect of textual enhancement on students' target form acquisition and negligible impact of topic familiarity. Furthermore, scores from pretest and post-test showed a statistically significant difference among +E groups, and no measurable differences among -E groups, which justified the beneficial effects of textual enhancement on the grammar acquisition. In terms of free-recall task, +F groups performed better than -F groups, and students exposed to baseline version scored better than those exposed to enhanced version texts. The scores of the recall task supported the hypothesis that topic familiarity affected comprehension positively, whereas textual enhancement could have detrimental effects on meaning acquisition. Moreover, in order to investigate whether attentional resources freed up from meaning comprehension could be available for form acquisition, the scores of correction and recall tasks were compared. However, those scores indicated no significant correlations among +E groups, which contradicted the author's previous hypothesis.

Lee's research has its significance in the following aspects. First, the choosing of tasks to measure form and meaning acquisition is in accordance with the ample theoretical rationales and the author's critical analysis of previous empirical studies, thus increasing the reliability of the specific research. Among various tasks to test acquisition of forms, form correction task was chosen because of the avoidance of random guessing from the learners (Wong, 2003). Compared with other measures for comprehension, a free-recall task was claimed to be the best test for examining the learners' capability to recall information (Overstreet, 2002) and checking the comprehension without involving the bias developed from prepared test questions. Second, the rigorous design is noteworthy and can offer valuable experiences to other researchers. For instance, preliminary differences were eliminated by the author through two pretests for both form and comprehension. In spite of these advantages, there are some limitations in this study. The author mentioned other confounding factors which may have intervened in the research on textual enhancement, such as treatment conditions and measure of attention. Even though Lee has mentioned the relatively short period of exposure time for target enhancement, the total time for enhancement exposure in this study is 60 minutes, which is not significantly longer than other previous studies. And another limitation of this study is the lack of follow-up study to investigate the retainment of grammatical acquisition outcomes in this study. Furthermore,

regardless of the aim to test the hypothesis that textual enhancement can attract learners' attention to form and that attentional resources released from comprehension could be reallocated to from acquisition, the attention was not measured in this study, compared with Izumi's (2002) work, which demonstrated the positive effects of enhancement on noticing but not on acquisition.

Winke (2013) partially replicated Lee's (2007) research with the aim to investigate two research questions: a) whether learners' visual attention can be drawn to targeted forms; b) what are the effects of textual enhancement on form and meaning comprehension. Two modifications were made in this study. First, the learners' proficiency was measured through an outside method since the author thought that previous studies on input enhancement lack independent measurements. Second, an eye-tracking technique was recruited to measure noticing objectively and the data was analyzed to examine whether textual enhancement draws the attentional resources to target forms. Eighty college students with intermediate-level English capability volunteered in the study, while due to the failure of camera lens calibration, only 55 students' data were collected and analyzed in this study. The group of participants has various L1 backgrounds, but a majority of them speak Mandarin Chinese as L1. In terms of the materials chosen in this research, pretests and post-tests were based on those developed by Lee (2007). An authentic text rather than inauthentic one was chosen and modified. A free-recall task was employed for assessing the reading comprehension. Volunteers finished the tasks one at a time and a monocular rather than binocular eye-tracking method was utilized due to the more accurate results. After finishing reading the text, the volunteer would move to take the free-recall task and post-test.

Eye-tracking data was analyzed to test whether enhancement affects noticing and makes the forms more salient for learners (research question a). The results indicated that the textual enhancement drew participants' attention to target forms in some ways (rereading the forms and visiting the enhanced passive forms more frequently), while enhancement did not increase initial processing, at least immediately. Therefore, the results in this study implied that textual enhancement triggered noticing, while the amount of noticing could not promise immediate form acquisition. To test the effects of enhancement on form acquisition and meaning comprehension (research question b), the gains scores (difference between pro and post form correction task scores) and comprehension test scores were analyzed through independent-samples t-tests. Winke (2013) concluded that in the context of this study, no significant difference of both gain scores and comprehension test scores was found among unenhanced and enhanced groups, in spite of the slightly different performance, thus indicating no trade-off effect of typographical enhancement on meaning processing.

Since Winke's (2013) study is a partial replication of Lee's (2007) research, it is difficult to compare the effects of textual enhancement and topic familiarity. First, topic familiarity was not investigated as an independent variable in Winke's study because the researcher gave no

description of whether the subjects were familiar with the topic of the reading material. Besides, the subjects were also different in the number, L1 background, age and L2 language proficiency, so learner difference could also influence the effect of enhancement on meaning and form processing. Nonetheless, Winke's study did provide some insights for further exploration on the relationship between noticing and form acquisition and on whether there is a correlation between meaning and form processing of L2 learners.

Apart from the aforementioned two studies, some other research also provided varied effects of topic familiarity and input enhancement on learners' comprehension and form acquisition. Overstreet (1998) examined the concurrent effects of topic familiarity and input enhancement and found a positive influence of input with familiar topics on meaning acquisition and no effect of enhancement on the learning of form. However, it was somewhat overreaching to conclude that input enhancement can draw learners' attention away from meaning since other variables may interfere with the results. Combs (2008) also examined the influence of topic familiarity and textual enhancement on learners' form acquisition and found no significant impact of these two variables by measuring the pre-test and post-test scores, with further pointing out the potential concurrent factors of learner readiness, treatment frequency and enhancement type.

According to the analyses above, it can be inferred that topic familiarity might have a positive effect on L2 learners' reading comprehension, but not necessarily the acquisition of targeted forms.

2.2. Textual enhancement type

Limited research has been conducted as for the impact of textual enhancement types on grammar acquisition in second language acquisition field, with many previous studies focusing on the influence on L1 test performance, retention, and comprehension (LaBrozzi, 2014).

With a closer investigation of previous research, Simard (2009) implied that the inconsistent results could be attributed to the format (number and types) of enhancement cues in the tasks. To answer the research question of whether the enhancement format has a differential influence on intake, Simard utilized an experimental split-plot design with between-group comparisons to measure the learners' intake of English plural markers. One hundred eighty-eight subjects who were French-speaking secondary students in Quebec participated in the research, and were divided into eight groups (one control group and seven experimental groups). The subjects were sequentially presented with a text and a familiar reading task. After comparing the scores of multiple-choice recognition tests and the information transfer task, Simard found that a specific type and a combination of cues (capital letters, a combination of three types) promoted better scores among subjects. Besides, the number of typographical cues matters according to the result of the study, which indicated a possible saturation effect with multiple typographical cues provided. However, there are some limitations in the study, which call for

cautious consideration of the research outcomes. Better measurement instruments can be used to test learners' noticing since textual enhancement may be insufficient for immediate occurrence of acquisition (Sharwood Smith, 1993). Besides, both the multiple-choice and information transfer task cannot prevent learners from randomly guessing the correct answer or correct order, thus failing to precisely investigate the L2 learners' form and meaning acquisition.

LaBrozzi (2014) intended to examine the effects of six different types of textual enhancement (underlined, italicized, bolded, capitalized, increased in font size, and change in font) on form recognition and meaning acquisition, so as to shed some light on explaining the mixed results from previous research. As a partially replication of Simard's (2009) research, this work has some modifications. Firstly, the six types were used individually and thus were not mixed to test the integrate influence. Moreover, only part the word (target morpheme) rather than the entire one was enhanced. Secondly, the participants were college students, compared with Simard's (2009) study in which the learners involved were 11 to 12 years old. Lastly, the influences on reading comprehension were also considered in this study. After the pretest of the translation task, 125 college students who were native English speakers and were learning Spanish as a second language participated in the current research and they were divided into seven groups: one control group and six enhanced groups. The chosen target form was the Spanish preterit tense of verb ending with "-er". The choice was based on the rationale that this form lacked salience and the changes happened within the verb, which rendered the form recognition even more difficult. Translation task and multiple-choice task were designed to measure learners' form recognition and meaning acquisition respectively.

The result revealed that the influence of textual enhancement on form recognition varied among types. But LaBrozzi (2014) explained that future studies were needed to testify the claim that the saliency in the increased font size text compelled the learners to draw on their previous knowledge to finish the translation task. On the other hand, to measure the influence of enhancement types on meaning comprehension, the scores of the multiple-choice comprehension questions which were used to check the general comprehension of the text showed no significant difference among groups, which was explained by the researcher that learners were able to concentrate on meaning and were not distracted by typographical cues. The author concluded that the enhancement type of increased font size contributed to better performance in the translation task in this specific study and utilizing individual enhancement technique failed to draw learners' attention from meaning comprehension.

LaBrozzi's work (2014) is valuable in that it tests the effects of an individual enhancement technique, rather than a combination of various techniques, on both form and meaning acquisition of adult L2 learners. Nonetheless, some limitations exist in this study. First, the number of participants was small, and a larger group of learners in this experiment may lead to outcomes which would demonstrate significant difference among groups. Second,

the multiple-choice task might involve some degree of random guessing from learners, thereby making the outcomes less reliable. Moreover, there was an overlap of form recognition test and meaning comprehension investigation within both the translation and multiple-choice tasks, which may contribute to inaccurate measurement for noticing and acquisition. For further explanation, in the translation task, successful learners had to understand both the tense and meaning, while in the other task, learners were given 20 items related to acquiring the present and preterit tense. Although the scores were collected separately (marked as general, present, and preterit), the outcomes of the two tasks may not illustrate directly pertinent influences of textual enhancement on both form acquisition and meaning comprehension. Lastly, contrary to Overstreet's (1998) suggestion that textual enhancement should address only one grammatical form, two linguistic forms (present and preterit) were involved in this experiment, while not enough rationale was provided by the author.

The aforementioned two studies indicate the different impacts of various textual enhancement types. However, it is relatively difficult to find out which one or which combination of the enhancement types can better facilitate learners' form acquisition because of other interfering variables and a lack of discussion on the benefits of varied textual enhancement types (Lee. 2021).

3. Conclusion

This review paper intends to answer two research questions: a) Does textual enhancement have a positive effect on L2 learners' grammar acquisition? b) How do the two possible moderating factors (topic familiarity and textual enhancement types) influence the learning outcome?

Although the psycholinguistic mechanisms as to the relationship between attention and L2 acquisition are still open to debate, there is a consensus among researchers that focal attention of targeted items is necessary for successful L2 processing. In VanPatten's input processing theory (1996, 2002), the feature of limited attentional resources was pointed out and the prediction that those resources would be directed primarily at meaning before form was given. Based on this rationale, the aforementioned four empirical studies were analyzed in detail because they all consider the effects of textual enhancement on form and meaning comprehension, with specific consideration on the two possible moderating factors: topic familiarity and textual enhancement types. Besides, participants of these research all had previous knowledge of the targeted forms but failed to acquire them based on the pretest for selection. The reason for choosing learners with prior knowledge is in line with outcomes of previous research, which showed that textual enhancement technique was ineffective without the basis of previous understanding (Leow et al., 2003; Wong, 2003; Lee, 2007).

Nonetheless, this review is not sufficient to generalize a clear answer to the two research questions, based on the theories and current empirical studies. As mentioned before, the effects of textual enhancement alone can hardly be correctly detected and assessing form acquisition through tasks is not equal to measuring the impacts of input enhancement, since there are a considerable number of covarying factors such as research design, age, measurement differences, L1, and L2 proficiency, etc. Moreover, due to the limited studies to compare, the impact of topic familiarity and enhancement types on grammar acquisition cannot be ascertained, which calls for further investigation with more rigorous design and control of covarying factors. Therefore, it is impossible to match all of them to prepare comparable conditions for researchers. Furthermore, even if the positive effects of textual enhancement on triggering noticing are justified, the influences of input enhancement on the actual form acquisition are ambiguous.

In spite of the ambiguity of effects, the current study is valuable in the fact that the importance to investigate the impact of textual enhancement on both form and meaning acquisition is put forward, which calls for future research on more detailed online measurements to test the effect of input enhancement on noticing as well as the relationship between noticing and the actual grammar acquisition. Besides, this review argues that the two possible moderating factors are underestimated due to the difficulty of research design and a lack of previous empirical studies. Furthermore, this paper tends to offer valuable insights for further analysis and discussion on both measuring the influences of textual enhancement and utilizing this technique in the classroom settings. It is expected that the actual teaching experiences will provide important feedback to researchers to better investigate the effects of this specific input enhancement technique in the field of second language acquisition.

Textual enhancement, as a pedagogical intervention, is a technique employed to highlight specific aspects of written input, aiming to assist learners in recognizing the target form and ultimately establishing meaningful connections between form and meaning. Given the implicit and abstract nature of language, it is reasonable to contemplate the utilization of input enhancement instead of explicit instruction as a viable method for integrating a form-focused element into a broader communicative approach to language teaching (Benati, 2021). Based on the inconsistent results of previous empirical studies and the conclusion of this review paper, EFL teachers are encouraged to integrate this technique in classroom settings by carefully considering the concurring factors (e.g. topic familiarity, enhancement types, L2 proficiency, learning style, age, etc.), choosing the enhancement type or the combination of the typographical types wisely, and adjusting to the changing needs of learners flexibly.

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