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Abbreviations

CBI: Content-based instruction

CBLI: Content-based language instruction

CLT: Communicative language teaching

EFL: English as a foreign language

ESL: English as a second language

Abstract

This study compares the effectiveness of content-based language instruction (CBLI) and communicative language teaching (CLT) in improving the reading comprehension skills of 60 primary and secondary school EFL students in Iran. Furthermore, it assesses Iranian EFL learners' attitudes toward CLT and CBLI to examine which approach is more preferred and perceived as more effective by the L2 learners. The measures were two Cambridge Advanced English (CAE) reading comprehension tests administered as the pretest and posttest of an intervention study to measure the reading comprehension ability of the students in both groups who were instructed using CLT or CBLI approaches. During the intervention, the students in the CLT group were instructed by using CLT practices and the students in the CBLI group were instructed using CBLI principles for 15 weeks (30 sessions in total). After having conducted the intervention study, the students in the two groups were surveyed about CLT and CBLI. The data shows that both CLT and CBLI were effective in improving the reading comprehension skills of the Iranian EFL learners as the learners who were instructed using each of these approaches did not show any significant differences in terms of reading comprehension skills compared to the other group. Moreover, the Iranian EFL students who received instructions through CLT perceived that the use of CLT was effective in improving their reading comprehension skills. Likewise, the students who were instructed using the CBLI principles favored the use of CBLI for teaching reading comprehension skills. While there are no significant differences of the two groups' reading comprehension skills, the students in the CBLI group were overall more positive about CBLI compared to the students in the CLT group toward the use of CLT.

Keywords: *content-based language instruction (CBLI), communicative language teaching (CLT), reading comprehension, EFL learners*

1. INTRODUCTION

1.1 Background

Given the plethora and complexity of issues in language teaching and learning, including the role of grammar in language syllabi, the development of accuracy and fluency in teaching, teachers' productive or receptive skills, learners' motivation, the role of materials and technology, etc. (Dewi, 2019), many language instruction methods have been developed so far. Besides, the drawbacks associated with the then-prevailing teaching methods made the English language teaching profession go through many transitions in terms of methodology (Kember & Leung, 2005) to meet the various needs of learners. These changes were not limited to methodological issues but also encompassed a set of practices, materials, and assumptions about teaching and learning in an attempt to find the best way to teach English (Richards & Rodgers, 2001). Communicative language teaching (CLT) was developed in the 1970s in response to dissatisfaction with the traditional methods including the grammar-translation method (GTM), audio-lingual method (ALM), and situational language teaching (SLT), which mainly focused on grammar. Accordingly, linguists argued that language ability was much more than grammatical competence (Richards, 2006). Language was no longer considered an interconnecting set of grammatical, lexical, and phonological components but as means of expressing meaning for communication purposes (Nunan, 2003). Thus, instead of focusing on abstract grammatical rules, much attention was paid to functions and notions as concepts required for communicating in social contexts (Jarvis, 2006). It was also argued that learners need to learn authentically, the language with social norms, gestures, and expressions that were absent in the traditional practices (Richards & Renandya, 2002), implying that social context must be embedded in the teaching of language. This being so, the present study addresses two language teaching approaches, communicative language teaching (CLT) and content-based language instruction (CBLI), whose focus is on meaningful communication in real-world settings. It also compares the effectiveness of the two approaches in teaching reading comprehension to Iranian EFL learners.

1.2 Statement of the Problem

The proposed thesis is a study seeking to compare the effectiveness of content-based language instruction and communicative language teaching in improving the reading comprehension skills of Iranian EFL learners. English is instructed as a foreign language in Iran. Iranian students begin learning English in middle school as part of formal education. However, English foreign language (EFL) classrooms offered in the formal education system in Iran are often criticized for not using authentic materials and for the dominance of the grammar-translation method (GTM) with an explicit focus on reading and writing, memorizing long lists of vocabulary items, and the use of the learners' mother tongue. Thus, almost no attention is paid to oral skills in GTM classes. Besides, Iranian EFL learners have little exposure to English outside the classroom. For this reason, many learners do not have many opportunities to use English in real-life practical situations. As a result, they fail to develop the communicative competence required for communicating fluently in English or reading and writing effectively in English. Hence, many private and non-governmental language institutes and schools in Iran offer extensive EFL courses mainly through communicative language teaching (CLT) for EFL learners. Thus, CLT is the dominant English teaching method and is widely practiced in most English language institutes in different regions across the country. Moreover, some private bilingual schools in Iran offer primary school, middle school, and high school courses in both Persian and English. The English courses are offered through content-based instruction (CBI) and cover science, math, chemistry, physics, and other related subjects. However, admission at these bilingual schools requires strict criteria to be met by applicants who are mainly children who are going to start their primary school studies. Students that are often admitted to these schools are usually gifted children at school age and are often from well-off families that can afford high school enrollment expenses. Thus, not all school-age children can apply for such bilingual schools in Iran. These schools offer a wide range of high-quality educational and non-education amenities and services including well-equipped classrooms, smart interactive boards and displays, and sports and dining spaces. Besides, courses are offered in both English and Persian by highly qualified teachers. Children at these schools receive high-quality educational services. They can also speak English fluently after completing their

studies, have higher admission rates at the Iranian University Entrance Exam (IUEE), and have a better chance to be admitted at universities and colleges abroad compared to the students who go to ordinary public schools. Accordingly, since English courses in bilingual schools are offered through content-based language instruction (CBLI), we are motivated to explore the effectiveness of teaching reading comprehension skills to Iranian school children using CBLI and compare the results with the instructional efficacy of communicative language teaching (CLT) as the mainstream English teaching approach in Iranian English institutes and schools.

CBLI is an approach to second language teaching in which teaching is organized around the content or information that students will acquire, rather than around linguistic or other types of the syllabus (e.g., Richards & Rodgers, 2010). According to Stoller (2008; cited in Gallosa, 2019), CBLI is “the use of nonlanguage subject matter that is closely aligned with traditional school subjects, themes of interest to students, or vocational and occupational interest” (p. 22). Thus, language is used to convey meaning. Furthermore, Peachey (2004) suggested that CBLI is motivating and interesting for learners as it helps them understand the world around them. It also contributes to fulfilling the real goal of using the language naturally and authentically.

Communicative language teaching (CLT) was developed in the 1970s in response to dissatisfaction with the traditional methods including GTM, the audio-lingual method, and situational language teaching, which mainly focused on grammar. Thus, instead of focusing on abstract grammatical rules, much attention was paid to functions and notions as concepts required for communicating in social contexts (Jarvis, 2006).

Many applied linguists argued that CLT focuses on notional-functional concepts and communicative competence, rather than teaching explicit grammatical rules. According to Canale and Swain (1980), communicative competence includes four dimensions: grammatical, sociolinguistic, discourse, and strategic competence.

There is, however, a major difference between CLT and CBLI. While CLT is a language-driven approach, focusing on the language itself, CBLI is a content-driven approach as

language is used as a tool to convey meaning, it is quite different from traditional methods. As discussed earlier, CBLI is an approach to second language teaching in which teaching is organized around the content or information that students will acquire, rather than around linguistic or other types of the syllabus (e.g., Richards & Rodgers, 2010). In contrast, in the CLT approach, the focus is on language functions and notions as concepts required for communicating in social contexts

Many studies have highlighted the positive effects of CBLI on language learning skills (e.g., Tsai & Shang, 2010; Amiri & Hosseini Fatemi, 2014; Chapple & Curtis, 2000; Wei, 2006).

Some studies have also suggested the positive effect of CLT in developing EFL learners' reading comprehension (e.g. Tegegne, 2018; Yucailla Tixi, 2020; Hasan, 2020). However, more studies need to be carried out on the impact of CBLI on EFL students' reading comprehension. Hence, the present empirical study will seek to find out the extent to which CBLI and CLT are effective in developing and improving Iranian EFL students' reading comprehension skills. To do so, this study employs a mixed-methods research design (using both quantitative and qualitative methods) to compare the effectiveness of CBLI and CLT – the latter being the most dominant EFL teaching approach in Iran - in improving the reading comprehension skills of primary and secondary school EFL students aged 13 to 16 years in Iran. Moreover, this study seeks to assess Iranian EFL learners' attitudes toward CLT and CBLI.

1.3 Objectives of the Study

This study sought to compare the effectiveness of CBLI and CLT – the latter being the most dominant EFL teaching approach in Iran - in improving the reading comprehension skills of primary and secondary school EFL students aged 13 to 16 years in Iran. Moreover, this study aimed to assess Iranian EFL learners' attitudes toward CLT and CBLI.

1.4 Research Questions and Hypotheses

The following questions are addressed in this study:

RQ1: Compared to CLT, to what extent is CBLI (with a focus on science topics) effective in developing and improving EFL students' reading comprehension skills?

RQ2. Compared to CLT, are students in CBLI classrooms with a focus on science topics more interested in the EFL classroom and does this have an effect on RQ1?

RQ3. Based on the CBLI classroom, do the students perceive CBLI to be effective in developing their EFL reading comprehension skills?

Following the above-stated questions, the following hypotheses are tested in the present study:

H1: Based on previous findings (e.g., Tsai & Shang, 2010; Amiri & Hosseini Fatemi, 2014; Chapple & Curtis, 2000), it is predicted that CBLI is more effective than CLT in improving language learners' reading comprehension skills.

H2: Following previous findings (e.g., Chang, 2000; Rao, 2002; İnceçay & İnceçay, 2009; Savignon & Wang, 2003; Aubrey, 2010; Mirzaee, 2016; Khatib & Ashoori Tootkaboni, 2017), compared to CLT, the students in CBLI classrooms with a focus on science topics are more interested in the EFL classroom.

H3: Based on the CBLI classroom, the students perceive CBLI to be effective in developing their EFL reading comprehension skills.

1.5 Relevance

This study can contribute to the literature on CBLI in EFL contexts. The insights from this study can also be used by material developers, language teachers, school principals, and policymakers. Material developers can incorporate content suitable for CBLI in teaching materials and textbooks for EFL learners. Language teachers and educators can use CBLI principles for teaching reading comprehension to EFL learners. Policymakers can also formulate plans for promoting CBLI principles in English classrooms. Finally, the insights

from this study can induce further research into the application of CBLI for instructing listening, speaking, and writing in EFL contexts.

1.6 Main Findings

Overall, the findings of this study indicate that the students in the CLT and CBLI groups did not differ significantly in terms of their reading comprehension ability after 15 weeks of instruction. Thus, there were no significant differences between the groups before or after conducting the CLT and CBLI instruction programs. While the reading comprehension skills of the students in both groups improved significantly after the instructions compared to their reading comprehension scores before the instruction programs, the CLT and CBLI groups showed no significant difference in their post-test reading comprehension scores, indicating that the two instructional techniques, CLT and CBLI, were equally effective in improving the reading comprehension ability of Iranian EFL students.

1.7 Definition of Key Terms

This section provides the definitions of the key terms used in this study to avoid any ambiguity and inconsistency.

1.7.1 Communicative language teaching (CLT)

Theoretical definition: CLT in this study is defined as “an approach to language teaching methodology that emphasizes authenticity, interaction, student-centered learning, task-based activities, and communication for real-world, meaningful purposes” (Brown, 2007, p.378).

Operational definition: In the present study, CLT is narrowed down to teaching reading comprehension to EFL learners by performing tasks such as questions and answers, group discussions, and information gap activities (Echevarria & Graves, 2003).

1.6.2 Attitude

Theoretical definition: The term “belief” is often used interchangeably in the literature not only with “perception” but also with “attitude” (O’Donnell, 2003). Thus, the term “attitude” appears to be an overall description of one’s beliefs, values, and feelings toward someone or something. Attitude comprises not only beliefs but also wants, values, and other personal convictions (Bakker, 2007).

Operational definition: In this study, the term *attitudes* was operationalized as the Iranian EFL learners’ views and beliefs about CLT and CBLI classroom practices.

1.6.3 Content-based language instruction (CBLI)

Theoretical definition: Content-based instruction (CBI) or content-based language instruction (CBLI) is a communicative method used for second/foreign language teaching. In CBI, teaching is organized, around content rather than a linguistic syllabus. CBI was developed in the 1980s based on the principles of communicative language teaching (CLT). The classroom focus is on real communication about the subject matter, not the language. The subject matter is grammar, function, or some other language-based unit of organization but content. According to Krankhe (1987; as cited in Richards & Rodgers, 2009), “It is the teaching of content or information in the language being learned with little or no direct or explicit effort to teach the language itself separately from the content being taught” (p.204).

Operational definition: In the present study, CBLI is narrowed down to teaching reading comprehension to Iranian EFL learners through taking notes, summarizing, and extracting key information, information gathering, processing, and reporting using visual support through images, graphic organizers, charts, etc.

This thesis is organized into the following sections: Section 2 presents the theoretical framework and a review of relevant empirical studies. Section 3 describes the methodology including the participants, instruments, materials, and data collection and analysis procedures. Section 4 presents the results of the data analysis followed by a discussion of

the main findings based on the research questions in Section 5. Finally, Section 6 presents the conclusions.

2. REVIEW OF LITERATURE

2.0 Introduction

This chapter contains two main sections. The first section addresses the theoretical concepts used in this study. The section presents the empirical studies conducted on CLT and CBLI.

2.1 Theoretical Considerations

This section addresses the theoretical concepts used in the present study including CLT and CBLI and their applications in EFL contexts and reading comprehension tasks, and learners' attitudes toward CLT and CBLI.

2.1.1 Communicative Language Teaching (CLT)

Richards and Rodgers (1986, as cited in Thamarana, 2014) considered CLT as an approach instead of a method. This approach emerged based on a philosophy of teaching that highlighted communicative language use. Accordingly, many applied linguists argued that CLT focuses on notional-functional concepts and communicative competence, rather than teaching explicit grammatical rules and structures. Therefore, the advocates of CLT believed that teaching language must foster learners' *communicative competence*, which refers to a learner's ability to use language to communicate meaningfully and successfully. According to Canale and Swain (1980), communicative competence includes four dimensions; grammatical competence (which is similar to linguistic competence proposed by Chomsky and includes structural rules of language), sociolinguistic competence (an awareness of the social context in which communication happens, including role relationships, participants' shared information and knowledge, and the purpose for their interaction), discourse competence (the interpretation of cohesion and coherence of elements of a message), and strategic competence (using strategies to start, terminate, maintain, repair, and redirect communication).

The philosophy of CLT became very soon widespread and was accepted by linguists and educators throughout the world, turning into the most dominating language teaching paradigm in the world until today. However, there have been some challenges to

implementing CLT in second and foreign language learning contexts. For instance, Chang (2011) stated that implementing CLT in the EFL context faces many challenges including the lack of teacher training, local culture of learning and teaching, language tests, and the lack of teacher involvement in the policy-making process. Besides, previous studies have shown other barriers to the adoption of CLT including teachers' and students' resistance to teachers' lack of knowledge and skills in implementing CLT and students' low English proficiency and motivation due to the absence of teaching resources and effective assessment (Chang & Goswami, 2011; Jarvis & Atsilarat, 2005; Kustati, 2013).

Communicative language teaching (CLT) was developed in response to the problems and drawbacks of the previous language teaching methods (i.e. the view of language as a set of isolated elements, the disregard for speaking or listening skills, the widespread use of L1, the passive role of language learners, and teacher-dominated instructions in GTM; the simulation of native language acquisition and the avoidance of explicit instruction in the Direct Method, the use of mechanical pattern drills and mimicry in the Audiolingual Method, the teacher's lack of understanding of the context in TBLT; and simulation of child-like learning situations in suggestopedia disfavored by some learners) (Larsen-Freeman, 2000; Vega, 2018; Xia, 2014; Hussein, 2013; Liu & Shi, 2007; Carless, 2004; Arulselvi, 2017). Thus, these methods could not help students learn enough realistic, whole language and communicate in real-life situations.

Communication is considered a process whereby a message is sent from senders to receivers (Thao, 2005). Modern language teaching and learning have underlined the importance of redefining communicative competence for second language learners (Canale & Swain, 1980). Communicative competence is assumed to encompass four sub-competencies: linguistic, sociolinguistic, discourse, and strategic competence (Canale, 1983). Linguistic, sociolinguistic, and discourse competencies involve acquiring the knowledge of the language code, the socio-cultural constraints and rules governing the use of the language code, and the knowledge of the rules of discourse required to produce coherent and cohesive messages. In contrast, strategic competence refers to the ability to use problem-solving tools

to overcome communication problems caused by a lack of knowledge and ability in any of the other sub-competencies.

Communicative language teaching (CLT) is a significant theoretical approach to English language teaching (ELT). CLT has been accepted as an effective instruction approach by many applied linguists and educators worldwide (Karim, 2004). The main goal of CLT is to develop students' ability to communicate in second language settings. This approach displays a shift in the language teaching profession from linguistic structure to learners' need for fostering communication competencies skills (Chang, 2011).

Thus, the CLT approach aims to facilitate language learning and help learners to use the language in their spoken and written communications. Accordingly, the main focus of this approach is on developing meaning rather than grammatical structures. Thus, in this approach, the important thing is how well learners can utilize their communicative competence and skills to convey their intended messages in the target language.

However, CLT cannot be applied successfully in every academic context. Carless (2004) has suggested that since CLT was created in ESL contexts where English is not spoken outside classrooms, EFL instructors attempted to adopt CLT in EFL settings where English is used solely in the classrooms. In addition, the teachers were concerned about how to evaluate the students' communicative competence.

The explicit instruction of grammatical rules receives less attention in CLT (Brown, 2007). However, grammar is not excluded in CLT as it assumes that grammatical rules and structures can be better understood "within various functional categories" (Brown, 2007, p. 242). Both accuracy and fluency are taken into account in CLT, but the main goal of this approach is to foster fluency. Nevertheless, fluency should not be developed at the expense of clear communication (Brown, 2007).

However, there have been some misinterpretations most commonly held by language teachers and researchers about the practices of CLT. For instance, one of the most popular misconceptions is that CLT as an approach to foreign language teaching only focuses on the meaning and excludes any attention to language forms (Wu, 2008). However, most applied

linguistics highlighted the significance of formal language structures in CLT (Prabhu, 1987, as cited in Wu, 2008). Accordingly, CLT is considered a language educational approach that mainly focuses on communication, but not at the expense of form. In contrast, some applied linguists such as Prabhu (1987) argued that grammar is so complex that cannot be taught. Furthermore, Krashen (2003) suggested that grammar can only be learned unconsciously and inductively by exposing learners to the target language. Therefore, these scholars highlighted the need for special attention to be paid to the meaning, not the form. In an experimental study, Savignon (1972) examined the impact of adding a communicative component to audio-lingual classes in French. The results showed that learners who had received the additional component outperformed the students who received either an additional cultural component or further audio-lingual practice. This implies the benefit of adding a communicative component to form-based instruction. Furthermore, research has shown that students in CLT classrooms in which language form received no attention often fail to reach high levels of development and accuracy in many aspects of the target language (Harley & Swain, 1984; Spada & Lightbown, 1989). These findings highlight the importance of including form-focused instruction in CLT classrooms as it can contribute to increasing learners' knowledge and enhancing their ability to use that knowledge (Norris & Ortega, 2000; Spada, 1997).

Another common misconception is that CLT means no explicit feedback on language learners' errors. Many teachers have come to the belief that errors show that learners are testing hypotheses about the target language and thus implying that they are making progress. It is also believed that learners' errors will be replaced by correct target forms through exposure to the target language when learners hear and practice it. Accordingly, some scholars have rejected the use of any type of corrective feedback on learners' errors (Truscott, 1999). However, this extreme view has not been supported by most CLT teachers and researchers (Lyster, 1999). They have suggested that corrective feedback does not interfere with communication in CLT classrooms. In contrast, it is believed that the provision of corrective and positive feedback on learners' errors can improve the learning process (Brandl, 2008).

Furthermore, a misconception about CLT is that it has been equated with listening and speaking practice. It has been argued that CLT just is a means to meet learners' needs. Thus, more attention is paid to speaking and listening skills, as was the case with the audio-lingua method. However, most CLT researchers argued that language and communicative abilities and skills are not considered in isolation from each other in CLT (Savignon, 1997). This highlights the importance of focusing on discourse in CLT. Accordingly, Widdowson (1978) supported an integrated view of language skills. In line with this view, CLT materials developers have produced materials such as English for academic purposes specifically to meet the needs of particular groups of L2 readers.

CLT has been also misunderstood as avoidance of the learners' first language (L1). Many teaching methods including the Direct Method, the Audio-lingual Method, and Communicative Language Teaching were developed based on the assumption that using the learners' first language (L1) must be avoided in the classroom as learners need much exposure to the target language inputs to learn it successfully (Gass, 1997; Lightbown, 1991). However, Cook (2001) has argued that modeling real language use for language learners is not necessarily contradictory to the use of the first language in the classroom. Furthermore, it is claimed that the first and second languages exist in separate compartments in the brain and thus they do not need to be kept separate in the classroom. Some scholars (e.g. Obler, 1982; Harris, 1992; Romaine, 1989) have confirmed the knowledge overlap of the basic components of linguistic data from two languages and considered it a common underlying proficiency. This notion of proficiency has confirmed the considerable transfer of conceptual knowledge and skills across languages and also the benefits of using L1 knowledge for minority language learners in bilingual education programs (Ramirez, 1992). Nevertheless, CLT researchers have warned about the extent to which L1 use is productive in language classrooms.

For instance, Daisy (2012) pointed out that the existing syllabi in India did not reflect the objectives of CLT, and the existing syllabi needed to be modified or the new syllabi could be drafted following the CLT approach. In another study, Rao (2012) found that it was not possible to adopt CLT in China because of some special characteristics such as the teachers'

inability to teach communicatively and the pressure from a grammar-focused examination system. Furthermore, Ju (2013) pointed to the difficulties of the application of CLT in China because of the large number of students in each class. Besides, English teachers are not able to analyze each learner's needs and help them accordingly.

Apart from the focus on CLT teachers' views about CLT classroom practices, some studies have addressed learners' perceptions and views about CLT classroom practices (e.g., Gamble, 2013; Komol & Suwanphathama, 2020; Khatib & Tootkaboni, 2019). In most of these studies, a researcher-made instrument has been used to measure learners' attitudes toward CLT classroom practices. Some authors also interviewed the learners to determine their attitudes and views. Others have used self-report questionnaires or direct observations (Karim, 2004; Hawkey, 2006; Tayjasanant & Barnard, 2010).

2.1.2 Content-based Language Instruction (CBLI)

Content-based instruction (CBI) or content-based language instruction (CBLI) is a communicative method used for second/foreign language teaching. In CBI, teaching is organized, around content rather than a linguistic syllabus. CBI was developed in the 1980s based on the principles of communicative language teaching (CLT). The classroom focus is on real communication about the subject matter, not the language. The subject matter is grammar, function, or some other language-based unit of organization but content. According to Krankhe (1987; as cited in Richards & Rodgers, 2009), "It is the teaching of content or information in the language being learned with little or no direct or explicit effort to teach the language itself separately from the content being taught" (p.204).

There are various definitions for Content-Based Instruction (CBI) presented in the literature. Following Channa and Soomro (2015), content-based instruction as one of the language teaching approaches has been developed based on the principle of communicative language teaching (CLT). It is in contrast to other approaches which rely on behavioral principles. CLT advocates the negotiation of meaning through target language (TL) communication and dialogue. CBI is an instructional approach that focuses on learning language and content. It encourages learners to engage in a dual task (Davies, 2003). CBL helps learners acquire linguistic, cognitive, and metacognitive skills and subject matters (Stoller, 2008). According

to Brinton, Snow, and Wesche (1989), CBI integrates content and language teaching. It is an integrative teaching method that provides both subject matter and second language skills. CBI has been turned into a popular approach widely applied in second language teaching since the 1980s as teaching in CBI aims at involving the content or information to be acquired by learners, rather than linguistic or other types of the syllabus (Richards & Rodgers, 2001).

CBI is also called a curricular approach (Cammarata, 2009) or a dual-focused educational approach (Coyle, Hood, & March, 2010). In CBI, language instruction is most effective by providing communication in meaningful social and academic contexts. Dalton-Puffer et al. (2010) suggested that CBI is an effective approach because it is similar to learning the mother language. CBI has some advantages:

1. Enhancing students' motivation and interests
2. Fostering students' development and independence
3. Promoting students' general and subject-matter knowledge
4. Supporting teachers to instruct the new content in a second language
5. Incorporating students' skills such as critical thinking skills through note-taking, summarizing, and presentation skills
6. Fostering collaborative learning

Brinton et al. (1989) suggested four objectives for CBI: (1) activating and developing existing language skills, (2) acquiring learning skills and strategies to be applied in future language development contexts, (3) developing academic skills in all subject areas., and (4) extending students' understanding of English-speaking people. (as cited in Richards & Rodgers, 2009, p.211).

CBI provides learners with both language competency and content knowledge. Thus, learners absorb the language automatically while they are learning the content. Since the teacher instructs the content through the language, learners can acquire both the content and language. Hence, CBI differs from other approaches. CBI has some features: It gives students the academic language. It helps learners to develop basic interpersonal communication skills (BICS) and cognitive academic language proficiency (CALP) (Brinton, Snow, and Welshe (1989). Grabe and Stoller (1997) reported seven strong features

of CBI: Content-based instruction is significant and relevant as students are exposed to many kinds of language inputs while learning content. That content knowledge should be comprehensible, connected to students' background knowledge, and related to their needs. Teachers and students have the chance to encounter interesting content and the students are engaged in effective language activities in the classroom.

Second, CLI provides contextualized learning. In this approach, instead of leaning isolated language fragments, students are provided with useful language embedded in relevant discourse contexts. Moreover, students are encouraged to attend, use, and negotiate content knowledge through language in natural purposeful contexts.

The third feature of CBI, according to Grabe and Stoller (1997), it helps learners to use the content knowledge. Thus, learners will use their own prior knowledge or background knowledge to acquire new knowledge and content material. Fourth, CBI motivates learners by engaging them in complex information and demanding activities that can enhance students' intrinsic motivation. Fifth, CBI advocates cooperative, apprenticeship, experiential, and project-based learning. It also allows flexibility and adaptability. Thus, in the CBI classroom, teachers can adjust the class based on both the teacher's and students' needs. Finally, CBI encourages student-centered classroom activities.

Content-based language instruction (CBLI) is an approach to integrating content and language learning (Brinton, Snow & Wesche, 1989). The effectiveness of this approach has been supported by studies on second language acquisition. According to Richard and Rogers (2001), "people learn a second language more successfully when they use the language as a means of acquiring information, rather than as an end in itself" (p. 207). Met (1991) argued that natural language acquisition occurs in a context, which is never learned or divorced from meaning. Thus, CBLI provides a context for the occurrence of meaningful communication. CBLI has three models including the theme-based model, the sheltered model, and the adjunct model. Theme-based language evolves around topics or themes. Major features of the theme-based model are automaticity, meaningful learning, intrinsic motivation, and communicative competence (Brown, 2001). The theme-based model aims to help students develop second language competence based on specific topics including several unrelated topics or one major topic. Language teachers are in charge of providing language and content

instruction (Brinton et al., 1989). The theme-based model is often used in adult schools, language institutions, and all other language courses for low to advanced learners.

Sheltered instruction employs second language acquisition strategies to teach the content area. Content teachers who use the sheltered model teach content areas including science, mathematics, history, or literature by using language and context to make the provided information more comprehensible. Sheltered instruction involves comprehensible inputs, warm and affective environments, student interaction, student-centered, hands-on tasks, and comprehensive planning (Echevarria & Graves, 2003). Content courses in the sheltered model are instructed in the second language by a content-area expert to a group of English learners (Richards & Rogers, 2005) or a language teacher with content-area knowledge (Gaffield-Vile, 1996).

The adjunct model is a more complex pattern that integrates language and content. The model connects a specially designed language course to a regular academic course. In this model, students simultaneously enroll in two linked courses; a content course and a language course. The content teacher instructs academic concepts and the language instructor focuses on language skills using the content-area subject as a background to contextualize the language learning process (Brinton et al., 1989). This model link courses to help students develop academic coping strategies and cognitive skills and transfer such strategies and skills to other disciplines. The adjunct model can be applied to high intermediate to advanced students (Brinton et al., 1989).

The three CBLI models share some common features. For instance, they use authentic tasks and materials, and they all help students deal with the content materials. They also differ in terms of the course aim and learning objectives, instructor's roles, students' proficiency levels, and evaluation methods.

However, a fourth model, the Six-T's approach, has been proposed by Stoller and Grabe (1997). The Six-T's approach involves themes, texts, topics, threads, tasks, and transitions. This approach is a theme-based instruction strategy (Stoller & Grabe, 1997). Stoller and Grabe stated that the Six-T's approach follows three objectives: (1) it focused on themes in learning, (2) the teacher is allowed to develop the curriculum and take decisions to choose the contents, and (3) there is a balance between language learning and subject matter. This

approach can be used both when the teacher needs to control the contents and when the contents should be controlled based on a central curriculum plan. Furthermore, Stoller and Grabe (1997) stated that the six-T's approach provides students with priority in their needs, goals, intuitional expectations, available resources, teacher abilities, and expected outcomes. These criteria should be specified carefully to make the best decisions on the six curricular components.

According to Stoller (2008), CBI is the use of nonlanguage subject matter that is closely aligned with traditional school subjects, themes of interest to students, or vocational and occupational interests. Thus, CBI is naturally and academically oriented which amplifies linguistic, cognitive, and metacognitive skills. Peachey (2004) suggested that CBI is motivating and interesting for students as it helps the students understand the world around them and at the same time fulfill the real purpose of using the language naturally. Kong (2009) differentiated between language-oriented and content-oriented teachers. She proposed that the complex topics greatly contribute to advancing language use, which then helps to provide in-depth information about content and language. She also suggested that content should be treated in-depth from different perspectives to enable the processing of complex relationships. Cammarata (2010) suggested that CBI is effective in many contexts but it has not been thoroughly applied in mainstream language teaching. She studied language teachers' struggle to learn CBI and found that a majority of teachers struggle with the idea of teaching language through content and even just the thought of it. In addition, Baecher, Farnsworth, and Ediger (2013) explored the challenges in planning learning objectives in CBI and found that teachers had difficulty in formulating language objectives compared to content objectives. They also revealed that most teachers had so many tendencies on developing language objectives in the four language skills and vocabulary rather than grammatical functions, structures, or language learning strategies. Thus, they recommended more professional development programs to respond to the challenges faced by teachers to help them explore more instructional possibilities in teaching language (Cammarata, 2010). The concept of CBI directly reflects Krashen's belief that language is best acquired incidentally when learners get an ample amount of exposure to a set of comprehensible second language inputs (Stoller, 2008). Overall, CBI contributes to

developing meaningful language communication when formal accuracy is combined with relevant content.

2.1.3 Attitudes

Attitude belongs to the affective domain and can be considered one of the main determiners of the learners' capability in using the language. According to Gardner (1980), attitudes refer to a person's instincts and feelings, prejudice or bias, preconceived notions, fears, threats, and convictions about any specified topic. Following this perspective, attitude encompasses not only the aspect of human cognition but also the affective values toward a particular object. Therefore, attitude significantly affects what is going to be done as a part of behavior when someone encounters a certain situation.

According to Baker (1998; as cited in Hosseini & Pourmandnia, 2013), attitude is a dimensional rather than bipolar construct that varies in degree of positive or negative. Generally, attitude is constructed by some distinguishable aspects. Wenden (1991) divides attitude into three components including cognitive, affective, and behavioral aspects. The cognitive component covers the beliefs and thoughts about an object, people, behavior, event, and knowledge. The cognitive component seems to affect learning considerably since it relates to one's mind, in this case, perception. Furthermore, the affective component encompasses the person's emotions and feelings toward an object. This affects one's preferences such as to stand for or against or to like or dislike. Finally, the behavioral component deals with an individual's actions or disposition to engage in special behaviors when one is in a given situation.

Changes in achievement in foreign language learning are increasingly attributed to individual differences (Skehan, 1989; Dörnyei, 2005; Kang, 2012), and it is believed that a successful language acquisition process is greatly influenced by individual differences, and many studies are conducted in this direction. Attitude as one of the affective variables has long been researched as a determinant of language learning motivation and achievement. According to Gardner and Lambert (1972), the general structure of attitudes plays an important role in human behavior and especially in foreign language learning. Research has

also shown that attitude toward language learning plays a crucial role in language learning as it affects learners' success or failure (Zainol, et al., 2012).

The role of attitudes in explaining human behavior has been frequently studied in a wide variety of contexts such as family, workplace, learning environments, etc. According to İnceoğlu (2000; as cited in Pepe, Bozkurt, & Özkurt, 2017), the subject of attitude is considered important as it is possible to understand how attitudes function by investigating the attitude dynamics thus the predictions about behaviors will be easier, and by determining the conditions of the attitude change process, it will be possible to control attitudes and thus control human behaviors. Various definitions of attitude have been made according to the relevant disciplines. Thurstone (1931) defined attitude as “feeling toward or against a psychological object” and emphasized the positive and negative emotional responses that the attitudes included. However, this definition covers only the emotion-related aspects of attitudes.

Furthermore, Allport (1954) stated that attitude has both emotional, intellectual, and behavioral components, and defined attitude as “the tendency to think, feel and act in a certain direction learned toward a particular person or object”. Likert (1932) stated that attitude is the inference people make based on their beliefs about the object of attitude (Gardner, 1980). Similarly, Gardner (1985) stated that an individual's attitude is the evaluation response he/she shows regarding the attitude object based on his/her beliefs and thoughts about the attitude object.

Hançerlioğlu (1988; as cited in Dogan, 2020) defines attitude as behaving in a certain way toward certain people, objects, and events, noting that each attitude has three characteristics: the first feature is the object of attitude. This object can be a human, a cluster or an institution, or an abstract concept such as religion or education. The second feature is the human perception of this object. This perception usually occurs in the form of liking or disliking. The third feature of the attitude is the reaction or behavior shown against this object following the prevailing belief. According to Smith (1968), which is widely accepted, attitude is a tendency attributed to an individual and regularly forms his/her thoughts, feelings, and behaviors related to a psychological object (Kağıtçıbaşı, 2008). Accordingly, attitude is not a behavior that can be observed and manifested, but a preparatory tendency

for behavior. Behaviors are attributed to attitudes. A psychological object is any object that has a meaning for the individual and that the individual is aware of (Kağıtçıbaşı, 2008). Ajzen (1988), associating attitude with behavior, stated that it is a tendency to react in favor of or against an object, person, institution, or event. Furthermore, Eagley and Chaiken (1998; as cited in Dogan, 2020) state that attitude is a psychological tendency expressed by evaluating a certain thing for or against a certain degree.

A look at the definitions of attitudes indicates that scholars have highlighted different dimensions of attitudes. For instance, some have focused on the behavioral dimension, while others considered the affective content. Furthermore, some theorists (e.g., Fazio, 1990; Tesser & Shaffer, 1990) strongly disagreed with the inclusion of behavior in the definition of attitude (Bartram, 2010). However, some researchers (Breckler, 1984; McGuire, 1969; Rosenberg & Hovland, 1960) have argued that an attitude makes an individual's thinking, emotion, and behavioral tendencies compatible with each other, and these are called elements of attitudes (Kağıtçıbaşı, 2008). Thus, attitudes involve grouping or categorizing a stimulus on an evaluation dimension based on emotional, behavioral, and cognitive information (Taylor & Signal, 2004). Accordingly, Haddock and Huskinson (2004) adopted a multi-component (cognitive, affective, and behavioral) model of attitude. This model assumes that the affective dimension consists of feelings and excitement toward the attitude object of the person, especially positive and negative evaluations. The behavioral dimension covers a person's tendency to act in a certain direction (positive or negative) toward the attitude object. The cognitive dimension encompasses the person's thoughts, including the facts, knowledge, and beliefs about that particular attitude object (Taylor & Signal, 2004; Haddock & Huskinson, 2004). Cognitive, emotional, and behavioral components are fully present in established and strong attitudes, while they may not be correlated. However, in some weak attitudes, especially the behavioral element may be very weak (Kağıtçıbaşı, 2008). Cognitive dimensions of attitudes are often quite complex.

2.1.3.1 Attitudes in Foreign Language Learning

Previous studies have indicated that the attitudes and beliefs of an individual play an important role in language learning as a psycho-social process (Kormos & Csizer, 2008; Gardner, 1985; Gardner & Lambert, 1972).

While the attitude toward language can be defined as the psychological constructs that individuals have toward their mother tongue or other languages (Crystal, 1992). Foreign language attitudes can be defined as an individual's attitudes toward a language other than his/her mother tongue. Attitudes encompass learners' beliefs about all language learning contexts and processes, the speakers of that language, and the culture in which that language is used. According to Chambers (1999), the attitude toward language refers to a set of values that the student brings to the experience of learning a foreign language. Language learning attitudes are shaped by the successful outcomes that the student hopes for and the advantages he/she perceives in language learning. These values can be shaped by the experience of learning the target language or target language community, travel experience, the influence of parents and friends, and the attitudes they can show or express. This definition of attitudes (Chambers, 1999) is very important as it places attitudes in the language learning context and takes into account the social, cultural, and educational factors that can affect them. The social aspect of attitude development is particularly important as attitudes toward foreign languages are not limited to the foreign language class (Young, 1999; Bartram, 2010).

According to Ellis (1994), a student's foreign language learning ability could be affected by their attitudes toward the target language, native speakers and culture of the target language, the social value of learning a foreign language, and the student's attitudes toward himself as a member of his own culture. Furthermore, Brown (2000) argued that all learners have both positive and negative attitudes to varying degrees, and negative attitudes can be replaced by careful instructional methods such as using materials and activities that enable students to understand and appreciate the target foreign culture. Furthermore, Brown (2007) argued that negative attitudes may develop due to a stereotyped prejudice originating from the target language or its culture. According to Richards and Schmidt (2002), expressions of positive or negative attitude toward a language can reflect expressions such as linguistic difficulty or ease, difficulty or ease of learning, degree of importance, elegance of language, social status,

etc. Furthermore, attitudes toward a language can also indicate what people think of speakers of the relevant language. Thus, language attitudes can influence second or foreign-language learning. In contrast, Sakuragi (2006) suggests that language attitudes toward language education and attitudes toward a specific language itself are divided into the attitudes toward learning the relevant language and how important the learner considers the language. Duan (2004) considered attitudes toward language as an umbrella term that indicates attitudes toward language changes, accents, and speaking styles, learning a new language, a given minority language, language groups, communities, and minorities, language lessons, language preference, etc.

Gardner and Lambert (1972) conducted the first studies on the role of attitudes in foreign language learning. According to Brown (2007), Gardner and Lambert's work was the first systematic attempt that addressed the impact of attitudes on language learning. However, Gardner and Lambert (1972) considered attitudes and motivation as intertwined constructs without being completely separated. Nevertheless, there is some difference between attitudes and motivation in second language learning research (Ellis, 1985). Furthermore, Schumann (1978; as cited in Dogan, 2020) considers 'attitude' as a social factor with variables such as 'the size of the learning group'.

Concerning the importance of attitudes in effective language learning, Wenden (1991) argues that language learning attitudes include cognitive and affective components. The cognitive component covers beliefs or perceptions about language itself or situations related to attitude. However, the affective component is the degree of liking or dislike, approval or disapproval associated with the attitude object, such as a language teacher, or language class (Gan, 2011). Moreover, McCombs and Marzano (1990) argues that attitudes toward the learning environment can influence students' efforts to maintain the learning task at a self-directed pace. Similarly, how students conceptualize the language learning process may affect how they approach the language learning task. Accordingly, language learning attitudes or beliefs serve as the basis for how students approach their learning, the strategies they use, and their success in language learning (Oxford & Lee, 2008; Riley, 1996; Gan, 2011).

Attitudes play an important role in foreign language learning. According to Gardner (2001), language learning is a useless task without enough positive attitudes to support it (Dörnyei, 2005). Gardner (1985) has established his socio-cultural model for foreign language learning in terms of motivation and attitudes. Furthermore, Merisuo-Storm (2007) argues that positive attitudes toward language learning can increase students' motivation and help them in language learning. Atchade (2002) summarizes the affective and personality factors that determine or affect attitudes toward foreign language learning as follows: Affective factors that determine or influence students' attitudes toward language learning, personality factors or traits that create a positive or negative tendency toward second/foreign language learning, and the social context that may explain the student's attitude toward the second/foreign language. In addition, there are several people whose attitudes are important during second/foreign language learning: parents, teachers, peers, etc.

Generally, attitude in language acquisition contexts can be divided into three types: attitude toward the language, attitude toward native speakers of the language, and attitude toward language learning. Attitude toward language learning is the conviction, feeling, and response developed in the language learner to any item, material, situation, and even the teacher during the learning process. Attitude toward language learning plays a vital role in language learning as it affects learners' success or failure (Zainol, et al., 2012; Finch, 2008). Accordingly, if learners have positive attitudes toward the process of learning a language, they will enjoy more the lesson and, as a result, they can acquire more knowledge and skills of the language. Conversely, when the students' attitude toward language learning is negative, they will be reluctant and pay less attention during the teaching-learning process. Furthermore, if a learner believes that an activity is ineffective, and thus a waste of time, he/she is more likely to develop a negative attitude toward that activity and will prefer not to engage in it.

According to Horwitz (1988), inconsistencies between actual classroom practices and learner expectations about learning may disappoint learners, consequently hindering the achievement of the intended learning outcomes. To overcome this problem, "teachers should find out what their students think and feel about what they want to learn and how they want to learn" (Nunan, 1993, p.4).

2.1.3.2 Learners' Attitudes Towards CLT

Chang (2000) conducted a survey study of 110 Taiwanese high school English teachers and assessed their attitudes toward CLT and if they practiced it. The results showed that most of the teachers had positive attitudes toward CLT. Furthermore, the teachers who supported CLT were more likely to use more communicative activities in their classrooms.

Kalanzadeh and Bakhtiarvand (2001) examined whether Iranian EFL high school teachers were capable of using CLT in their classes to achieve its ultimate goal, communication in a real context. To this end, they surveyed 50 participant teachers teaching English at high school using a questionnaire to explore their attitude about the probable difficulties encountered by them when using CLT. Furthermore, each teacher was interviewed for about 5 minutes to reveal the probable constraints in applying CLT in their genuine classes. The analysis of the data revealed the main sources of problems in CLT implementation by Iranian EFL teachers including the problems caused by the teachers (lack of training in CLT, misconceptions about CLT, deficiency in spoken English, few chances for retraining in CLT, deficiency in sociolinguistic and strategic competence, and lack of enough time for materials development for communicative classes), difficulties coming from the students (low English proficiency, resistance to class participation, and lack of motivation for communication), pitfalls created by the educational system (lack of budget, crowded classes, insufficiency of support, and grammar-focused exams.), and hurdles caused by CLT approach itself (lack of efficient assessment instruments and inadequate account of EFL teaching in CLT).

Rao (2002) surveyed 30 Chinese EFL students' perceptions of communicative and non-communicative activities using mixed-method research. The results showed the students favored both communicative activities (e.g., peer interaction and group/pair work) and non-communicative practices (e.g., drills, teacher's direct explanation of grammatical rules, and teacher's dominance). Accordingly, the authors confirmed the effectiveness of the integration of both communicative and non-communicative activities. Similarly, İnceçay and İnceçay (2009) surveyed thirty Turkish EFL university students to find out their beliefs toward communicative and non-communicative based activities. The findings confirmed that the learners had a positive inclination to support both communicative and non-

communicative activities. As a result, the researchers recommended the incorporation of both activity types in EFL settings.

Savignon and Wang (2003) examined Taiwanese EFL learners' beliefs and perceptions about classroom practices including meaning-based and form-focused activities. The findings confirmed a discrepancy between the learners' needs and preferences and their reported experience of classroom practices. Most of the learners reported that they preferred communicative-based English learning activities. However, classroom activities were mainly form-focused with the prevalence of grammar-translation and audiolingual methods in EFL classes.

In a survey study, Liao (2003) assessed Chinese high school English teachers' attitudes toward CLT. The results indicated that most Chinese teachers supported the implementation of CLT and were willing to practice it in EFL classes. Moreover, interviews with some participants confirmed their positive attitudes toward CLT as they believed that CLT methodology takes into account learners' needs and helps them to communicate without difficulty in real-life situations.

Karim (2004) surveyed university-level EFL teachers' attitudes toward CLT in Bangladesh. Most teachers reported positive attitudes toward the basic principles of CLT. The results also indicated that the teachers were aware of the CLT principles and their perceptions of CLT matched their reported CLT practice.

Hawkey (2006) conducted both survey techniques and face-to-face interviews to investigate Italian teachers' views on the communicative approach in language teaching. The teachers reported positive views about CLT and believed that CLT could enhance learners' motivation and improve their communication skills.

Nishino (2008) surveyed 21 secondary school Japanese teachers' beliefs and practices concerning CLT in their classroom setting. The results indicated that the teachers had good knowledge of CLT and were relatively aware of teachers' and learners' roles in CLT classrooms. The teachers believed that there was a need for some changes in educational settings including more class hours and small class sizes.

Chung and Huang (2009) interviewed 24 Taiwanese senior high school learners to explore their beliefs toward the classroom learning experience with a focus on CLT. The results

showed that despite the support of the Ministry of Education for implementing CLT and learners' positive attitudes toward it, language teaching professions mainly focused on rote learning, explicit grammar teaching, and translation to prepare students to meet exam requirements. They also confirmed the difficulty in intermingling CLT using traditional teaching practices and techniques. Aubrey (2010) surveyed 22 Japanese EFL learners to determine factors contributing to increasing learners' willingness to communicate in classrooms of different sizes (a one-on-one classroom, a small group classroom, and a large group classroom). The results confirmed the significant role of the CLT approach in increasing learners' willingness to communicate. This finding implies that fostering learners' positive attitudes toward CLT enhances their willingness to communicate in EFL contexts. In their case study of eight teachers from two schools in Thailand, Tayjasanant, and Barnard (2010) examined language teachers' beliefs and practices regarding the suitability of communicative methodology in Thailand. The data from classroom observation and in-depth interviews with the teachers revealed a large gap between the goals and methodologies proposed for the communicative approach and the teachers' practices in language classrooms.

Chang (2011) interviewed Taiwanese university teachers to identify their perceptions and experiences toward CLT. The results showed that the teachers had positive beliefs about the CLT principles and highlighted the effectiveness of this approach. The factors affecting the implementation of CLT were the teachers, the students, and the educational system. It was also shown that teachers' professional training about CLT as well as students' willingness and motivation to use English both inside and outside the classroom were required for the successful adoption and implementation of CLT.

Mirzaee (2016) assessed Iranian EFL learners' attitudes toward communicative language teaching in schools. The participants were 80 female high school students learning English as a subject matter in their schools. The students were surveyed using a questionnaire that measured the learners' attitudes toward English practice in the classroom, their attitudes toward instructional practice, and their general beliefs about learning English. The findings revealed that the dominant methodology in Iran high schools in English teaching is a grammar-based method, but EFL learners preferred CLT. They also agreed on considering

the communicative aspect of the language equally as the linguistic aspect. The students reported that they desired to interact and communicate through English in classes.

Anani Sarab, Monfared, and Safarzadeh (2016) studied 75 Iranian school teachers to determine their perceptions of CLT principles and practices. The data were collected using quantitative and qualitative methods including a semi-structured questionnaire and interviews with a smaller group of teachers. The results indicated that a change in classroom arrangements was necessary for the successful implementation of CLT in high school English classes. It was also shown that the local implementation of CLT procedures was in its infancy and needed more time for full development.

Ashoori Tootkaboni and Khatib (2017) used a Likert-type scale to survey 242 Iranian EFL learners' beliefs toward six core principles of the CLT approach including the importance of grammar, the use of group and pair work, learners' role, teachers' role in the classroom, the manner and frequency of error correction and assessment, and the role of the learners' native language in EFL classes. The results demonstrated in some cases the students opposed CLT principles. However, the majority of them appreciated CLT principles.

Ashoori Tootkaboni (2019) assessed Iranian EFL teachers' beliefs toward the communicative approach using a Likert-type scale. The scale was developed by on the data from the observation of classroom practices of a sample of 154 Iranian English language teachers. The results revealed that most of the teachers had high levels of perception about CLT principles. However, was a clear mismatch between the teachers' beliefs and their practical application of CLT.

Banagbanag (2020) examined the profile of ESL teachers, their attitude toward CLT, their teaching competence, and the difficulties they faced when implementing CLT in the classroom. The data were collected through a questionnaire and classroom observations. The respondents were 178 ESL teachers and 73 high school principals. The results revealed that a majority of the ESL teachers had positive attitudes toward CLT. The teachers reported fewer opportunities to receive CLT training, students' low English proficiency, big class sizes, and the lack of effective tools to evaluate communicative competence as the main challenges of implementing CLT in the classroom.

Tiku (2020) assessed Ethiopian teachers' beliefs, perceptions, and attitudes toward implementing CLT in English language classrooms. The data were collected using a self-reported questionnaire. The findings indicated that the use of CLT by teachers enhances learners' centeredness in taking responsibility for their own learning process. Moreover, teachers need to understand the core principles of CLT. The tasks and activities associated with CLT must be also developed and adjusted to meet learners' needs rather than being imposed on them. The teachers considered CLT as the most important criterion to judge language learning and performance. They also believed in group work activities as essential elements to contribute to the emergence of cooperative relationships and to promote genuine interactions among learners. Thus, the teachers are recommended to further develop their perceptions of CLT and implement this approach to help their students to develop communicative competence so that they become effective in using the language for communication in real-world situations.

2.1.3.3 Learners' Attitudes Toward CBI

Content-based instruction is effective for the students to acquire both content and the language. Furthermore, it can improve students' attitudes. Grace ChiWen Chien (2011) examined the integration of content-based instruction into elementary school EFL instruction and reported that students had positive attitudes toward CBI since the teaching and learning matched their interests. Moreover, the language and the content in CBI were useful for the learners. Neil and Richard (2011) reported that students had positive attitudes toward CBI. A majority of the students stated that the course matched their interests. Ya-Ling Tsai (2010) found that students had positive attitudes toward content-based instruction. Some students suggested that learning through CBI helped them acquire the language easier because they did not have to look for the meaning of new words in the dictionary so often while reading as they could find the meaning from the context cues. Mostafa and Azar (2014) also found that students had positive views about CBI because they had to work in groups. The students also felt secure because could receive help from their friends and share ideas while working on difficult tasks.

Wongnarut (2016) explored 30 Thai EFL students' attitudes toward and difficulties associated with content-based instruction (CBI). The data were collected using a questionnaire and a semi-structured interview. The results from the questionnaire revealed that the students were satisfied with CBI learning. Moreover, the students had positive attitudes toward content-based instruction because it helped them learn both language skills and the subject matter. They reported that they were motivated by materials, activities, teachers, and evaluation of CBI. However, the students reported some difficulties working in groups, sharing ideas with friends, and reaching a consensus in discussions.

Pinner (2013a) surveyed a group of Japanese university students and showed that the students considered content and language to be equally important. According to the students, the content was considered the determining factor for the authenticity of language exposure and production. Moreover, the students did not favor the grammar-translation teaching method but supported a more authentic and content-integrated approach such as CBI.

Ikeda (2013a) examined Japanese English learners' perceptions of CBI and other forms of English teaching using a questionnaire and an essay writing test. The results showed that students could identify the difference between content-based courses and other types of English classes. The students were also positive about CBI as it provided them with constructive learning, cognitive tasks, richer content knowledge, and better communicative competence.

Yang and Gosling (2013) investigated Taiwanese college students' perspectives and attitudes toward content-based education. They found that most of the students considered that their English proficiency improved through content-based education. They also acknowledged the benefits of CBI in enhancing their motivation to learn both content and language. Nonetheless, they felt stressed by the difficulty in understanding content, and anxious about following the teachers' instructions. The results also showed that different attitudes of teachers and students towards CBI education somehow affected learners' motivation especially when they faced challenges in understanding the content and the instructions.

Lai and Aksornjarung (2018) assessed EFL university learners' attitudes and motivation toward learning English through content-based instruction (CBI) in Thailand. The

participants were 71 university students. The data were collected using a questionnaire and classroom observations. The findings indicated that the students held a considerably positive attitude towards the CBI-based course. Besides, significant differences were found between medical and nursing students in terms of their attitudes toward CBI.

2.2 Empirical Studies

This section provides a review of relevant previous empirical studies on the effect of CLT and CBLI on reading comprehension:

2.2.1 CLT and Reading Comprehension

Hasan (2018) conducted a quasi-experimental study to examine the effect of using CLT through small group discussions on students' reading and writing skills of senior high school students in Kampar regency of Riau province, Indonesia. The participants were a total of 72 tenth-grade students divided into two experimental and control groups. The data were collected using pre-test, post-test, and observations. The data were analyzed using the independent samples t-test, paired samples t-test, and effect size formula. The findings confirmed a significant effect of using CLT through small group discussions on students' reading comprehension and writing ability. The author suggested that CLT can be used through small group discussions for teaching and learning reading and writing skills for senior high school students.

Rahmati (2021) examined the impact of communicative language teaching (CLT) on the students' reading comprehension using action research at a school in Indonesia. The instructions were provided in 2 cycles each with 2 meetings. The participants were 32 second-year students. The data were collected using observation sheets, questionnaires, and tests. Most of the students reported that the CL method was interesting. The data also showed that the students' reading comprehension improved from the first cycle to the second cycle. Thus, teachers can use CLT as an alternative to motivating students learning.

Lai (2021) investigated secondary homeschooling students' perceptions about the use of the communicative approach (CLT) in their reading classrooms to determine the extent to which CLT contributes to the development of ESL learners' reading skills. The data were collected using the pre-test and post-test, classroom observations, questionnaires, and structured interviews. The results showed a significant improvement in the pretest and posttest reading scores of the learners in the experimental group. Furthermore, most secondary homeschooling students had positive views about the use of the communicative approach in their ESL reading classrooms. They stated that they could learn more vocabulary through group discussions and improve their reading comprehension when exchanging ideas. They also reported that the CLT approach changed the reading class atmosphere into a more cheerful, comfortable, and exciting atmosphere. The students strongly agreed that CLT is an effective and useful teaching method to accommodate the demands of the time as CLT improves students' interpersonal skills, stimulates them to communicate their enthusiasm, and induces their interest in their language learning process. Moreover, this approach is advantageous and favorable as it involves all students in communicative activities and interactions and makes them interested in English learning and developing their learner autonomy.

Choosakul, Sriboonruang, and Wattanabut (2020) examined the effectiveness index of the instructional plan which used CLT to improve Grade 6's English reading comprehension ability by using CLT and compared the English reading comprehension ability of students before and after implementing CLT. They also assessed the students' satisfaction with CLT for learning reading comprehension. The participants were 30 sixth-grade students at a school in Malaysia. The CLT intervention was carried out for seven weeks with sixteen class sessions of fifty minutes each. The instruments used to collect the data were 4 lesson plans, an achievement test, and a questionnaire to assess the students' satisfaction with learning English reading comprehension through CLT. The findings indicated the reading comprehension ability of the English learners improved significantly after the training program. The students also reported their positive attitudes toward learning English reading comprehension through CLT.

Salvador and Villacorta (2019) examined the impact of communicative language teaching (CLT) strategies on the reading comprehension skills of the Grade VI students using a mixed method that involved both qualitative and quantitative data collected from the students in the two experimental and control groups. The students in the control group were instructed using the traditional teacher-centered method, while the participants in the experimental group were instructed using the seven CLT strategies. The results indicated that the CLT strategies were more effective as compared to the traditional method in improving the reading comprehension skills of the students. There was also a significant relationship between the role-playing strategy and the students' reading comprehension. However, no significant relationship was found between the students' reading comprehension and other CLT strategies including information gaps, games, language exchange, interviews, pair work, and learning by teaching. Furthermore, role-playing was the strategy most frequently preferred by the students.

2.2.2 CBLI and Reading Comprehension

Tsai and Shang (2010) investigated the effectiveness of CBLI in improving EFL students' reading comprehension. T-tests, ANOVA, and semi-structured interview techniques were used to examine the students' attitudes and the effect of CBLI on reading performance. The results indicated that implementation of CBLI enhanced both the reading comprehension and critical thinking ability of the student in the literature class.

Amiri and Hosseini Fatemi (2014) found that CBLI improved EFL students' achievement and language learning orientation compared to GTM. Heidari-Shahreza (2014) reported that the Iranian students who were instructed using CBLI paid attention, engaged in, and volunteered for learning tasks and activities more than their counterparts in the language-based class did. Sohrabi Bonab and Behroozizad (2016) found that the utilization of CBLI could enhance Iranian EFL students' reading comprehension. Puffer and Nikula (2006) reported that the specific conditions of classroom discourse affected the language environment in discourse in content and language-integrated learning (CLIL) classrooms.

Sokhamkaew (2017) found that Thai EFL primary students improved their reading comprehension after the integration of CBLI. In another study, Khusniyah and Wadi (2020) investigated the impact of content-based reading instruction on Indonesian EFL students' reading comprehension. The results showed a significant improvement in the reading comprehension of the students. Besides, reading instruction using CBLI motivated the students in the reading process.

Namaziandost, Naseri, and Ahmadi (2019) compared the effectiveness of task-based language teaching (TBLT) and content-based language teaching (CBLT) on the reading skills of 40 Iranian pre-intermediate EFL learners. The students in the CBLT group received reading instruction based on CBLT, while the students in the TBLT group received reading instruction based on TBLT. After the intervention program, the students in both groups received a posttest. The findings showed that the students in both TBLT and CBLT groups progressed significantly in terms of their reading skills from the pretest to the posttest. However, the TBLT group outperformed the CBLT group in the post-test. Accordingly, it can be argued that both TBLT and CBLT methods are effective in improving the reading comprehension ability of Iranian EFL learners, with the TBLT method being more effective.

Khusniyah and Wadi (2020) examined the impact of content-based reading instruction on Malaysian students' reading comprehension using classroom action research. The participants were EFL students from a private school in Narmadam, Malaysia. The data were collected using tests and observations. The qualitative data were collected using teacher and students' worksheets to assess the reading instruction process. Moreover, a TOEFL test was administered to assess students' reading comprehension. The results indicated that reading instruction achieved 71.42% in Cycle I and 94.46% in Cycle II. The students' learning outcomes were reported to be 38.89% (Cycle I), and 83.34% (Cycle II), indicating a significant improvement in the students' reading comprehension ability from cycle I to cycle II. In addition, the students actively and enthusiastically participated in reading instruction using CBI.

Adhikary (2020) assessed the effectiveness of content-based instruction in teaching reading to the 9th-grade students at Shree Jalpa Devi Secondary School Kamalbazar, Achham

(Nepal). The data were collected using a pre-test, progressive tests, and a post-test. The content-based instruction program lasted 25 days. The results indicated that content-based instruction was effective in teaching reading.

Marcu (2022) examined Romanian students' attitudes towards several content-based instruction (CBI) workshops in English on various topics such as leadership, human rights, successful women, violence, and environmental protection. The results indicated that CBI is not only effective in developing language skills and content-based knowledge, but also a very engaging and motivating technique for enhancing civic and social competencies such as justice, equality, non-discrimination, nonviolence, tolerance, and respect for human dignity. The workshops focused on critical subject matters that also engaged an interdisciplinary perspective. The author concluded that by choosing topics that focus on both language and social competencies, the process of learning English or any foreign language becomes more meaningful for the students as the values they acquire would have a long-lasting impact on their overall education.

Nosratinia and Hooshmand Fateh (2017) compared the effect of teaching collaborative strategic reading (CSR) and content-based instruction (CBI) on the reading comprehension of Iranian intermediate female EFL learners. A piloted sample of the PET was administered to the students as a pre-treatment proficiency test. A total of 60 students were selected as homogeneous learners and were randomly placed into two experimental groups of CSR and CBI. The students in the CSR group received CSR strategy instructions based on Klingner, Vaughan, and Schumm's model (2001), while the students in the CBI group received CBI-based strategy training using Tsai and Shang's (2010) model. At the end of the training programs, a PET reading test was administered to the students in the two groups as the posttest. The results indicated no significant difference in the reading posttest levels of CBI and CSR groups.

Hurtado Vargas (2022) conducted a qualitative action research study to assess the impact of a content-based instruction approach on the development of reading comprehension skills in 11th-grade students at Institución Educativa Siete de Agosto in Manizales. The data were collected using teacher's journals, surveys to students and teachers, pre and post-test, and

external observations to diagnose why students had poor results and attitudes in the English class and also assess the effectiveness of the content-based instruction approach. The training program involved six workshops on art, social studies, science, mathematics, and environmental education. The results indicated that integrating content related to other topics which at the same time are related to the context and daily life of students have a positive impact on the students' motivation, their reading comprehension, and vocabulary acquisition.

Khruawan and Dennis (2017) investigated the impact of content-based instruction (CBI) on students' achievement in reading comprehension. They also assessed the students' attitudes toward the CBI approach. The participants were 50 tenth-grade students who were selected through simple random sampling from the students enrolled English course at Khowangwittayakhom School, Yasothorn. The data were collected using ten content-based instruction lesson plans, reading pre-test and post-test, and questionnaires. The findings showed a significant improvement in the students' reading comprehension scores after the training program compared to their pre-test scores, confirming the effectiveness of the CBI approach on the students' reading comprehension ability.

2.2.3 A Critical Overview of the Literature

A look at the literature shows that several studies have confirmed learners' positive attitudes toward CLT (e.g., Chang, 2000; Rao, 2002; İnceçay & İnceçay, 2009; Savignon & Wang, 2003; Aubrey, 2010; Mirzaee, 2016; Khatib & Ashoori Tootkaboni, 2017). Furthermore, some studies have also reported that students generally have positive attitudes and perceptions about CBLI (e.g., Grace ChiWen Chien, 2011; Neil & Richard, 2011; Tsai, 2010; Mostafa & Azar, 2014; Wongnarut, 2016; Pinner, 2013a; Ikeda, 2013a; Yang & Gosling, 2013; Lai & Aksornjarung, 2018). However, no study to date has compared the effectiveness of CLT and CBLI from EFL learners' perspectives to investigate which approach is more favored by learners.

In addition, previous studies in the literature have demonstrated the effectiveness of CLT in improving language learners' reading comprehension skills (e.g., Hasan, 2018; Rahmati,

2021; Lai, 2021; Choosakul et al., 2020; Salvador & Villacorta, 2019). Some studies have also confirmed that CBLI can improve language learners' reading comprehension ability (e.g., Tsai & Shang, 2010; Amiri & Hosseini Fatemi, 2014; Chapple & Curtis, 2000; Wei, 2006; Sohrabi Bonab & Behroozizad, 2016; Puffer & Nikula, 2006; Khusniyah & Wadi, 2020). In addition, some studies have compared CLT and CBLI with other methods in terms of their impacts on students' reading comprehension. For instance, Namaziandost, Naseri, and Ahmadi (2019) compared the effectiveness of task-based language teaching (TBLT) and content-based language teaching (CBLT) on the reading skills of 40 Iranian EFL learners. In addition, Salvador and Villacorta (2019) examined the impact of CLT strategies on the reading comprehension skills of the students compared to the traditional methods. Amiri and Hosseini Fatemi (2014) also demonstrated that CBLI improved EFL students' achievement and language learning orientation compared to GTM. As can be seen, no study in the literature has compared the effectiveness of CLT and CBLI in enhancing the reading comprehension skills of EFL learners. To this end, the present study sought to compare the effectiveness of CBLI and CLT in improving the reading comprehension skills of primary and secondary school EFL students in Iran. This study also aimed to survey Iranian EFL learners' attitudes toward CLT and CBLI to find out which approach is more preferred by the learners.

3. MATERIALS AND METHODS

3.1 Research Design

As stated earlier, this study sought to compare the effectiveness of content-based language instruction (CBLI) and communicative language teaching (CLT) in improving the reading comprehension skills of Iranian EFL learners. To this end, this study was conducted via a mixed-methods research design using both quantitative and qualitative methods. The quantitative data were collected using the Oxford Placement Test and two reading comprehension tests, while the qualitative data were selected by surveying the language learners who attended this study via questionnaires. This section describes the instruments that were used in this study, the participants and how they were selected, and the data collection and analysis procedures.

3.2 Ethical considerations

Before conducting the study, required permission was obtained from the manager of the institute where the students were completing their English courses. All the participants were asked to sign an informed consent form before entering into the study to indicate their willingness to attend the instructional program. The objectives of the study and the research procedures were also explained to the participants before conducting the study. The students were also ensured that their data would be kept confidential and used only for research purposes. The collected data in this study were reported to the Norwegian Centre for Research Data (NSD).

3.2 Participants

This study was conducted through a quasi-experimental design on 60 Iranian EFL learners in the pre-intermediate level, divided into two groups: A CBLI group and a CLT group (each with 30 learners). The participants in both groups were intermediate EFL learners selected using convenience sampling from two intact classes at Shiraz University Language Center (SULC) in Shiraz, Iran. The students in each group attended the EFL class three sessions per week, each session lasting 2 hours. The language course was completed in 15 weeks (30 sessions in total). The participants in the two CBLI and CLT groups were matched in terms

of their English proficiency and age. An Oxford placement test was administered to the members of both groups before conducting the study to ensure that the students in the two groups were matched in terms of their English proficiency. The participants' age varied from 13 to 16 years and were junior and senior secondary school students. The students in the two CBLI and CLT groups were both males and females. All the participants were native speakers of Persian as indicated by their responses to the LSBQ items. To minimize the intervening effects of each instructional program (CBLI or CLT) on the participants in the other group, the participants in the CBLI group attended the institute on even days and those in the CLT group attended the institute on odd days. Table 3.1 shows the participants' demographic data:

Variable Group	Number	Age (year)	Gender		Native language
			Male	Female	
CBLI	30	14.56	14	16	Persian
CLT	30	14.82	17	13	Persian
Total	60	14.69	31	29	

Table 1. The participants' demographic data

3.3 Instruments

The instruments used in this study to collect the data were the Language and Social Background Questionnaire (LSBQ) (see appendix A.1), the CBLI Attitude Survey (see appendix A.2), the CLT Attitude Survey (see appendix A.3), the Oxford Placement Test (see appendix A.4), and two Cambridge Advanced English (CAE) reading comprehension tests (see appendix A.5) as detailed below:

3.3.1 The Language and Social Background Questionnaire (LSBQ)

The Language and Social Background Questionnaire (LSBQ; Anderson, Mak, Chahi, & Bialystok, 2018) was administered to the participants to assess their demographic information such as age, education, immigration, and parental education and the language(s) the participant could understand and/or speak, where they learned the language(s), and at what age. The instrument also measures the self-rated proficiency for speaking,

understanding, reading, and writing the indicated languages. Finally, the questionnaire evaluates language use in different life stages (infancy, preschool age, primary school age, and high school age), and specific contexts, such as with different interlocutors (parents, siblings, and friends), in different situations (home, school, work, and religious activities), and for different activities (reading, social media, watching TV and browsing the internet).

3.3.2 CBLI Attitude Survey

To assess the participants' attitudes toward CBLI at the end of the study, a questionnaire developed by Wongnarut (2017) was administered to the students in the CBLI group at the end of the study. The questionnaire contains 19 items assessing students' attitudes and difficulties toward CBLI. The items are scored on a five-point Likert Scale ranging from 5 (Strongly agree) to 1 (Strongly disagree).

3.3.3 CLT Attitude Survey

To measure the participants' attitudes toward CLT, a standardized questionnaire developed by Komol and Suwanphathama (2020) was administered to the students in the CLT group at the end of the study. The questionnaire contains 20 close-ended items that assess the students' views towards CLT and implementing communicative activities (e.g., the use of role-plays, pair work, and group discussion activities) for improving students' reading comprehension skills.

3.3.4 Oxford Placement Test

The Oxford Quick Placement Test (2000) with 60 items was run before conducting the instructional programs to measure the learners' level of English proficiency. It contains various subsections including multiple choice questions, cloze passages, and matching items which determine the test takers' knowledge of vocabulary, grammar, and comprehension. The test was validated by Beeston (2000), and its reliability index was estimated and reported to be 0.85.

3.3.5 Cambridge Advanced English (CAE) reading comprehension test

Cambridge Advanced English (CAE) reading comprehension tests (<https://www.flo-joe.co.uk/cae/students/tests/>) were administered to assess the EFL learners' reading comprehension scores in the two stages. The tests were administered once before and once after the 15 weeks of instruction. The reading scores of the students in the two groups on the reading comprehension pre-test were then compared to find if the students in the CLT and the CBLI groups had the same reading comprehension ability. Besides, the student's reading comprehension post-test scores in the two groups were compared to find out if there were any differences between the two groups in terms of their reading comprehension skills. CAE reading tests have high reliability and validity and thus they were used in this study. Besides, they are of equal difficulty (Vidakovic, Elliott, & Sladden, 2015). Each test contains different sections including a close passage (8 items), a reading passage (7 items), short reading passages (5 items in total), and a multiple-matching task (10 items).

3.4 Procedure

3.4.1 The intervention: CBLI versus CLT

The learners in the CBLI group were instructed on science topics through CBLI principles for 30 two-hour sessions during a whole semester that usually lasts 10 weeks according to the institute's educational calendar. However, due to the political situation in Iran, the schools were closed several times during this time window, and the period of 10 weeks was extended to 15 weeks. Furthermore, I agreed with the students to reschedule meetings on weekends which would have otherwise been canceled.

The students in the CBLI group received the instructions following the theme-based model (Brown, 2001) and the sheltered model (Echevarria & Graves, 2003). The theme-based model aims to help students develop second language competence based on specific topics including several unrelated topics or one major topic. Language teachers are in charge of providing language and content instruction (Brinton et al., 1989). Furthermore, sheltered instruction employs second language acquisition strategies to teach the content area. Content

teachers who use the sheltered model teach content areas including science, mathematics, history, or literature by using language and context to make the provided information more comprehensible. Sheltered instruction involves comprehensible inputs, warm and affective environments, student interaction, student-centered, hands-on tasks, and comprehensive planning (Echevarria & Graves, 2003). The students in the CBLI group worked on a reading passage on a scientific topic each session. The topics were selected from *The Science Book: Big Ideas Simply Explained* by Dan Green (2014). The instructed topics were related to biology, astronomy, chemistry, geography, physics, experimental science, geology, and a variety of other scientific fields. During each reading comprehension task, the teacher encouraged the students to take notes, summarize, and extract key information from the text. The teacher also provided more information to help students understand the concepts expressed in the passage (extended and meaningful outputs). The students were also asked to use some strategies (information gathering, processing, and reporting) for better comprehension of the content. Pair and group work were also encouraged during the reading task. Moreover, visual support through images, graphic organizers, charts, etc. was provided to the students whenever possible. The students' reading comprehension was also tested using true or false, multiple choices, and essay questions.

On the other hand, the students in the CLT group worked on a reading passage about different subjects (e.g., food and cooking, family, money, transportation, sports, relationships, movies, education, etc.) in each session, performing tasks such as questions and answers, group discussions, and information gap activities. The reading comprehension passages for the students in the CLT group were selected from *American English File (Third Edition: Oxford University Press)*. The length of the instruction program was the same for the two groups.

3.4.2 Language and Social Background Questionnaire (LSBQ)

The LSBQ was conducted before the intervention, i.e., before the beginning of the instruction to the students in each group separately. The participants in both groups filled

out the pen and paper version of the questionnaire in the classroom. The teacher provided the necessary instructions to the students when completing the items in the questionnaire. The students in both groups were asked to complete the items in the questionnaire within 40 minutes.

Furthermore, to assess the students' attitudes toward CBLI and CLT, the students in the CBLI group completed the CBLI survey and the students in the CLT group completed the CLT survey at the end of the study.

3.4.3 CBLI Attitude Survey

The pen and paper version of the CBLI Attitude survey was administered to the students in the CBLI group at the end of the study, i.e., after the end of the 30 2-hour sessions in the classroom. The teacher provided the necessary instructions and information to the students when answering the items in the survey. The students were asked to complete each item in the survey by selecting an option (5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, and 1 = strongly disagree). The time required to complete all the items in the survey was 20 minutes.

3.4.4 CLT Attitude Survey

The paper and paper version of the CLT Attitude survey was administered to the students in the CLT group at the end of the study, i.e., after the end of the 30 2-hour sessions in the classroom. The teacher provided the necessary instructions and information to the students when answering the items in the survey. The students were asked to complete each item in the survey by selecting an option (5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, and 1 = strongly disagree). The time required to complete all the items in the survey was 20 minutes.

3.5 Data collection

The reading comprehension of the learners in the two groups was tested through a pretest and post-test measuring their reading skills before conducting the study and after the CBLI

and CLT interventions. To this end, the Cambridge Advanced English (CAE) reading comprehension tests were used to assess the EFL learners' reading comprehension scores in the two stages. The participants completed the CAE reading tests with 30 items at B2–C1 level (CEFR).

3.6 Data analysis

The participants' reading comprehension scores in each group were summarized using descriptive statistics including mean, frequency, and percentage. Moreover, inferential statistics were used for intragroup and intergroup comparisons of the participants' reading comprehension scores before and after the intervention. To this end, the students' reading comprehension scores in each group were analyzed statistically using one-sample t-test. The independent samples t-test was used to check if there were any significant differences between the two groups in terms of their reading comprehension scores. The participants' responses to the items in the CBLI and CLT surveys were analyzed using descriptive statistics and the chi-square test. All statistical procedures were performed with R-4.2.1 software for Windows at a significance level of 0.05 ($P = 0.05$).

4. RESULTS

4.0 Introduction

This section presents the results of data analysis on the Iranian EFL learners' performance on the Oxford Placement Test and the reading comprehension pretest and posttest. It also provides the results of surveying the students' attitudes toward CLT and CBLI.

4.1 Results

As discussed earlier, this thesis aimed to explore the effectiveness of CBLI and CLT in improving the reading comprehension skills of primary and secondary school EFL students in Iran. It also sought to examine Iranian EFL learners' attitudes toward CLT and CBLI to find out which approach is more preferred by the learners. To this end, an Oxford placement test was administered to the students in two intact classes each with 30 students. The students in one class were placed into the CLT group and the students in the other class were assigned to the CBLI group. A Cambridge Advanced English (CAE) reading comprehension test was administered to the students in both groups to assess their reading comprehension ability before conducting the instruction program. The students in the CLT group were taught reading comprehension using CLT practices and the student in the CBLI group were instructed using the CBLI principles in 15 weeks (30 sessions in total). After completing the instruction programs for the two groups, the students in both groups completed a CAE reading comprehension test as the posttest, which aimed to measure the students' reading comprehension ability. Moreover, the students in the CLT group completed the CLT Attitude Survey, and the students in the CBLI group completed the CBLI Attitude Survey. Table 2 shows the students' performance on the Oxford placement test:

Groups	Mean	N	Std. Deviation	Std. Error Mean
CLT	34.4333	30	3.94517	.72029
CBLI	34.9000	30	4.01162	.73242

Table 2. The participants' performance on the Oxford placement test

As can be seen, the mean score for the students in the CLT group is 34.43 and that of the students in the CBLI group is 34.90, indicating the students in the CBLI and the CLT group

did not differ on the Oxford placement. Table 3 shows the results from the independent samples t-test for the students' performance on the Oxford placement test:

Paired Differences					t	df	Sig. (2-tailed)
Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
			Lower	Upper			
-.46667	5.21757	.95259	-2.41494	1.48160	-.490	29	.628

Table 3. Comparing the performance of the two groups on the Oxford placement test

The data in Table 3 reveals that there was no significant difference between the CLT and CBLI groups concerning their performance on the Oxford placement test ($P > 0.05$). Thus, there was no significant difference between the students in the two groups in terms of their English proficiency and the students in the two groups were homogeneous. Table 4 displays the descriptive statistics for the performance of the two groups on the reading comprehension pretest:

Groups	Mean	N	Std. Deviation	Std. Error Mean
CLT	15.9000	30	1.64736	.30077
CBLI	16.1333	30	2.54251	.46420

Table 4. The descriptive statistics for the performance of the two groups on the pretest

The data in the table above reveal that the mean reading comprehension score for the students in the CLT group is 15.90 (out of 30) and that of the students in the CBLI group is 16.13, with the students in the CBLI group outperforming those in the CLT group on the reading comprehension pretest. Table 5 presents the results from the independent samples t-test for the students' performance on the reading comprehension pretest:

Paired Differences					t	df	Sig. (2-tailed)
Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
			Lower	Upper			
-.23333	2.84888	.52013	-1.29712	.83045	-.449	29	.657

Table 5. Comparing the performance of the two groups on the reading comprehension pretest

As shown in Table 5, there was no significant difference between the CLT and CBLI groups concerning their performance on the reading comprehension pretest ($P > 0.05$). Thus, there was no significant difference between the students in the two groups in terms of their reading comprehension ability before conducting the CLT and CBLI instruction programs. Table 6

shows the descriptive statistics for the performance of the students in the CLT group on the reading comprehension pretest and posttest:

Stage	N	Mean	Std. Deviation	Std. Error Mean
Pretest	30	15.9000	1.64736	.30077
Posttest	30	18.9000	1.98876	.36310

Table 6. The descriptive statistics for CLT students' performance on the pre-test and posttest

As can be seen in the table above, the mean reading comprehension scores for the students in the CLT group on the pretest and posttest are 15.90 and 18.90, respectively. Thus, the students in the CLT group obtained higher reading comprehension scores on the posttest compared to the pretest, indicating that the students' reading comprehension ability improved considerably during the instruction program. Table 7 presents the results from the one-sample t-test for the CLT students' performance on the reading comprehension pretest and posttest:

Stage	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Pretest	52.865	29	.000	15.90000	15.2849	16.5151
Posttest	52.052	29	.000	18.90000	18.1574	19.6426

Table 7. CLT students' performance on the pre-test and posttest

The data in Table 7 confirm a significant difference in the reading comprehension scores of the students in the CLT group on the reading comprehension pretest and posttest ($P < 0.05$). Thus, the students scored significantly higher on the reading comprehension posttest compared to the reading comprehension pretest.

Table 8 shows the descriptive statistics for the performance of the students in the CBLI group on the reading comprehension pretest and posttest:

Stage	N	Mean	Std. Deviation	Std. Error Mean
Pretest	30	16.1333	2.54251	.46420
Posttest	30	19.1667	2.82944	.51658

Table 8. The descriptive statistics for CBLI students' performance on the pre-test and posttest

As shown in the table above, the mean reading comprehension scores for the students in the CBLI group on the pretest and posttest are 16.13 and 19.16, respectively. Thus, the students in the CBLI group scored considerably higher on the posttest compared to the pretest, showing that the students' reading comprehension skills enhanced considerably during the instruction program. Table 9 displays the results from the one-sample t-test for the CBLI students' performance on the reading compression pretest and posttest:

Stage	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Pretest	34.755	29	.000	16.13333	15.1839	17.0827
Posttest	37.103	29	.000	19.16667	18.1101	20.2232

Table 9. CBLI students' performance on the pre-test and posttest

As displayed in Table 9, there was a significant difference in the reading comprehension scores of the students in the CBLI group on the reading comprehension pretest and posttest ($P < 0.05$), indicating that the CBLI students obtained significantly higher scores on the reading comprehension posttest compared to the reading comprehension pretest.

Table 10 presents the descriptive statistics for the performance of the students in the CLT and CBLI groups on the reading comprehension posttest:

Groups	Mean	N	Std. Deviation	Std. Error Mean
CLT	18.9000	30	1.98876	.36310
CBLI	19.1667	30	2.82944	.51658

Table 10. The descriptive statistics for the performance of the two groups on the posttest

As can be seen, the mean reading comprehension score for the students in the CLT group is 18.90 and that of the students in the CBLI group is 19.16, indicating that the students in the CBLI group had slightly higher reading comprehension scores on the posttest than the students in the CLT group. Table 11 shows the results from the independent samples t-test for the CLT and CBLI students' performance on the reading comprehension posttest:

Paired Differences				t	df	Sig. (2-tailed)
Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference			
				Lower	Upper	

-0.26667	3.78685	.69138	-1.68070	1.14737	-.386	29	.703
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Table 11. Comparing the performance of the two groups on the reading comprehension posttest

The results in Table 10 shows no significant difference between the CLT and CBLI groups in terms of their performance on the reading comprehension posttest ($P > 0.05$). Thus, the students in the two groups had almost similar reading comprehension skills after conducting the CLT and CBLI instruction programs. Table 12 and Figure 1 display the CLT and CBLI students' performance on the reading comprehension pretest and posttests:

Groups	Pretest	Posttest	Sig.
CLT	15.9000	18.9000	.000
CBLI	16.1333	19.1667	.000
Sig.	.657	0.703	

Table 12. The performance of the two groups on the pretest and posttest

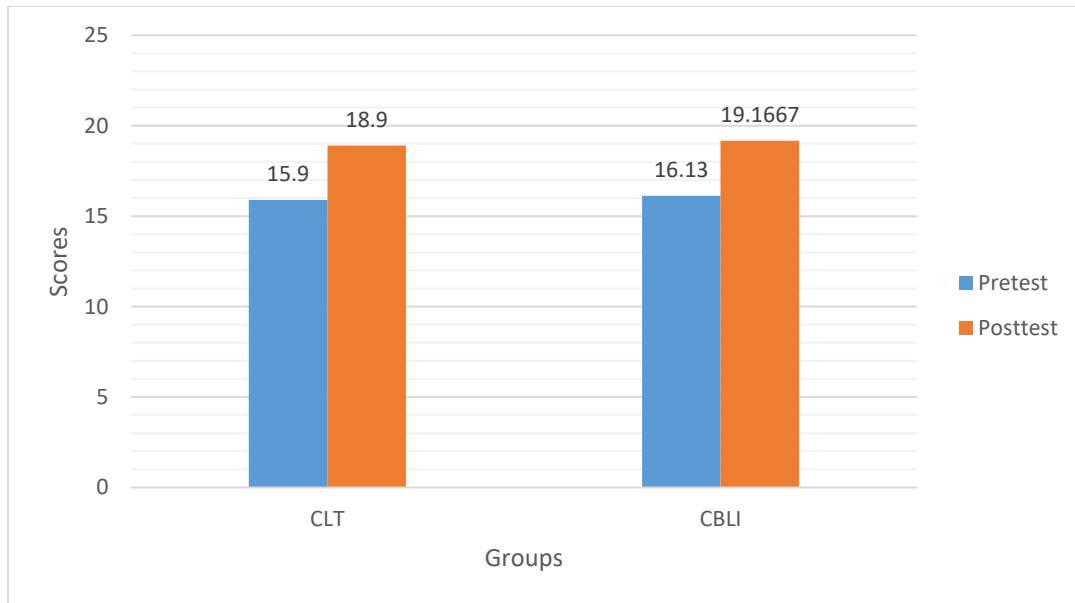


Figure 1. The performance of the two groups on the pretest and posttest

Overall, the analysis of the reading comprehension scores of the students in the two groups on the pretest and posttest indicated that the two groups of EFL students were not significantly different in terms of their reading comprehension ability before conducting the CLT and CBLI instruction programs. The data also indicated that the reading comprehension skills of the students in the two CLT and CBLI groups improved significantly after the

instructions compared to their reading comprehension scores before the instruction programs. However, the two CLT and CBLI groups showed no significant difference in their post-test reading comprehension scores, indicating that the two instructional techniques, CLT and CBLI, were equally effective in improving the reading comprehension ability of Iranian EFL students.

Table 13 shows the descriptive statistics for the responses of the students in the CLT group to the items in the CLT Attitude Survey:

Item	Statement	Min	Max	Mean	Std. Deviation
1	The role-play activities help me to have confidence in using new grammar and vocabulary.	2.00	5.00	4.0667	.94443
2	The role-play activities allow me to be more creative in using new grammar and words.	2.00	5.00	3.9000	.84486
3	The role-play activities improve my grammar and vocabulary knowledge.	3.00	5.00	4.1667	.79148
4	The teacher's instruction is to use new grammar and vocabulary in classroom activities.	3.00	5.00	4.3667	.76489
5	I think group discussion activities help me to learn new grammar and vocabulary.	3.00	5.00	4.1667	.79148
6	I think group discussion is a useful way to improve reading comprehension.	3.00	5.00	4.4000	.77013
7	I think English movies help me get familiar with new words and grammar.	3.00	5.00	4.3667	.71840
8	The role of the teacher as a facilitator to help us learn new words and grammar is very important.	3.00	5.00	4.5333	.68145
9	Role-play, group discussion, and language videos help me to gain improvement in grammar and vocabulary.	3.00	5.00	4.4667	.68145
10	Role-play, group discussion, and language videos improve my confidence to have grammar and vocabulary tests.	3.00	5.00	4.5333	.62881
11	I think using role-play as a way to promote reading skills, is a useful method of learning English.	3.00	5.00	4.2333	.72793
12	I think using group discussion is very useful to get familiar with the main idea of reading comprehension passages.	3.00	5.00	4.2667	.78492

13	I hope that the teacher implements this teaching method for learners to learn new words and grammar.	3.00	5.00	4.3667	.71840
14	I prefer to do role-play activities for reading skills.	3.00	5.00	4.4000	.72397
15	Even though role-play activities take much more time to comprehend the main idea of reading passages, I continue using them.	3.00	5.00	4.5000	.68229
16	Even though role-play activities take me a lot of time to comprehend the details of reading, I really enjoy them.	3.00	5.00	4.5333	.62881
17	Even though role-play activities take me a lot of time to answer reading comprehension questions, I really enjoy them.	3.00	5.00	4.4000	.67466
18	I hope that the teacher assigns learners to watch videos to improve their vocabulary and grammar.	3.00	5.00	4.2000	.71438
19	It takes me a long time to watch a video about reading comprehension, but I really enjoy doing it.	2.00	5.00	4.2000	.88668
20	I prefer to use different activities in reading comprehension to improve my reading skill.	3.00	5.00	4.5000	.68229

Table 12. The CLT students' responses to the CLT Attitude Survey

As can be seen, the mean scores for the CLT students' responses to the items in the CLT Attitude Survey range from 3.90 to 4.53 (out of 5). This indicates that most of the students in the CLT groups had positive attitudes toward CLT activities in the classroom. The students also confirmed the effectiveness of role-play activities, group discussions, the facilitating role of the teacher, and the teacher's instruction in improving their reading comprehension skills. Table 14 shows the descriptive statistics for the responses of the students in the CBLI group to the items in the CBLI Attitude Survey.

Item	Statement	Min	Max	Mean	Std. Deviation
1	I am satisfied with studying English subject in this semester.	3.00	5.00	4.3333	.75810
2	The contents (topics) I learned are useful for me in my future education and career.	2.00	5.00	4.2667	.82768
3	CBI class which is in English is more interesting than the English class in which a teacher speaks Persian.	3.00	5.00	4.4667	.73030
4	The current English class encourages me to learn by myself.	3.00	5.00	4.1333	.77608

5	I am interested in the contents I learned in class.	2.00	5.00	4.2333	.85836
6	The materials provided in this course help me understand the content and English.	3.00	5.00	4.4333	.56832
7	The materials used in the CBI class are interesting.	3.00	5.00	4.3333	.75810
8	I feel confident and secure when working in group or in pairs.	3.00	5.00	4.2000	.71438
9	I do not have difficulties when working with my friends.	3.00	5.00	4.4333	.67891
10	I gain new knowledge from my friends while working with them.	3.00	5.00	4.0000	.78784
11	My friends and I gain more problem-solving abilities because when we face problems, we share ideas and help each other solve them.	4.00	5.00	4.7333	1.01710
12	I like CBI activities because I realize that they develop my English proficiency and current k	3.00	5.00	4.3667	.76489
13	I like CBI activities, namely role play, group discussion, games, drawing pictures of the reading story and giving the presentation, debate, etc. because I realize that they are interesting.	3.00	5.00	4.2000	.76112
14	My prior knowledge helps me understand the reading texts or complete the tasks in English.	4.00	5.00	4.5000	.50855
15	I am motivated by the teacher.	3.00	5.00	4.5000	.68229
16	I love learning in CBI class because the teacher doesn't teach us throughout the period but he provides us with time to work together.	3.00	5.00	5.4667	5.61238
17	I am satisfied with the teacher's speaking English in class.	4.00	5.00	4.5667	.50401
18	The teacher's teaching is clear and understandable.	3.00	5.00	4.5333	.57135
19	I am satisfied with the evaluation of this course.	3.00	5.00	4.5667	.62606

Table 14. The CBLI students' responses to the CBLI Attitude Survey

The data in Table 14 reveal that the mean scores for the CBLI students' responses to the items in the CBLI Attitude Survey range from 4.00 to 4.73 (out of 5). Accordingly, a majority of the students in the CBLI groups had positive attitudes toward CBLI activities in the classroom. The students also stated that factors such as learning the content, the use of interesting materials, working in group or pairs, group discussions, the teacher's role, and getting help from other students could be effective in improving their reading comprehension

skills. Table 15 summarizes the descriptive statistics for the responses of the students in the two groups to the items in the CLT and CBLI attitude surveys:

Groups	N	Min	Max	Mean	Std. Deviation
CLT	20	3.90	4.53	4.3283	.17379
CBLI	19	4.00	5.47	4.4351	.30662
Valid N (listwise)	19				

Table 15. The CLT and CBLI students' responses to the attitude surveys

As displayed in the table above, the mean score for the CLT students' response to the items in the CLT Attitude Survey is 4.32 and that of the students in the CBLI group is 4.43, indicating that the students in the CLT group had positive attitudes toward the use of CLT for reading comprehension tasks. Similarly, the students in the CBLI group favored the use of CBLI for learning reading comprehension skills. However, the students in the CBLI group were more positive about CBLI compared to the students' attitudes in the CLT group toward the use of CLT in the reading comprehension classroom.

5. DISCUSSION

This section presents the main findings of the study based on the research questions:

RQ1. Compared to CLT, to what extent is CBLI (with a focus on science topics) effective in developing and improving EFL students' reading comprehension skills?

The data from this study revealed that the reading comprehension skills of the students in the two CLT and CBLI groups improved significantly after the instructions compared to their reading comprehension scores before the instruction programs. However, the two CLT and CBLI groups showed no significant difference in their post-test reading comprehension scores, indicating that the two instructional techniques, CLT and CBLI, were equally effective in improving the reading comprehension ability of Iranian EFL students. Thus, the first research hypothesis predicting that CBLI is more effective than CLT in improving language learners' reading comprehension skills was not retained in this study.

Overall, our data confirming the effectiveness of both CLI and CBLI in improving Iranian EFL learners reading comprehension were in line with the results reported in previous studies in the literature (e.g., Hasan, 2018; Rahmati, 2021; Lai, 2021; Choosakul et al., 2020; Salvador & Villacorta, 2019) have demonstrated the effectiveness of CLT in improving language learners' reading comprehension skills. For instance, Hasan (2018) reported a significant effect of using CLT through small group discussions on students' reading comprehension ability. Furthermore, Rahmati (2021) showed that the students' reading comprehension improved through CLT. Thus, teachers can use CLT as an alternative to motivating students learning. Salvador and Villacorta (2019) showed the CLT strategies such as role-playing information gaps, games, language exchange, interviews, pair work, and learning by teaching could improve the students' reading comprehension skills.

Likewise, this study showed that CBLI can improve language learners' reading comprehension ability as confirmed in previous studies. As a case in point, Tsai and Shang (2010) found that implementation of CBLI enhanced both the reading comprehension and critical thinking ability of the student in the literature class. In addition, Chapple and Curtis (2000) argued that content-based instruction often helps to improve students' language and

permanence because of the frequent use of motivating content and activities. Sohrabi Bonab and Behroozizad (2016) reported that the use of CBLI could enhance Iranian EFL students' reading comprehension. Puffer and Nikula (2006) reported that the specific conditions of the classroom influenced the language environment in discourse in content and language-integrated learning (CLIL) classrooms. Following these findings in the literature, it can be argued that reading through different scientific subjects such as biology, astronomy, chemistry, geography, physics, experimental science, and geology, and performing tasks such as note taking, summarizing, information collection and processing, and visual support through the use of images, graphic organizers, charts, etc. contributed to improving the learners' reading comprehension ability in this study (see also Amiri & Hosseini Fatemi, 2014; Puffer & Nikula, 2006; Khusniyah & Wadi, 2020). However, the two CLT and CBLI groups in the present did not differ significantly in terms of reading comprehension ability as CBLI was practiced only within a 15-week period and there would be effects of the teaching approaches if it was a longitudinal study of one year.

RQ2. Compared to CLT, are students in CBLI classrooms with a focus on science topics more interested in the EFL classroom and does this have an effect on Q1?

The findings indicated that the students in the CLT group had positive attitudes toward the use of CLT for reading comprehension tasks. Similarly, the students in the CBLI group favored the use of CBLI for learning reading comprehension skills. However, the students in the CBLI group were more positive about CBLI compared to the students' attitudes in the CLT group toward the use of CLT in the reading comprehension classroom. This finding partly confirms the first research hypothesis predicting that compared to CLT, the students in CBLI classrooms with a focus on science topics were more interested in the EFL classroom. One possible reason was that the students in the CBLI classroom worked on engaging scientific content and topics compared to the students in the CLT classroom. Furthermore, CLT is used as the dominant language teaching approach in Iranian language schools and institutes. In contrast, CLBI is rarely practiced in language schools in Iran and, the novelty of this approach might be more appealing to the students. Nevertheless, previous studies have not compared learners' attitudes toward these two approaches. However, they

generally reported that students' positive attitudes toward both approaches. For example, several studies confirmed learners' positive attitudes toward CLT (e.g., Chang, 2000; Rao, 2002; İnceçay & İnceçay, 2009; Savignon & Wang, 2003; Aubrey, 2010; Mirzaee, 2016; Khatib & Ashoori Tootkaboni, 2017). Moreover, some studies have confirmed language learners' positive attitudes and perceptions about CBLI (e.g., Grace ChiWen Chien, 2011; Neil & Richard, 2011; Tsai, 2010; Mostafa & Azar, 2014; Wongnarut, 2016; Pinner, 2013a; Ikeda, 2013a; Yang & Gosling, 2013; Lai & Aksornjarung, 2018). Wei (2006) reported that CBI could positively influence the students' motivation to study Japanese as well as and broadening their understanding of the Japanese business community.

RQ3. Based on the CBLI classroom, do the students perceive CBLI to be effective in developing their EFL reading comprehension skills?

As stated earlier, the students in the CLT group perceived the use of CLT was effective in improving their reading comprehension skills. Accordingly, the third research hypothesis indicating the Iranian EFL students perceived CBLI to be effective in developing their EFL reading comprehension skills. Similarly, some studies have confirmed language learners' positive attitudes and perceptions about CBLI (e.g., Grace ChiWen Chien, 2011; Neil & Richard, 2011; Tsai, 2010; Mostafa & Azar, 2014; Wongnarut, 2016; Pinner, 2013a; Ikeda, 2013a; Yang & Gosling, 2013; Lai & Aksornjarung, 2018). Grace ChiWen Chien (2011) reported that elementary school EFL students had positive attitudes toward CBI since the teaching and learning matched their interests and the language and the content in CBI were useful for the learners. Neil and Richard (2011) reported that students had positive attitudes toward CBI as the course matched their interests. Ya-Ling Tsai (2010) found that students had positive attitudes toward content-based instruction as CBI helped them acquire the language easier. Mostafa and Azar (2014) also found that students had positive views about CBI because they had to work in groups and they felt secure because could receive help from peers when working on difficult tasks. Accordingly, it can be argued that language learners' engagement in activities such as questions and answers, group discussions, and information gap activities in the CLT classroom, as was the case in the present study, can improve their reading comprehension ability.

Limitations

This study was conducted with some shortcomings. First, CLT and CBLI were each conducted for a smaller number of EFL students. There was no follow-up to check the retention effects of both CLT and CBLI on the students' reading comprehension skills over longer periods. Thus, 6-12 months would have been an ideal time frame for assessing the effectiveness of the two approaches. Moreover, the students' attitudes toward CLT and CBLI were assessed using self-report questionnaires and we did not interview the students. Finally, due to the political situation in Iran, the schools were closed several times for some point in time during the instructional period.

6. CONCLUSION

This study compared the effectiveness of CBLI and CLT in improving the reading comprehension skills of primary and secondary school EFL students in Iran. It also assessed Iranian EFL learners' attitudes toward CLT and CBLI to find out which approach is more preferred by the learners. The data were collected using two Cambridge Advanced English (CAE) reading comprehension tests administered as the pretest and posttest to measure the reading comprehension ability of the students in both groups who were instructed using CLT and CBLI approaches. The students in the CLT group were instructed in reading comprehension using CLT practices and the student in the CBLI group were instructed using the CBLI principles in 15 weeks (30 sessions in total). After completing the instruction programs for the two groups, the students in the two groups were surveyed about CLT and CBLI. The findings showed that both CLT and CBLI were effective in improving the reading comprehension skills of the Iranian EFL learners and the students who were instructed using each of these approaches did not show any significant differences in terms of the reading comprehension skills compared to the other group. Moreover, the Iranian EFL students who received instructions through CLT perceived that the use of CLT was effective in improving their reading comprehension skills. Likewise, the students who were instructed using the CBLI principles favored the use of CBLI for learning reading comprehension skills. Nevertheless, the students in the CBLI group were more positive about CBLI compared to

the students' attitudes in the CLT group toward the use of CLT in the reading comprehension classroom.

Following the findings of the present study, material developers can incorporate content suitable for CBLI in teaching materials and textbooks for EFL learners. Language teachers and instructors can use both CLT and CBLI for teaching reading comprehension to EFL learners. However, given the limitations of this study, future researchers need to examine the effectiveness of both CLT and CBLI on larger samples of EFL learners. Moreover, future studies can explore the effectiveness of CLT and CBLI in improving speaking, listening, and writing skills of EFL learners.

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Appendices

Appendix I: Oxford Quick Placement Test

Questions 1 – 5

- Where can you see these notices?
- For questions 1 to 5, mark one letter A, B or C on your Answer Sheet.

- 1

Please leave your room key at Reception.

A	in a shop
B	in a hotel
C	in a taxi
- 2

Foreign money changed here

A	in a library
B	in a bank
C	in a police station
- 3

AFTERNOON SHOW BEGINS AT 2PM

A	outside a theatre
B	outside a supermarket
C	outside a restaurant
- 4

CLOSED FOR HOLIDAYS
Lessons start again on the 8 th January

A	at a travel agent's
B	at a music school
C	at a restaurant
- 5

Price per night:
£10 a tent
£5 a person

A	at a cinema
B	in a hotel
C	on a camp-site

Questions 11 – 20

- In this section you must choose the word which best fits each space in the texts.
- For questions 11 to 20, mark one letter A, B, C or D on your Answer Sheet.

Alice Guy Blaché

Alice Guy Blaché was the first female film director. She first became involved in cinema whilst working for the Gaumont Film Company in the late 1890s. This was a period of great change in the cinema and Alice was the first to use many new inventions, (11) sound and colour.

In 1907 Alice (12) to New York where she started her own film company. She was (13) successful, but, when Hollywood became the centre of the film world, the best days of the independent New York film companies were (14) When Alice died in 1968, hardly anybody (15) her name.

- 11 A bringing B including C containing D supporting
- 12 A moved B ran C entered D transported
- 13 A next B once C immediately D recently
- 14 A after B down C behind D over
- 15 A remembered B realised C reminded D repeated

UFOs – do they exist?

UFO is short for 'unidentified flying object'. UFOs are popularly known as flying saucers,

(16) that is often the (17) they are reported to be. The (18)

"flying saucers" were seen in 1947 by an American pilot, but experts who studied his claim decided it had been a trick of the light.

Even people experienced at watching the sky, (19) as pilots, report seeing UFOs. In

1978 a pilot reported a collection of UFOs off the coast of New Zealand. A television

(20) went up with the pilot and filmed the UFOs. Scientists studying this

phenomenon later discovered that in this case they were simply lights on boats out fishing.

- 16 A because B therefore C although D so
- 17 A look B shape C size D type
- 18 A last B next C first D oldest
- 19 A like B that C so D such
- 20 A cameraman B director C actor D announcer

Questions 21 – 40

- In this section you must choose the word or phrase which best completes each sentence.
- For questions 21 to 40, mark one letter A, B, C or D on your Answer Sheet.

- 21 The teacher encouraged her students to an English pen-friend.
A should write B write C wrote D to write
- 22 They spent a lot of time at the pictures in the museum.
A looking B for looking C to look D to looking
- 23 Shirley enjoys science lessons, but all her experiments seem to wrong.
A turn B come C end D go
- 24 from Michael, all the group arrived on time.
A Except B Other C Besides D Apart
- 25 She her neighbour's children for the broken window.
A accused B complained C blamed D denied
- 26 As I had missed the history lesson, my friend went the homework with me.
A by B after C over D on
- 27 Whether she's a good actress or not is a of opinion.
A matter B subject C point D case
- 28 The decorated roof of the ancient palace was up by four thin columns.
A built B carried C held D supported
- 29 Would it you if we came on Thursday?
A agree B suit C like D fit
- 30 This form be handed in until the end of the week.
A doesn't need B doesn't have C needn't D hasn't got
- 31 If you make a mistake when you are writing, just it out with your pen.
A cross B clear C do D wipe

- 32 Although our opinions on many things , we're good friends.
A differ B oppose C disagree D divide
- 33 This product must be eaten two days of purchase.
A by B before C within D under
- 34 The newspaper report contained important information.
A many B another C an D a lot of
- 35 Have you considered to London?
A move B to move C to be moving D moving
- 36 It can be a good idea for people who lead an active life to increase their of vitamins.
A upturn B input C upkeep D intake
- 37 I thought there was a of jealousy in his reaction to my good fortune.
A piece B part C shadow D touch
- 38 Why didn't you that you were feeling ill?
A advise B mention C remark D tell
- 39 James was not sure exactly where his best interests
A stood B rested C lay D centred
- 40 He's still getting the shock of losing his job.
A across B by C over D through

Part 2

Questions 41 – 50

- In this section you must choose the word or phrase which best fits each space in the texts.
- For questions 41 to 50, mark one letter A, B, C or D on your Answer Sheet.

The tallest buildings - SKYSCRAPERS

Nowadays, skyscrapers can be found in most major cities of the world. A building which was many (41) high was first called a skyscraper in the United States at the end of the 19th century, and New York has perhaps the (42) skyscraper of them all, the Empire State Building. The (43) beneath the streets of New York is rock, (44) enough to take the heaviest load without sinking, and is therefore well-suited to bearing the (45) of tall buildings.

- 41 A stages B steps C storeys D levels
- 42 A first-rate B top-class C well-built D best-known
- 43 A dirt B field C ground D soil
- 44 A hard B stiff C forceful D powerful
- 45 A weight B height C size D scale

SCRABBLE

Scrabble is the world's most popular word game. For its origins, we have to go back to the 1930s in the USA, when Alfred Butts, an architect, found himself out of (46) He decided that there was a (47) for a board game based on words and (48) to design one. Eventually he made a (49) from it, in spite of the fact that his original (50) was only three cents a game.

- 46 A earning B work C income D job
- 47 A market B purchase C commerce D sale

- 48 A took up B set out C made for D got round
- 49 A wealth B fund C cash D fortune
- 50 A receipt B benefit C profit D allowance

Questions 51 – 60

- In this section you must choose the word or phrase which best completes each sentence.
- For questions 51 to 60, mark one letter A, B, C or D on your Answer Sheet.

- 51 Roger's manager to make him stay late if he hadn't finished the work.
 A insisted B warned C threatened D announced
- 52 By the time he has finished his week's work, John has hardly energy left for the weekend.
 A any B much C no D same
- 53 As the game to a close, disappointed spectators started to leave.
 A led B neared C approached D drew
- 54 I don't remember the front door when I left home this morning.
 A to lock B locking C locked D to have locked
- 55 I to other people borrowing my books: they always forget to return them.
 A disagree B avoid C dislike D object
- 56 Andrew's attempts to get into the swimming team have not with much success.
 A associated B concluded C joined D met
- 57 Although Harry had obviously read the newspaper article carefully, he didn't seem to have the main point.
 A grasped B clutched C clasped D gripped
- 58 A lot of the views put forward in the documentary were open to
 A enquiry B query C question D wonder
- 59 The new college for the needs of students with a variety of learning backgrounds.
 A deals B supplies C furnishes D caters
- 60 I find the times of English meals very strange – I'm not used dinner at 6pm.
 A to have B to having C having D have

CBLI Attitude Survey

Please read each statement carefully and indicate the extent to which you agree with it (5=strongly agree, 4= agree, 3=neutral, 2=disagree, and 1=strongly disagree).

No	Statements	Response
1	I am satisfied with studying English subject in this semester.	
2	The contents (topics) I learned are useful for me in my future education and career.	
3	CBI class which is in English is more interesting than the English class in which a teacher speaks Persian.	
4	The current English class encourages me to learn by myself.	
5	I am interested in the contents I learned in class.	
6	The materials provided in this course help me understand the content and English.	
7	The materials used in the CBI class are interesting.	
8	I feel confident and secure when working in group or in pairs.	
9	I do not have difficulties when working with my friends.	
10	I gain new knowledge from my friends while working with them.	
11	My friends and I gain more problem-solving abilities because when we face problems, we share ideas and help each other solve them.	
12	I like CBI activities because I realize that they are useful for me to de my English proficiency and current knowledge.	
13	I like CBI activities, namely role play, group discussion, games, drawing pictures of the reading story and giving the presentation, debate, etc. because I realize that they are interesting.	

14	My prior knowledge helps me understand the reading texts or complete the tasks in English.	
15	I am motivated by the teacher.	
16	I love learning in CBI class because the teacher doesn't teach us throughout the period but he provides us with time to work together.	
17	I am satisfied with the teacher's speaking English in class.	
18	The teacher's teaching is clear and understandable.	
19	I am satisfied with the evaluation of this course.	

CLT Attitude Survey

Please read each statement carefully and indicate the extent to which you agree with it (5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, and 1 = strongly disagree).

Item	Statement	Response
1	The role-play activities help me to have confidence in using new grammar and vocabulary.	
2	The role-play activities allow me to be more creative in using new grammar and words.	
3	The role-play activities improve my grammar and vocabulary knowledge.	
4	The teacher's instruction is to use new grammar and vocabulary in classroom activities.	
5	I think group discussion activities help me to learn new grammar and vocabulary.	
6	I think group discussion is a useful way to improve reading comprehension.	

7	I think English movies help me get familiar with new words and grammar.	
8	The role of the teacher as a facilitator to help us learn new words and grammar is very important.	
9	Role-play, group discussion, and language videos help me to gain improvement in grammar and vocabulary.	
10	Role-play, group discussion, and language videos improve my confidence to have grammar and vocabulary tests.	
11	I think using role-play as a way to promote reading skills, is a useful method of learning English.	
12	I think using group discussion is very useful to get familiar with the main idea of reading comprehension passages.	
13	I hope that the teacher implements this teaching method for learners to learn new words and grammar.	
14	I prefer to do role-play activities for reading skills.	
15	Even though role-play activities take much more time to comprehend the main idea of reading passages, I continue using them.	
16	Even though role-play activities take me a lot of time to comprehend the details of reading, I really enjoy them.	
17	Even though role-play activities take me a lot of time to answer reading comprehension questions, I really enjoy them.	
18	I hope that the teacher assigns learners to watch videos to improve their vocabulary and grammar.	
19	It takes me a long time to watch a video about reading comprehension, but I really enjoy doing it.	
20	I prefer to use different activities in reading comprehension to improve my reading skill.	

Appendix A

Language and Social Background Questionnaire



Lifespan Cognition and Development Laboratory
Ellen Bialystok, Ph.D., Principal Investigator
 Department of Psychology, York University

Language and Social Background Questionnaire			
Today's Date:	_____	1. Sex:	Male <input type="checkbox"/> Female <input type="checkbox"/>
	Day Month Year		
2. Occupation/Student Status (i.e. FT/PT, current year of study):	_____		
3. Handedness: Left <input type="checkbox"/> Right <input type="checkbox"/>	4. Date of Birth:	_____	
		Day	Month Year
5. Do you play first-person shooting (FPS)/action video games?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
If yes, on average how many hours do you play per week?	_____		
6. Do you have hearing problems?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
If yes, do you wear a hearing aid?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
7. Do you have vision problems?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
If yes, do you wear glasses or contacts?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is your vision corrected to normal with glasses or contacts?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
8. Are you colour blind?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
If yes, what type?	_____		
9. Have you ever had a head injury		Yes <input type="checkbox"/>	No <input type="checkbox"/>
If yes, please explain:	_____		
10. Do you have any known neurological impairments? (e.g., epilepsy etc)		Yes <input type="checkbox"/>	No <input type="checkbox"/>
If yes, please indicate:	_____		
11. Are you currently taking any psychoactive medications?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
If yes, please indicate:	_____		

12 Please indicate the highest level of education and occupation for each parent:

Mother		Father	
1. _____	No high school diploma	1. _____	No high school diploma
2. _____	High school diploma	2. _____	High school diploma
3. _____	Some post-secondary education Post-secondary degree or	3. _____	Some post-secondary education Post-secondary degree or
4. _____	diploma	4. _____	diploma
5. _____	Graduate or professional degree	5. _____	Graduate or professional degree
Occupation:	_____	Occupation:	_____
First Language:	_____	First Language:	_____
Second Language:	_____	Second Language:	_____
Other Language:	_____	Other Language:	_____

13 Were you born in Canada? Yes No

If no, where were you born? _____

When did you move to Canada? _____

Year

14 Have you ever lived in a place where English is not the dominant communicating language? Yes No

		From	To
If yes, where and for how long?	1. _____	_____	_____
	2. _____	_____	_____
	3. _____	_____	_____
		Year	Year

Language Background

15. List all the language and dialects you can speak and understand including English, *in order of fluency*:

Language	Where did you learn it?	At what age did you learn it? (If learned from birth, write age "0")	Were there any periods in your life when you did not use this language? Indicate duration in months/years.
1. _____	<input type="checkbox"/> Home <input type="checkbox"/> School <input type="checkbox"/> Community <input type="checkbox"/> Other: _____		
2. _____	<input type="checkbox"/> Home <input type="checkbox"/> School <input type="checkbox"/> Community <input type="checkbox"/> Other: _____		
3. _____	<input type="checkbox"/> Home <input type="checkbox"/> School <input type="checkbox"/> Community <input type="checkbox"/> Other: _____		
4. _____	<input type="checkbox"/> Home <input type="checkbox"/> School <input type="checkbox"/> Community <input type="checkbox"/> Other: _____		
5. _____	<input type="checkbox"/> Home <input type="checkbox"/> School <input type="checkbox"/> Community <input type="checkbox"/> Other: _____		

Relative to a highly proficient speaker's performance, rate your proficiency level on a scale of 0-10 for the following activities conducted in English and your other language(s).

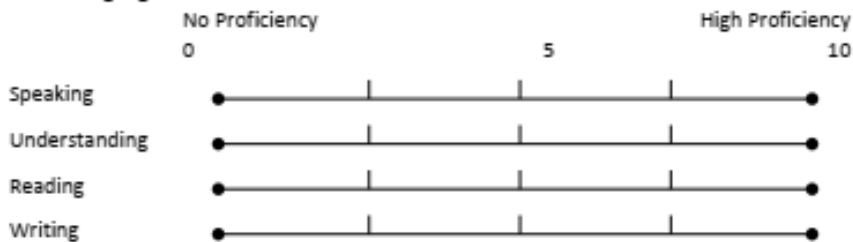
16.1 English



16.2 Of the time you spend engaged in each of the following activities, how much of that time is carried out in English?

	None	Little	Some	Most	All
Speaking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Listening	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reading	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Writing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

17.1 Other Language: _____



17.2 Of the time you spend engaged in each of the following activities, how much of that time is carried out in this language?

	None	Little	Some	Most	All
Speaking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Listening	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reading	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Writing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Community Language Use Behavior
--

18. Please indicate which language(s) you most frequently heard or used in the following life stages, both inside and outside home.

		All English	Mostly English	Half English half other language	Mostly the other language	Only the other language
18.1	Infancy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18.2	Preschool age	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18.3	Primary School age	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18.4	High school age	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

19. Please indicate which language(s) you generally use when speaking to the following people.

		All English	Mostly English	Half English half other language	Mostly the other language	Only the other language
19.1	Parents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19.2	Siblings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19.3	Grandparents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19.4	Other Relatives	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19.5	Partner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19.6	Roommates	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19.7	Neighbours	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19.8	Friends	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

20. Please indicate which language(s) you generally use in the following situations.

		All English	Mostly English	Half English half other language	Mostly the other language	Only the other language
20.1	Home	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20.2	School	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20.3	Work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20.4	Social activities (e.g. hanging out with friends, movies)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20.5	Religious activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20.6	Extracurricular activities (e.g. hobbies, sports, volunteering, gaming)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20.7	Shopping/ Restaurants/ Other commercial services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20.8	Health care services/ Government/ Public offices/ Banks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

21. Please indicate which language(s) you generally use for the following activities.

		All English	Mostly English	Half English half other language	Mostly the other language	Only the other language
21.1	Reading	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21.2	Emailing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21.3	Texting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21.4	Social media (e.g. Facebook, Twitter etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21.5	Writing shopping lists, notes, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21.6	Watching TV/ listening to radio	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21.7	Watching movies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21.8	Browsing on the Internet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21.9	Praying	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

22. Some people switch between the languages they know within a single conversation (i.e. while speaking in one language they may use sentences or words from the other language). This is known as "language-switching". Please indicate how often you engage in language-switching. If you do not know any language(s) other than English, fill in all the questions with 0, as appropriate.

	Never	Rarely	Sometimes	Frequently	Always
22.1 With parents and family	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22.2 With friends	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22.3 On social media (e.g. Facebook, Twitter)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Thank you for participating!

Appendix B

Language and Social Background Questionnaire Administration and Scoring Manual**Administering the Language and Social Background Questionnaire**

It is possible for participants to complete the LSBQ on their own, but it is recommended that researchers administer the LSBQ in an interview format so that questions can be clarified and responses discussed. If the instrument is administered as a self-completion questionnaire, responses should be checked with the participant to clarify any ambiguous or contradictory responses. Language backgrounds are inherently complex, so discussion between the researcher and the participant is essential.

Administering the LSBQ in interview format

The first section contains demographic questions. Some items are specific to neuroimaging studies and may not be applicable to other research (e.g., **Items 9, 10, 11**). These questions should be tailored to the needs of the specific study and are not relevant to determining the participant's language status.

Item 12 asks for parents' education, occupation, and language(s) they can speak. Parents' education is used as an estimated measure of the participants' socioeconomic. Parents' language knowledge is not included in the final factor structure, but it is important to ask to get a better picture of the participant's language background, particularly if other factors are ambiguous.

To help participants remember all of the answer options, turn the questionnaire so the participant can see the question page upright.

Item 13 asks if the participant was born in Canada (or insert your home country). If their response is "no", then proceed to ask which country they were born in and when they moved to Canada.

Item 14 asks if the participant ever lived in a country or region where English was not the dominant communicating language. While this question was not included in the final factor structure, it is useful for determining if the participant was in a community or society where they would be routinely exposed to or likely to practice a Non-English language. This question does not include vacations; it refers specifically to long term residence at least one year or longer. Participants who were not born in Canada, or another country where English is the dominant communicating language, should indicate their country of birth, year of birth and year they moved from that country in addition to any other countries in which they lived.

Item 15 is the beginning of the Language Background section. The question contains a table on which the participants list all the languages and dialects they know in descending order of fluency. This refers to all the languages and dialects that they can speak and

understand, or just understand. The first column lists the languages the participant knows, the second asks where they learned the language, the third asks at what age they learned it and the last asks if there were any periods in their life that they did not use that language. The participant is asked to rank the languages in order from the language they can speak/understand the best to the poorest, irrespective of order of acquisition. Literacy is not relevant to these judgments, and dialects (e.g. Jamaican Patois, French Creole) are considered to be different languages.

If the participant indicates that they learned a language “from birth”, record a “0”, otherwise record the age the participant indicates. If the participant indicates a school grade, estimate the age and confirm with the participant.

The last column asks if there were any periods in which the participant did not use English. A response of “yes” requires specifying that period and stating that they did not use other languages. If the participant moved to another country and used another language but called their parents once a month and spoke with them in English, this does not count towards non-use of English, and the answer would be “no”. If the participant says they “only use it a little bit”, this also does not count because technically they are still using the language, although the frequency of use is low. If the participant did indeed stop using (hearing, speaking, reading, and writing) the language completely for a period of time then record the number of years that they did not use the language.

If the participant indicated knowing any other languages, proceed to ask the same questions for all of the languages on the list, in the same manner. If the research is being conducted in a country where the regular school curriculum requires students to take a foreign language course, researchers should inquire about the participants’ knowledge of that language even if they do not mention it themselves.

Items 16 and 17 ask participants to rate their proficiency and language use for English and a second language for speaking, understanding, reading and writing on a scale from 0 to 10, where 0 indicates no proficiency and 10 indicates high proficiency. Researchers should instruct participants to indicate how they would rate their proficiency by drawing a vertical line that intersects the scale. Sometimes participants indicate with circles or X shapes on the scale, to avoid difficulties with interpretation, we recommend the researcher demonstrate by drawing a vertical line through the first scale in item 16.1 as an example and then handing the pen to the participant to fill out the remaining scales. The scale is formatted to be 10 cm long. To calculate the participant’s score, use a ruler to measure where their vertical line intersects the scale.

Item 16.2 asks how much time is carried out in English for speaking, understanding, reading and writing. The participant should check off one answer option for each activity in this language. Make sure that the participant does not check off more than one box. If the participant has indicated knowledge of a second language, ask the same questions again for the other language. Replace the word “English” for the name of their other language when phrasing the questions verbally.

Items 18 to 21 constitute the Community Language Use Behavior (CLUB) section of the questionnaire. Item 18 asks about language use throughout different life stages. Item 19 asks about language use with different people. Item 20 asks about language use in different situations. Item 21 asks about language use for different activities. Lastly, item

21 asks about language-switching. Items 18 to 20 are on a 5 point scale of All English, mostly English, half English half other language, mostly the other language, or only the other language. Item 21 is also on a 5 point scale of never, rarely, sometimes, frequently, or always. Monolinguals, who do not know a second language, should indicate "All English". The participant may indicate "not applicable" for some items; the researcher should make a note of this beside that item. The option of "not applicable" is not included in the questionnaire to avoid participants from choosing "not applicable" inappropriately or excessively (e.g., monolinguals choosing "not applicable" instead of "All English"). Item 22 inquires about language switching, something that participants may not be aware of doing. The researcher should clearly explain **"Some people switch between the languages they know within a single conversation, for example, speaking in one language but then using a sentence or word from another language. This is known as "language-switching."** At this point it is always useful to confirm that the participants understand the explanation. If they do not understand, it is be useful to illustrate with an example using the participants' own languages. For instance, if the participant knows English and French, explain: **"It would be like speaking in French to someone and then saying one sentence in English. Or speaking all French but using one English word."** Confirm that the participant understand what language-switching is before they answer the questions. Monolinguals, who do not know a second language, should indicate "Never" as they do not have a second language to switch between.

Sometimes inconsistencies or ambiguities appear in participants' responses. Researchers should always clarify any conflicting responses.

Language and Social Background Data Entry and Factor Score Calculator

The Spreadsheet

Data entry is done in the excel document titled, “LSBQ Factor Score Calculator”. Some cells are locked to prevent changes from being made to constant values and formulas. These include:

- The second row which contains variables’ weights, as derived from the factor analysis. This value refers to the variables weight on the factor on which it loads.
- The third and fourth row which contain the variables’ means and standard deviations, which are used to calculate standard score.
- Columns AS- CM which contains formulas to calculate the factor score.

The factor score is calculated by multiplying the standard score ((Observed Score-Mean)/Standard Deviation) by the variable’s weight and then summing all the variables that load onto that factor. The Factor Scores appear in columns CJ-CL.

The composite factor score is calculated by multiplying the individual factor scores by the variance they explain and then summing the three weighted factors. The Composite Factor Score appears in column CM.

Data entry is completed in columns A-AR. These cells area not locked.

Data Entry

Enter the data from your collected LSBQs in columns A-AR. Listed below is a table with all the variable names in the spreadsheet, the item they correspond to, and the value to enter.

Value Legend:

A = number ranging from 0 to 10

B = None=0 Little=1 Some=2 Most=3 All=4

C = All English= 0 Mostly English=1 Half English half other language=2 Mostly the other language= 3 Only the other language= 4

D = Never=0 Rarely=1 Sometimes=2 Frequently= 3 Always=4

Variable Name in Spreadsheet	Item number on LSBQ	Value
ID	Subject ID	Subject ID
Grandparents	CLUB Q 19	C
Infancy	CLUB Q 18	C
Switching_with_Family	CLUB Q 22	D
Non-Eng_Understanding	Language Background 17.1	A
Non-Eng_Speaking	Language Background 17.1	A
Relatives	CLUB Q 19	C

Preschool	CLUB Q 18	C
Parents	CLUB Q 19	C
Non-Eng_Listening_Frequency	Language Background 17.2	B
Non-Eng_Speaking_Frequency	Language Background 17.2	B
Home	CLUB Q 20	C
Primary	CLUB Q 18	C
Religious	CLUB Q 20	C
Siblings	CLUB Q 19	C
English_Listening_Frequency	Language Background 16.2	B
Praying	CLUB Q 21	C
HighSchool	CLUB Q 18	C
English_Speaking_Frequency	Language Background 16.2	B
Work	CLUB Q 20	C
School	CLUB Q 20	C
Health_Care	CLUB Q 20	C
Shopping	CLUB Q 20	C
Social_Activities	CLUB Q 20	C
Email	CLUB Q 21	C
Friends	CLUB Q 19	C
Extra_Curricular	CLUB Q 20	C
Roommates	CLUB Q 19	C
Text	CLUB Q 21	C
Social_Media	CLUB Q 21	C
Movies	CLUB Q 21	C
Internet	CLUB Q 21	C
Switching_on_Social_Media	CLUB Q 22	D
Neighbours	CLUB Q 19	C
TV	CLUB Q 21	C
Lists	CLUB Q 21	C
Reading	CLUB Q 21	C
Partner	CLUB Q 19	C
Switching_With_Friends	CLUB Q 22	D
English_Understanding	Language Background 16.1	A
English_Reading	Language Background 16.1	A
English_Writing	Language Background	A

	16.1	
English_Speaking	Language Background 16.1	A
English_Writing_Frequency	Language Background 16.2	B

The Individual and Composite Factor Scores

The individual and composite factor scores are automatically calculated in the spreadsheet.

- Column CJ, labelled “Non-English_Home_Use_And_Proficiency”, is the factor score for Factor 1. A higher score on this factor indicates greater second language proficiency and greater second language use in more private life, home, and with family members. Lower score on this factor indicates poor or no second language ability and more English use in these contexts.
- Column CK, labelled “Non-English_Social_Use”, is the factor score for Factor 2. A higher score indicates more second language use in societal and community contexts and a lower score indicates more English use.
- Column CL, labelled “English_Proficiency”, is the factor score for Factor 3. A Higher score indicates High English proficiency and a lower score indicates low English proficiency.
- Column CM, labelled “Composite_Factor_Score” is the Composite Factor score and represents the overall Bilingualism Score. A higher score indicates bilingualism and a lower score indicates monolingualism.

Interpreting the Composite Factor Score

The composite factor score can be used both as a continuous variable and as a criterion to define groups categorically.

To classify participants in discrete groups, we recommend that only participants with composite factor scores below -3.13 be classified as monolingual and only participants with composite factor scores above 1.23 be classified as bilingual. Participants who lie between -3.12 and 1.22 may have ambiguous language backgrounds that cannot be classified as monolingual or bilingual, for example, receptive bilinguals. Receptive bilinguals have very different language profiles from both monolinguals and balanced bilinguals. Receptive bilinguals can understand a second language, however does not speak that language. It would not be appropriate for studies that aim to make comparisons between monolinguals and bilinguals to include these participants in either group because they are neither monolingual nor bilingual.