

LEARNERS' USE OF L1 IN HIGH SCHOOL EFL READING LESSONS

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## ABSTRACT

This study investigates learners' use of L1 during EFL reading lessons in an Iranian high school located in Malaysia. Learners' use of the first language (L1) in a second language (L2) classroom is a long standing, controversial issue, and has been researched extensively. Previous studies have called for more research to be conducted on L2 reading in a naturalistic social setting of a classroom. This study uses Lantolf's Sociocultural Theory of L2 (SCT-L2) as a framework to investigate how learners use Persian (L1) to mediate their English reading in a social setting of a classroom context. Both a qualitative and quantitative analyses were performed. The study involved the participation of eleven Grade Nine and fifteen Grade 12 learners. Main sources of data include: (a) audio-recordings from classroom interactions, (b) transcripts of classroom interactions, and (c) follow-up interviews with learners. It was found that in both grade levels, learners used L1 to perform actively in the classroom. Learners' L1 served them a variety of functions, both in their social and their private speech. It was also found that learners' use of L1 varied according to the task they were performing. Grade 9 learners used their L1 actively and in a much higher proportion in their New Words Task, and for the widest range of functions, while the same held true for Grade 12 learners with their Reading Task. L1 brought about more engagement with the mentioned tasks and played a positive role in learners' cognitive processes. It was also seen that learners used L1 in different ways to aid them. L1 was found to be more supportive for some learners, due to the way they utilized it. In some instances, L1 acted as a tool to provide help and to create a comfortable social context for the learners. It also helped in aiding their memory and in organizing their thinking, acted as a tool for comprehension, and acted as a tool to link old and new information, among

other things. Instances of unsuccessful L1 mediation were also found and possible reasons are discussed. Implications for theory and for L2 pedagogy are discussed.

**Penggunaan Bahasa Pertama oleh Pelajar Dalam Pelajaran Bacaan Bahasa  
Inggeris sebagai Bahasa Asing di Sekolah Tinggi**

**ABSTRAK**

Kajian ini menyelidik penggunaan Bahasa Pertama oleh pelajar sewaktu pelajaran bacaan Bahasa Inggeris sebagai Bahasa Asing di sebuah sekolah Iran di Malaysia. Penggunaan Bahasa Pertama (B1) oleh pelajar dalam kelas Bahasa Kedua (B2) adalah isu yang mengundang kontroversi dan bertahan lama, dan telah dikaji se cara meluas. Kajian lepas telah mencadangkan supaya lebih banyak kajian dijalankan berkenaan pembacaan B2 dalam seting yang naturalistik dalam bilik darjah. Kajian ini menggunakan Teori Sosiokultural B2 Lantolf (SCT-L2) sebagai kerangka kajian untuk menyelidik bagaimana pelajar menggunakan bahasa Parsi (B1) sebagai mediasi pembacaan dalam Bahasa Inggeris mereka dalam seting sosial konteks bilik darjah. Ke dua-dua analisis kualitatif dan kuantitatif dijalankan. Kajian ini memaparkan penglibatan sebelas pelajar Gred 9 dan lima belas pelajar Gred 12. Sumber data terbesar adalah: (a) rakaman audio interaksi dalam kelas, (b) transkripsi interaksi dalam kelas, dan (c) temu bual lanjutan dengan pelajar. Didapati bahawa dalam ke dua-dua tahap gred, pelajar menggunakan B1 untuk persembahan aktif dalam kelas. B1 pelajar berkhidmat untuk pelbagai fungsi, dalam pertuturan sosial dan juga pertuturan persendirian mereka. Kajian mendapati bahawa penggunaan B1 oleh pelajar berbeza menurut tugas yang dilakukan. Pelajar Gred 9 menggunakan B1 mereka secara aktif dan lebih banyak menggunakannya dalam tugas berkaitan perkataan baru, dan untuk fungsi yang paling luas; yang sama juga adalah benar bagi pelajar Gred 12 dalam tugas bacaan mereka. B1 memupuk penglibatan yang lebih dalam tugas yang diberi dan memainkan peranan positif dalam proses kognitif pelajar. Juga kelihatan bahawa pelajar menggunakan B1 dengan cara yang berbeza

untuk menolong mereka. B1 didapati lebih menyokong bagi segelintir pelajar, oleh kerana cara mereka menggunakannya. Dalam keadaan tertentu, B1 memainkan peranan sebagai alat untuk membantu dan juga untuk membentuk konteks sosial yang selesa bagi pelajar. Ianya juga membantu peringatan mereka dan pengurusan pemikiran dan berperanan sebagai alat pemahaman, dan beraksi, antara lain, sebagai alat untuk mencantumkan informasi baharu dan lama. Instansi mediasi B1 yang tidak berhasil juga terdapat dan penyebab yang munasabah bagi keadaan tersebut dibincangkan. Implikasi kepada teori dan pedagogi B2 juga dibincangkan.

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## **Chapter 1 Introduction**

### **Changes in Pedagogical Perspectives in Using L1 in L2 Classroom**

Students' use of their first language (L1) in a foreign language (FL) classroom is a matter which has caused critical debates among researchers in the area of language teaching (Atkinson, 1987; Turnbull & Arnett, 2002). Stern (1992), states that this issue is one of the "most long-standing controversies" in the history of language pedagogy. Littlewood and Yu (2011) predicted that the issue would be debated for a long time to come. Scholars on one side of this debate contend that L1 should be used as a resource in second language acquisition (Antón & DiCamilla, 1999; Brooks & Donato, 1994; Cook, 2001; Ringbom, 1987). They also note that L1 serves both metacognitive and social functions in the SLA process (Antón & DiCamilla, 1999; Brooks & Donato, 1994; Swain & Lapkin, 1998). From this point of view, language is seen both as a tool for communication as well as a tool for thought.

By contrast, advocates of target language (TL) use maintain that L1 should be banned or restricted in the classroom in order to provide opportunities for maximal TL use (Duff & Polio, 1990; Fernández-García & Martínez-Arbeláiz, 2002; Mori, 2004; Polio & Duff, 1994). While researchers on this side of the debate agree that total L1 exclusion is not possible, they contend that the L1 must be avoided as much as possible. They believe that in order for learners to have opportunities to negotiate meaning, and to experience real communication using the TL, L1 should be avoided. L2 acquisition, according to Krashen and Terrell (1983), should be based on the use of the TL in communicative situations "without recourse to the use of the native language" (P: 9). According to the proponents of the TL only movement, L2 input can be made comprehensible to the learners by exclusively using simplified TL, contextualized cues, abundant cognates, and visuals (Macdonald, 1993). The

classroom is the only opportunity many FL learners have for exposure to the language; thus, according to advocates of TL only, it is essential to maximize the learners' exposure in the limited class time available.

On the contrary, Butzkamm (2011) argues that "classrooms can never provide enough exposure for the learners to sort out the many complexities of a language all by themselves". Butzkamm presents an argument that the mother tongue lays the cognitive foundations for all further language learning. Likewise, Cook (1999) supports the development of links between the languages, and suggests the use of L1 in presenting the meaning of a new word or grammatical structure, as well as the use of activities that deliberately involve both languages. The L1 can be "the single biggest danger" in the foreign language classroom (Atkinson, 1993a) if it threatens the primacy of the TL, or "the most important ally a foreign language can have if it is used systematically, selectively and in judicious doses" (Butzkamm, 2003).

The two extreme stances towards language teaching methods regarding L1 use in the FL classrooms have not ceased and these opposing positions continue to be debated. As Grim (2010) states, it has not reached a conclusive outcome. Levine (2003, p. 344) states that both stances usually base their assumptions and arguments mostly on "their intuitions about best practices, anecdotal evidence, and personal classroom experience". He believes that "whereas these nonempirical works are well-informed sources of information, they do not suffice in the face of the pedagogical and curricular ramifications of the issue". Stern (1992) proposes that the language teaching profession suffers from a fundamental lack of knowledge about how to take advantage of students' knowledge of L1 to advance the students' foreign language learning. In view of this ongoing controversy, this study intends to take up on Levine's (2003) and Stern's (1992) proposition that further studies investigating L1 use in learning L2 are

required. This study attempts to find out the learning conditions under which utilizing L1 facilitates the learning of L2.

### **Statement of the Problem**

Previous studies that have been conducted on the use of L1 in L2 teaching and learning focused on various aspects: pedagogical purposes or functions L1 serves in the L2 classroom (Atkinson, 1993a; Campa & Nassaji, 2009; Carless, 2008; Chang, 2009; Eldridge, 1996; Ferguson, 2003; Inbar-Lourie, 2010; Schweers, 1999; Sert, 2005; Sharma, 2006; Üstünel & Seedhouse, 2005); teachers' beliefs or learners' perspectives on the role of L1 use in the teaching of L2 (Anh, 2010; Bateman, 2008; Crawford, 2004; Lee, 2016; Levine, 2003; Macaro, 2001; Macaro & Lee, 2013; Nazary, 2008; Paker & Karaağaç, 2015; Schweers, 1999; Tang, 2002) and the amount of teacher use of L1 or TL in classroom (Crawford, 2004; Duff & Polio, 1990). These studies examine the different aspects of L1 use, and show that there is a role for L1 in teaching and learning L2. Although many studies concluded that L1 is a meaningful component that it has an impact on L2 learning, widespread agreement has not been reached on how, when and how much use of L1 are more beneficial for L2 learning.

Another line of research studies focused on the use of L1 involving specific language skills or sub-skills. These include studies on: grammar (Rell, 2005; Şimşek, 2010; Vaezi & Mirzaei, 2007); vocabulary (Celik, 2003; Latsanyphone & Bouangeune, 2009; Liu, 2009; Tian & Macaro, 2012); writing process (Kim, 2011; Liao, 2005; Myung-Hye, Yang-Sook, & Nara, 2013; Van Weijen, Van den Bergh, Rijlaarsdam, & Sanders, 2009); and reading comprehension (Seng & Hashim, 2006; Upton, 1997; Upton & Lee-Thompson, 2002). Studies dealing with reading comprehension reported instances that use of L1 facilitated the process of comprehending the L2 text; however, these studies investigated the role of L1 in L2

reading comprehension among ESL tertiary students and did not focus on high school EFL learners.

Understanding the role of native language in L2 reading comprehension is a crucial objective in the development of a theory of L2 reading (Kern, 1994). Earlier studies which investigated this phenomenon (Seng & Hashim, 2006; Upton, 1997; Upton & Lee-Thompson, 2002) looked at the while-reading phase, while this study does not restrict itself to a particular phase. Since comprehension begins prior to reading and extends into the discussions after the reading phase, it is important to see how the while-reading relates to the entire reading lesson. This study will take a holistic approach, as the orientation of the text takes place in pre-reading part and the process of actively engaging with a text does not end once one has completed the reading part. In an effort to advance research in the field, this study hopes to provide further insight into the role L1 plays in L2 reading by investigating the entire reading lesson in a classroom context.

Furthermore, most studies cited earlier were conducted in experimental or quasi-experimental settings and not in naturalistic social setting of classroom. Classroom research is ultimately extremely valuable for the field of second language research (MacKey & Gass, 2005). Researchers (e.g., Foster, 1998) have suggested that the same patterns which occurred in experimental laboratory may not occur in L2 classroom settings, thus the need to study L1 use in classroom interaction patterns in naturalistic classroom settings.

This study, by addressing the aforementioned gaps, hopes to shed some light on the role of L1 in L2 learning. As Levine (2014) argues, the issue of the roles of learners' L1 in language pedagogy and classroom interaction has not been settled yet, and requires further research. This study attempts to address the gaps and contribute

to the knowledge as to what extent reading lessons best proceed bilingually without endangering the primary status of the TL in EFL classroom contexts. This study hopes to further understand of this phenomenon by gaining insights from analysis of different sources of data. The study attempts to shed some light into the phenomenon of use of L1 in L2 by taking a ‘holistic approach’ and by providing a contextualized and qualitative picture of learners’ L1 use during reading lessons in the context of an Iranian school located in Kuala Lumpur, Malaysia.

### **Research Objectives**

The objectives of the study are as follows:

1. To identify the extent to which Grade 9 and Grade 12 Iranian learners use their L1 when interacting with their teacher and peers.
2. To investigate the functions which L1 serves in the learners’ intermental and intramental speech in EFL reading lessons.
3. To understand whether Grade 9 and Grade 12 Iranian learners’ use of L1 varies in different tasks.
4. To examine how Grade 9 and Grade 12 Iranian learners use their L1 during EFL reading lessons, and identify how learners’ use of L1 in their interactions mediates their own and their peers’ L2 reading comprehension and thinking process.

### **Research Questions**

Based on the objectives of this study, the following research questions guided the research on the learners’ use of Persian (L1) during English (L2) reading lessons naturally occurring in an L2 classroom:

1. To what extent do Grade 9 and Grade 12 Iranian learners use their L1 when interacting with the teacher and peers?

2. What functions does L1 serve in the Grade 9 and Grade 12 Iranian learners' intermental and intramental speech in an EFL reading class?
3. How do Grade 9 and Grade 12 Iranian learners' use of L1 vary in different tasks?
4. How do Grade 9 and Grade 12 Iranian learners use their L1 during an EFL reading class?

From the sociocultural point of view, it is crucial to consider not just whether and to what extent the first language should be used, but also the context in which L1 is used, and by whom. Together, the four research questions fulfil these criteria and help find out answers for them. Even though the research questions of this study are separate, they are not discrete from each other. The first research question of the study explores the extent to which Grade 9 and Grade 12 Iranian learners use their L1 and L2 when interacting with peers and the teacher. Then, the second research question looks at the functions which L1 served for the learners, in both their intermental and intramental speech during the classroom interactions. This helped shed light onto the reasons for which the learners used their L1. The findings from Research Question 1 and Research Question 2 are implemented to answer Research Question 3 and Research Question 4, and provided more context for answering the other research questions of the study. Research Question 3 used data from Research Questions 1 and 2, and analyzed whether the learners' use of L1 varied according to the task they were performing. This research question attempted to understand learners' intermental and intramental use of L1 while engaging in different reading tasks to understand how beneficial this is in their reading of the L2 text.

The last research question of the study then went on to look at how and in what way L1 was utilized by different learners in different situations and contexts. A

learner's first language can serve different functions depending on the purpose for which it is used and the way in which it is utilized by the speaker. This research question helped shed light on the reason why L1 tended to be more beneficial to some learners compared to others, or help clarify why it was more useful in certain contexts. According to Vygotsky, human activities take place in a cultural setting, and cannot be understood apart from these settings. Hence, the research questions of this study, together, helped to understand the relationship between the L1 use of the learners and the setting and situations which affected the extent of their L1 use, and the way L1 was utilized by them.

### **Theoretical Framework of the Study**

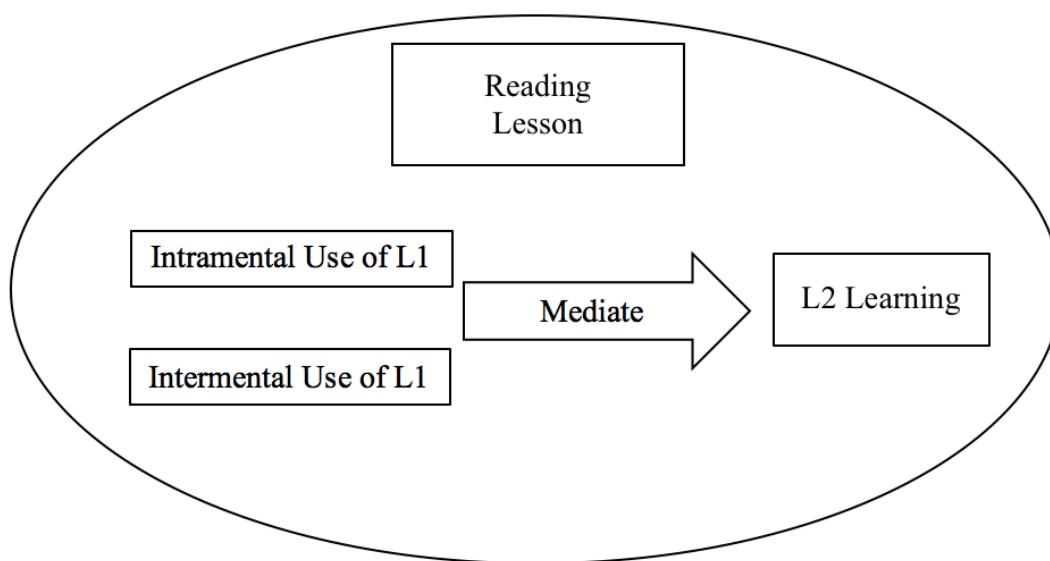
The present study draws on the sociocultural perspectives of learning. Lantolf's sociocultural theory of second language learning (SCT-L2) is used to guide the research. Language development and use play a central role in this theory. The sociocultural theory was originally conceived of by Vygotsky. While much of the framework for SCT is put forth by Vygotsky, extensions, elaborations, and refinements of it have been done by other scholars (e.g., Lantolf, Wertsch). Lantolf (2000; 2006) extends Vygotsky's ideas specifically in to the field of second language learning and promotes sociocultural framework's application in SLA which are relevant to the present study. As Lantolf (2006) states, Vygotsky-inspired theory offers a framework through which cognition can be systematically investigated without isolating it from social context. Lantolf (2004) explains, despite the label "sociocultural" the theory is not a theory of the social or of the cultural aspects of human existence. ... it is, rather, ... a theory of mind ... that recognizes the central role that social relationships and culturally constructed artifacts play in organizing uniquely human forms of thinking' (p.30).

Sociocultural Theory is fundamentally concerned with understanding the development of cognitive processes which are influenced and developed through engagement in social activity. A main premise of a sociocultural theory of mind is that cognitive functions are mediated mental activities, the sources of which are activities external to the learner but in which he or she participates. From this point of view, any higher mental function was social at some point before becoming an internal mental function. In this theory, language is a semiotic tool that mediates thinking and learning. Evidence of development, from the perspective of sociocultural theory, is not limited to the actual linguistic performance of the learners, but it might be the frequency and quality of assistance needed by a learner in order to perform in the new language (Lantolf & Thorne, 2007). In the process of learning L2, the assistance can be provided by the learners' L1, and thus, the frequency and quality of learners' use of L1 in L2 reading can indicate the learner's L2 development. This study aims to investigate this phenomenon.

From among the specific concepts with which the theory operates, this study will address the concept of mediation. As discussed by Lantolf and Thorne (2007), L2 users have difficulty using the new language to mediate their cognitive activity and their L1 meanings continue to have a pervasive effect in their L2 learning. Skills and competencies acquired through their L1 mediate their mental functioning. Use of L1 is a common feature of foreign language classrooms where students share the first language. Since Lantolf's framework acknowledges a role for learner's L1 in L2 learning it is compatible with the state of EFL classrooms and thus with the state of this study. According to Lantolf, language is a mediational tool in higher order mental processing such as problem solving, meaning making, and reasoning. As Lantolf and Thorne (2007) argue, social speech produced either in the L1 or the L2 impacts on L2



learning. According to this perspective learners must necessarily rely on first language in order to mediate their learning of L2. In other words L1 is used for different constructive purposes and serves important cognitive and social functions. Therefore, through this perspective, the learners' use of their language resources and the quality of mediation of L1 while trying to comprehend L2 text can be studied.



*Figure 1.1* Theoretical framework based on the theory of language and thought and SCT (Vygotsky, 1978; Lantolf, 2000)

Mediation is the central construct of the Sociocultural Theory. One form of mediation is regulation. As Lantolf (2000) states, individuals move through stages in which they are controlled first by the objects in their environment, then by others in this environment, and finally they gain control over their social and cognitive activities. These stages are referred to as object-, other-, and self-regulation. In classroom, according to Lantolf and Thorne (2006), language mediates not only learner's relationship with peers or the teacher but also her/his mental activity. In other words, language is used to serve the purpose of inner or private speech. Through this

lens the researcher intends to investigate how L2 readers utilize their L1, the higher level cultural tool, in their comprehension of L2 and in the learning of the new language.

This study intends to investigate EFL learners' use of L1 to understand how the high school learners use L1 while engaging in interaction and discussions around English L2 texts in the context of classroom setting. Hence, this framework which acknowledges an important role for the learners L1 provides the appropriate lens to investigate the proposed research questions of the study.

### **Significance of the Study**

The focus of this study is on gaining insights on how learners use their L1 in reading L2 texts. It is hoped that this study has made a contribution to the body of research on this topic. The findings of this study will be of significance on both pedagogical and theoretical aspects of use of L1 in reading of L2 texts.

There is a wide range of opinions on the judicious amount of L1 use in the L2 classroom. The classroom reading event has not been thoroughly investigated (Bernhardt, 1998), and theory and practice could gain much from research that explores how second language learning happens within the reality of the classroom. By presenting empirical evidence, this study will contribute toward bridging the gap and showing how and when learners' use of L1 can be useful in reading comprehension of L2 texts and learning of L2. This study will result in a more realistic analysis of L2 learning compared to research carried out in a laboratory-setting, and allows for a better understanding of how L1 use in a real classroom influences L2 learning.

Another contribution of this study is that it is an investigation of a reading lesson experience in its entirety, from pre-reading to post-reading. The findings of this study contribute to the knowledge around the debate of whether, and to what extent,

reading comprehension instruction best proceeds bilingually without endangering the primary status of the TL in EFL contexts.

The findings of this study will contribute to the body of research on teaching and learning of second language reading. The findings may also help the learners understand the role and functions of their use of L1 in reading L2 texts, and thus, enable them to monitor and evaluate their own use of L1. Additionally, exploring the role of learner's L1 in second language reading provides insight for reading comprehension teachers, and hence, the implications of this study will be significant for teacher education, and can also be useful for material writers as well as course designers too.

In terms of theoretical significance, the findings of this study could be important in how utilizing knowledge of L1 might contribute to the L2 reading process. It could shed light on how L1 acts as a resource and regulates learner's cognition and enables them to move to higher levels.

### **Definition of the Key Terms**

Reading lesson. In general, reading comprehension lessons are designed so that students learn to actively construct meaning when reading passages. A reading comprehension lesson in this study is a lesson that primarily focuses on reading as well as tasks or activities related to the reading part of the lessons in the learners' textbooks. This study will follow a one-semester design to investigate the learner's use of their L1 in reading comprehension of L2 texts. The study will not focus on the whole program, which is two semesters long. Instead, it will only look at the duration of one semester, which for twelfth graders includes four lessons of the textbook, and for Grade 9 students includes five lessons of the textbook. For Grade 12 participants of the study, the lessons are based on the textbook of a course that looks at learning to

read (see chapter 3). A lesson in the English text books of Iranian schools focuses primarily on reading comprehension, although sub-skills such as vocabulary and grammar may also be incorporated. The vocabulary is directly related to the reading passage, and hence it will be included in the investigation. The grammar however, is not directly related to the passage and will not be included in the study.

L2. In this study, the terms L2 and FL are used synonymously to refer to English as a foreign language. However, when talking about the previous literature, the specific term used by the authors of each study was used to refer to them.

Mediation. This refers to the creation of an indirect relationship between the mind and the world. “The concept of mediation emphasizes the role played by human and symbolic intermediaries placed between the individual learner and the material to be learned” (Kozulin, Gindis, Ageyev, & Miller, 2003).

L1 mediation. L1 acts as a cognitive and social tool that mediates the development of higher mental functions.

ZPD. The distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers (Vygotsky, 1978, p. 86).

Inter-and Intrapsychological. Vygotsky emphasizes the importance of sociocultural forces in shaping the situation of a child’s development. Any psychological function appears twice “first on the social plane, and then on the psychological plane” (Vygotsky, 1981, p. 163). Thus according to (Vygotsky, 1978, p. 57) Vygotsky :

“every function in the child’s cultural development appears twice: first, on the social level, and later, on the individual level; first, between people (interpsychological) and then inside the child (intrapsychological). This applies equally to voluntary attention, to

logical memory, and to the formation of concepts. All the higher functions originate as actual relationships between individuals.”

Private speech. It is audible speech not directed at others. The self-directed speech, in which we ask ourselves questions, answer these questions, tell ourselves to interrupt a particular activity, ... , is generally referred to as private speech, that is, “speech that has social origins in the speech of others but that takes on a private or cognitive function” (Lantolf, 2000, p. 15).

## **Chapter 2 Review of Literature**

### **Introduction**

This chapter reviews theoretical and empirical literature regarding students' use of the target (TL) and first (L1) languages in second (SL) and foreign (FL) language classrooms. It is divided into eight sections. The first section reviews the debate on use of L1 in SL/FL teaching and learning. The second section gives a review on Vygotsky's sociocultural theory (SCT). This is followed by learners' use of L1 in some language teaching methods. The fourth section addresses the reading process, and also includes the three phases of the reading comprehension process, as well as takes a look at the reading processes in L1 and L2. The fifth and sixth sections are the review on the use of L1 in L2 reading comprehension processes and L1 use as a reading strategy, respectively. The next segment looks at classroom interaction and reviews use of L1 based on evidence from studies on sociocultural theory. And lastly, studies investigating attitudes toward use of L1 in second language learning are reviewed.

### **Debate on Use of L1 in SL/FL Learning**

Stern (1992) proposes that the language teaching profession suffers from a fundamental lack of knowledge about how to take advantage of students' knowledge of English (L1) to advance the students' foreign language learning. Use of the students' first language (L1) in a foreign language (FL) classroom is an issue which has drawn critical debates among researchers in the area of language teaching (Atkinson, 1987; Turnball & Arnett, 2002) and has not reached a conclusive outcome (Grim, 2010). Stern (1992) states that "it is one of the most long-standing controversies in the history of language pedagogy." And as Littlewood and Yu (2011) predict, "the issue will long remain a focus of debate." On one side of the debate is the contention that L1 should be used as a resource in second language acquisition (Antón & DiCamilla, 1999;

Brooks & Donato, 1994; Cook, 2001; Ringbom, 1987). Researchers on this side of the debate also assert that L1 serves both metacognitive and social functions in the SLA process (Antón & DiCamilla, 1999; Brooks & Donato, 1994; Swain & Lapkin, 1998). From this perspective, language is seen not only as a tool for communication, but as a tool for thought as well.

On the other side of the debate, researchers assert that L1 should be banned or restricted in the classroom in order to provide opportunities for maximal TL use (Duff & Polio, 1990; Fernández-García & Martínez-Arbelaiz, 2002; Mori, 2004; Polio & Duff, 1994). While researchers on this side of the debate agree that total L1 exclusion is not possible, they contend that L1 must be avoided as much as possible in order to create opportunities for learners to negotiate meaning, and to experience genuine communication using the TL. It is argued that TL conversation can support and encourage these kinds of opportunities which set the stage for language learning to occur (Gass, 2003). FL acquisition, according to Krashen & Terrell (1983), should be based on the use of the TL in communicative situations “without recourse to the use of the native language” (p.9). Classroom is the only opportunity FL learners have for exposure to the language; thus, according to advocates of TL only, it is essential to maximize the learners’ exposure in the limited class time available. On the contrary, Butzkamm (2011), who has been a strong advocate for the value of the L1 in L2, argues that “classrooms can never provide enough exposure for the learners to sort out the many complexities of a language all by themselves.” Mere exposure to the FL cannot lead to learning, as Butzkamm argues, simply because there’s never enough of it. Chavez (2016) also supports this argument. This study, prompted by the assumption that L1 use subtracts from L2 use, focused on L1 use by students and teachers. However, Chavez concludes that this assumption is problematic, and that the real

question should be how L2 use can be maximized.

The anti-L1 attitude was clearly a mainstream element in twentieth century language teaching methodology. The learners' L1 was to be avoided at all costs, as it was seen as a major obstacle to L2 acquisition. In the Grammar Translation Method era, most classroom activities consisted of translation exercises, detailed analysis of written texts, and comparison between the L1 and the L2. Classes were conducted in the learners L1 with minimal use of the target language. In contrast, Direct Method sought to develop communication skills naturally by mirroring first language acquisition. This was to be accomplished through large doses of comprehensible input, inductive grammar lessons, and strictly forbidding any use of the first language in the L2 classroom by teacher or student. Similarly, in the Audio Lingual Method, classroom lessons were conducted exclusively in the TL, which was fostered to promote "good habit formation" and neither the teacher nor the student is allowed to use the L1 at any time. However, Stern (1992) argues that pedagogy has moved away from the concept of fixed methods and suggests that use of a cross-lingual strategy which uses L1 as points of comparison or reference should be reconsidered.

The L1 can be "the single biggest danger" in the foreign language classroom (Atkinson, 1993a) if it threatens the primacy of the TL or "the most important ally a foreign language can have if it is used systematically, selectively and in judicious doses" (Butzkamm, 2003). The debate over whether learners' L1 should be included or excluded in language classroom has been an issue of contention for decades. Macaro (2001) suggests that educationalists and practitioners should avoid strong claims for the effectiveness of the L2 exclusivity in classrooms where learners share the same L1. As he notes, no study so far has been able to demonstrate a causal relationship between exclusion of the L1 and improved learning. And Cook (2001)



played an important role in reviving the debate. Cook contends that L2 exclusivity could only be achieved in circumstances where the teacher does not speak the student's L1 and the students have different L1s.

Cook (2001) discusses that the issue of the L1 use is relevant to all foreign language teaching. He suggests that "it is time to open a door that has been firmly shut in language teaching for over a hundred years, namely the systematic use of the L1 in the classroom." The L2 only doctrine, according to Cook, has idealized the concept of being a native speaker in language teaching. He further argues that the attention in language learning should be shifted from the native speaker to the language learner and L1 should be recognized as a valuable resource in the classroom. He notes that use of L1 along with the TL may help achieve the aim of producing 'genuine L2 users', in that L2 users do not develop competencies identical to those of native speakers. The aim of language teaching should not be to produce 'imitators' of native speakers but 'mediators' between the L1 and the TL. According to him, L1 and L2 coexist collaboratively in the learners' mind, and he states that L2 learners should be viewed as multicompetent language users rather than as deficient L2 users compared to native speakers. Cook (1999) supports the development of links between the languages, and suggests the use of L1 in presenting the meaning of a new word or grammatical structure, as well as the use of activities that deliberately involve both languages. Likewise, Butzkamm (2011) presents an argument that "the mother tongue lays the cognitive foundations for all subsequent language learning."

Levine (2003) states that both sides of this debate often base their assumptions and arguments largely on intuitions about best practices, anecdotal evidence, and personal classroom experience. He believes that "whereas these non-empirical works

are well-informed sources of information, they do not suffice in the face of the pedagogical and curricular ramifications of the issue” (p. 344).

According to Cummins (2007), regardless of the ongoing academic debate on the phenomenon of L1 use in L2 learning, “policy and practice operate as though the ‘monolingual principle’ had been established as axiomatic and essentially ‘common sense’”. Cummins presents an argument to reconsider solely relying on monolingual instructional strategies in second/foreign language teaching and discusses that students’ L1 does not hinder high levels of L2 development. He argues that, instead, when the students’ L1 is used cognitively as a linguistic resource in bilingual instruction, it can function as “a stepping stone to scaffold more accomplished performance in the L2”. Cummins promotes examination of the basic tenets of language learning and teaching in light of new insights in cognitive psychology and applied linguistics. Cummins identifies and discusses the assumptions of direct method, no translation, and two solitudes, and concludes that these assumptions are problematic because, in their strong forms, there is no empirical data to support them, and they are not compatible with the tenets of the bi- and multilingual mind. Cummins argues the role of learners’ L1 in bilingual or immersion programs. In reality, according to Cummins, students are making cross-linguistic connections in their learning process in a bilingual or immersion program. He further suggests nurturing this learning strategy and helping students apply it more efficiently.

In spite of strong recommendations from the realms of principles and policy, as Littlewood and Yu (2011) noted, many observational studies and surveys of classroom practice offer a different picture. There has been a gradual shift from the positive viewing of L2 use only as “the normal means of communication”, to utilizing a principled amount of the learners’ L1. This simply reflects the reality of classroom

life, as the former option was not efficient in practice. Nation (2003) has come up with an approach he has called a “Balanced Approach”. He argues that teachers should respect and appreciate learners' L1, and avoid making L1 seem inferior to English (L2). Yet, according to Nation, it is an English teacher's job to help learners develop their L2 proficiency. A balanced approach is required as it sees a role for the learners' L1, but at the same time recognizes the values of maximizing L2 use in the classroom. Hall and Cook (2012), in their review of this phenomenon, have outlined how the changing attitude surrounding English language teaching has resulted in increased acceptance of utilizing L1 in the new language classroom. As they argue, now that discussing bilingual teaching in classrooms is no longer taboo, it is time to move toward new methods in both language teaching and learning. Hence, this merits more research into the topic.

Concerns about TL or L1 use relate to both teacher and students use. The empirical studies on the use of L1 in L2 teaching and learning investigate several languages (for example: English, French, German, Spanish) both as foreign language and second language, as well as participants of different age groups and a number of proficiency groups. The studies were carried out in numerous locations (such as China, UK, Iran, Korea, Australia and the United States), and mostly covered teachers' use of L1 in L2 classroom or teachers' and learners' attitudes towards teacher use of L1. Theory and practice could gain much from research that explores how second language acquisition happens within the reality of the classroom. However, learners' use of L1 in L2 reading comprehension lessons is underrepresented in the literature.

In a study, Carless (2008) investigated student use of the mother tongue in the setting of Hong Kong and argued that L1 use seemed to be a humanistic and learner-centred strategy with potential to support student learning, but at the same time

involving a risk of failing to encourage TL practice and communication. The teacher and teacher educators who were participants in this study expressed a preference for TL use; however, they acknowledged that in order to maintain students' attention, interest or involvement contributions in the mother tongue needed to be permitted. Carless concludes that the kind of activities carried out in class impact on the extent to which students are likely to use the TL or L1. Hence, he points out the need for more recognition, reporting, and theorizing of how mother tongue can be a positive resource in the task-based classroom. However, Ellis (2009a), in response to L2 Korean teachers in university of Anaheim, noted that if L1 has to be used a lot in an activity, the activity is probably wrong. He suggested that the teachers should plan the activities in a way in which L1 is used as little as possible. Ellis (2009b) suggested a number of principles in the implementation of Task Based Language Teaching (TBLT). One of these principles states that in task based language teaching, the tasks must be tailored to the proficiency level of the learners. He argues that this helps ameliorate the wide use of the students' L1 use in their classroom interactions which was reported in some studies implementing TBLT.

Some studies have quantified teachers' and learners' use of first language and the target language (TL) in classrooms. Results from these investigations show differences in frequency of L1 use across institutional contexts (Crawford, 2004; Duff & Polio, 1990; Macaro, 2001; Rolin-Ianziti & Brownlie, 2002). Focusing on the quantity of the L1 use alone does not seem to lead to a conclusion on whether L1 use has a value in FL/SL classroom. Thus researches have gone further into investigating what role use of the L1 plays in an L2 classroom.

## **Vygotsky's Sociocultural Theory**

The sociocultural theory is fundamentally concerned with understanding the development of cognitive processes which are influenced and developed through engagement in social activity. The sociocultural theory was originally developed by the Russian psychologist Lev Vygotsky. It is a combination of his earlier theories (1978; 1981), as well as his later views on the social formation of the mind. The SCT is not specifically related to L1 or L2 learning, but rather to how language functions in an individual's learning and development.

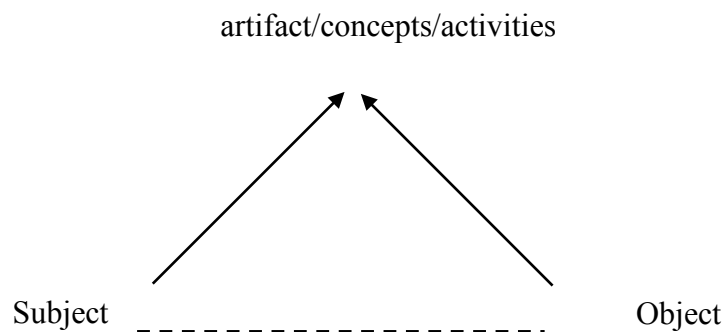
Vygotsky's theory was applied to second language acquisition by Lantolf (2000) and has shown how sociocultural theory can throw light on the processes which take place in second or foreign language classrooms. There is great interest in Vygotsky's sociocultural theory and ideas, and as Lantolf states, they have become an accepted part of the research landscape. SCT, as Lantolf states, is a cognitive theory, and argues that the source of cognition is social activity. There is an inseparable connection between individuals and their social circumstances. This connection is the source of thinking. According to Vygotsky:

“every function in the child's cultural development appears twice: first, on the social level, and later, on the individual level; first, between people (interpsychological) and then inside the child (intrapsychological). This applies equally to voluntary attention, to logical memory, and to the formation of concepts. All the higher functions originate as actual relationships between individuals (Vygotsky1978, p. 57).”

Vygotsky argues that the individual development originates in interpersonal activities. From the sociocultural perspective, interaction is the source of human development. According to Vygotsky's theory, learning is development that transitions from intermental activities to intramental activities. Learning a second language is a semiotic process that results from taking part in socially mediated

activities. From the Vygotskian perspective, higher mental functions (e.g., reasoning, voluntary attention) have origin in social activities.

**Mediation.** The core concept of SCT is that the human mind is mediated. According to Vygotsky higher forms of mental activity in humans, including planning, voluntary attention, intentional memory, and learning are mediated by symbolic artifacts.



*Figure 2.1* Graphic representation of Vygotsky's model of artifact mediation

According to Vygotsky's view, just as humans rely on tools and labor to affect and act on the physical world, we also rely on semiotic tools in order to carry out, regulate, and change relationships with ourselves and with others (Lantolf, 2000).

As with physical tools, symbolic artifacts establish an indirect or mediated relationship between ourselves and the world. Vygotsky conceived of the human mind as a functional system in which the capacities of the natural, or biologically specified, brain are organized into a higher or culturally shaped mind through the integration of symbolic artifacts into thinking: "The cultural development of any function consists of a person's developing a series of artificial stimuli and signs in the process of mutual living and activity" (Vygotsky, 1997). According to Vygotsky, not only does language permit humans to interact symbolically with other humans, but as consequence of this

interaction, they develop the ability to gain control over and regulate their own thinking process. Thus, the human speaking, or any symbolic activity, is always linked to practical activity. According to Vygotsky, the distinctive dimension of human consciousness is its capacity for voluntary control through the use of higher level cultural tools which act to mediate the relationship between the individual and the social material world.

**Internalization and private speech.** The process that Vygotsky proposed for connecting the symbolically mediated activity of humans in the material world with their mental activity is internalization. In other words, internalization is the process through which the specifically human forms of thinking are created. It refers to the subject's ability to perform certain action, concrete or ideal, that is derived from someone else's thoughts of understandings.

Private speech is a transition phase to make social speech become inner speech; it is part of the internalization process. It can be said that private speech is a semiotic tool which mediates both thinking as well as learning. Most scholars are in agreement that private speech may serve both social and private functions in collaborative interaction. As with social talk, self-talk is dialogic, but instead of an "I" talking to a "You", private speech entails an "I" that makes choices on what to talk about and a "Me" that interprets and critiques these choices. Vygotsky theorized that because private speech derived from social speech is the precursor to inner speech, mental development can be studied through analysis of private speech. Through the study of private speech, it is possible to observe human mental activity as it is being formed in situated practical activity. Lantolf (2000) states that in L2 learning, self-directed speech acts as not only a means to mediate mental functioning in complex cognitive

tasks, but it also serves to facilitate the internalization of mental functions. According to Lantolf, language learning will probably not occur without private speech.

**Zone of proximal development (ZPD).** The site where social forms of mediation develop is the zone of proximal development. According to Vygotsky, all higher mental abilities appear twice in the life of the individual: first, on the intermental plane in which the process is distributed between the individual, some other person and/or cultural artifacts, and later on the intramental plane, in which the capacity is carried out by the individual acting via psychological mediation. ZPD is a metaphor for observing and understanding how mediational means are appropriated and internalized. It is the difference between what a person can achieve when acting alone and what the same person can accomplish when acting with support from someone else or cultural artifacts. According to SCT-L2, people working jointly are able to co-construct contexts in which expertise emerges as a feature of the group. The ZPD is then more appropriately conceived of as the collaborative construction of opportunities for individuals to develop their mental abilities.

Sociocultural theory has attracted a considerable amount of attention within the field of SLA, as well as other fields associated with education. Since the emergence of the sociocultural theory, there has appeared a gradual shift in the earlier perspectives on language learning toward a more social understanding of learning. According to SCT, language is not only the central cultural tool to promote communicative development but also the key mediator in mental functioning. Speech plays a crucial role in both social activities that shape learners' higher mental functions, and in their internalization process. In learner interaction studies, L2 development is not an individual issue, rather, the learners' participation in different classroom tasks and activities. For development to take place, transition from the interpersonal (social)



plane to the intrapersonal (psychological) plane needs to occur. For SCT, communication in social interactions is the origin of conceptualization in personal intra-action. However, As Negueruela-Azarola, García, and Buescher (2015) argue , “only significant interaction, and not just any type of interaction, leads to intra-action or new conceptualizations.”

### **Language Teaching Methods and Learners’ Use of L1**

Different approaches and methods view the role of the learners’ L1 in the L2 classroom quite distinctly. L1 use has been a controversial issue and has resulted in two main streams of thought. Some clearly warn against its use, while others promote it. The perspective on the role of L1 use ranges from it being a hindrance to an aid. Among the many methods, the grammar translation method (GTM) is extreme towards one end of the pendulum and the direct method is an extreme towards the other end. These two methods attracted much attention in the history of language teaching. Another method which promotes the teaching of L2 without reference to L1 is the audio lingual method (ALM). GTM and the ALM are also pervasively used in the Iranian context and hence are discussed below respectively.

**The grammar translation method.** An important goal in using grammar translation method (GTM) is for students to be able to translate each language into the other. It states that if students can translate from one language into another, they are considered successful language learners. Grammar translation method emphasized rule explanation, rule knowledge, rule memorization, and written accuracy. The language that is used in class is mostly the students’ native language. "Much of the class time is devoted to talking about the language; virtually no time is spent talking in the language" (Hadley & Reiken, 1993, p. 90). Detailed analysis of written texts, and comparison between the native language (L1) and the second language (L2) are

used. Learning is facilitated through attention to similarities between the target language and the native language. The meaning of the target language is made clear by translating it into the students' native language. However, the grammar translation method was not very effective in preparing students to use the target language communicatively, and the direct method became popular.

**The direct method.** In the early 20th century direct method challenged the grammar translation practices and established new orientations for foreign language (FL) teaching. The direct method has one very basic rule. No translation is allowed. The direct method receives its name from the fact that meaning is to be connected directly with the target language, without going through the process of translating into the students' native language. With the direct method, oral skills acquisition became the prominent goal of language instruction. Emphasis was placed on conversation, comprehension, and accurate pronunciation. Direct method sought to develop communication skills naturally by mirroring first language acquisition. Classroom activities were conducted exclusively in the TL. Any use of the first language in the L2 classroom by the teacher or students was strictly forbidden. Proponents of the direct method cite the extensive use of contextualized and meaningful input while critics claim that "strict adherence to the direct method principles was often counterproductive" (Richards & Rodgers, 2001, p. 13). This was because teachers were required to go to great lengths to avoid using the native language, when sometimes a simple, brief explanation in the student's native language would have been a more efficient route to comprehension.

**The audio lingual method.** The audio lingual method was developed in the United States during World War II. At that time there was a need for people to learn foreign languages rapidly for military purposes. The grammar translation method did

not prepare people to use the target language. As Larsen-Freeman (2008) stated, there were at the time exciting new ideas about language and learning emanating from the disciplines of descriptive linguistics and behavioral psychology. These ideas lead to the development of the audio lingual method. According to this method, the native language and the target language should be kept apart so that the students' native language interferes as little as possible with the students' attempts to acquire the target language. It was believed that 'the native language should be banned from the classroom; a "cultural island" should be maintained ... [in which you] teach the L2 without reference to L1' (Hadley & Reiken, 1993, p. 96). Language learning was viewed as a set of learned habits to be internalized through practice and reinforcement. The habits of the students' native language are thought to interfere with the students' attempts to master the target language. Therefore, the target language is used in the classroom, and not the students' native language. The major challenge of foreign language teaching is getting students to overcome the habits of their native language. Similar to the direct method, audiolingual classes were conducted exclusively in the TL, which was fostered to promote "good habit formation." The learner's L1 was to be avoided at all cost, and simply, neither the teacher nor the student should use the L1 at any time in the ALM classroom. A contrastive analysis between the students' native language and the target language will reveal where a teacher should expect the most interference.

### **The Reading Process**

Reading is perhaps the most thoroughly studied and least understood process in education (Clarke, 1980). LaBerge and Samuels (1974) viewed reading as a two stage process, comprising decoding and comprehension. They argue that a reader's limited attention capacity cannot be focused on the higher order comprehension task

unless decoding is largely automatic. Reading comprehension is an essential part of the reading process. Reading comprehension is viewed as a function of writer reader contract. Tierney and LaZansky (1980) use the notion of 'contract' and consider text production and comprehension as outcomes of interactive processing that is instructionally significant. They argue that there exists a contract governing the role of writers during discourse production and readers during discourse comprehension. Nystrand (1986) defines reading comprehension as a dialogic exchange of meaning or transformation of mutual knowledge between writer and reader mediated by the text . Goodman situates reading within the broader context of communicative, meaning seeking, information processing. He further highlights both the psycholinguistic aspects of reading, as well as the sociolinguistic aspects of reading. He argues that reading is a psycholinguistic process that starts with a linguistic surface representation encoded by a writer and ends with meaning which a reader constructs. There is thus an essential interaction between language and thought in reading. The writer encodes thought as language and the reader decodes language to thought.

Reading constitutes a major part of schooling. For many students, reading is by far the most important of the four skills. Without solid L2 reading proficiency, second language readers cannot perform at levels needed in order to succeed. Textbooks, reference books, and periodical articles are examples of written texts and sources of new knowledge for students. A foreign language reader aims to extract information (fact, opinion, etc.) from the text, but as Akbari and Tahririan (2009) study shows, many Iranian students usually enter the university with a below the average level of English language proficiency, and thus many of them have difficulty understanding and acquiring knowledge from these texts effectively and efficiently (Mahdavi-Zafarghandi & Jahandideh, 2006; Seifouri & Dehnad, 1996). This problem

is often more pronounced for students reading in a foreign language, despite the importance of it for those with a need for English for academic purposes.

Professionals in second language education try to understand the complex nature of L2 reading and are concerned with approaches that can improve the reading skills of L2 learners. Second language reading is an active process in which the second language reader is an active information processor who predicts while sampling parts of the actual text (Clarke, 1980; Widdowson, 1983). In order to understand this process, it is necessary to consider the reader's language resources and its significant role. The actual act of using a first literacy was not really included in the array of research variables surrounding second language text processing until the mid-90s. In the late 1990s, discussions of second language reading focused on the impact of first language literacy knowledge on the learning and on the use of second language (Bernhardt, 2005).

Bernhardt (2005) argues that there are very visible differences between L1 and L2 reading that have an impact on understanding, perception, processing speed, and on success. One of the most fundamental and self-evident differences between literacy in a first and second language, as Kern (1994) tried to indicate as a gap in the field, is that the reader of a second language has two languages at his or her disposal rather than just one.

**The three phases of the reading process.** In reading research, attempts have been made to uncover the fundamental processes that are involved in the understanding of text (van Dijk & Kintsch, 1983). The processing activities of reading lessons in a classroom could follow the same phases as an individual reader's reading processes. First, a pre-reading phase in which the orientation of the text takes place (e.g., browsing through the text); second, a reading phase in which the text is actually

processed (e.g., reconstructing the text by drawing inferences), and a post reading phase in which the reader reviews and evaluates the text. However, readers may vary in the extent to which they display these processes.

Pre-reading activities vary according to different approaches of reading. In a product approach to reading, which assumes meaning exists in the text itself, pre-reading activities rely mostly on clarifying the meaning of difficult words or complex structures. Whereas, for process oriented approach to reading, meaning is obtained through a successful interaction between the reader and the text, and it is inside-the-head factors that play an important role in comprehension. Accordingly, background knowledge will be of primary importance for L2 readers, and schema-based pre-reading activities should be used for activating and constructing such background knowledge. Researchers have advocated the use of pre-reading exercises to activate appropriate background knowledge, thereby facilitating the reading process (Bernhardt, 1986; Hadley & Reiken, 1993; Hansen, 1981; Pearson-Casanave, 1984).

Following the findings of schema theory, interactive models of reading suggest that readers reconstruct the text information based on the text and on the prior knowledge available to them. This stresses the relevance of readers' prior knowledge for comprehension of texts. Accordingly, researchers have emphasized the need for schema activation before reading. Moreover, if students lack the appropriate schemata, they should be given to them (Barnett, 1989; Carrell, 1988). These are, in fact, the two main functions of pre-reading activities, which seek students' involvement, interest, and motivation, as well as providing language preparation. Basically, they are a means of incorporating the learners' knowledge of the world, linguistic knowledge, ideas and opinions, before checking them against the text. At the same time, they generate vocabulary related to the text topic, thus aiding vocabulary development.

Readers in a second language are at a disadvantage because their predicting abilities are impaired by imperfect knowledge of the linguistic code and of the cultural context. L2 readers attempt to provide schemata to make sense of texts; however, as Carrell and Eisterhold (1983) discuss, these efforts will fail if the reader cannot access the appropriate existing schemata, or if the reader does not possess the appropriate schemata necessary to understand a text. They maintain that the L2 teacher can minimize reading difficulty and maximize comprehension by providing relevant information. This can be achieved by allowing the learners to do pre-reading exercises and by teaching them how to build bridges between existing knowledge and new knowledge.

Pre-reading activities such as title discussion and vocabulary training have been shown to be effective in decreasing oral reading errors and increasing reading rate and comprehension across a range of reading levels (Tang & Moore, 1992). Pre-reading activities can help low and intermediate ESL readers to trigger and build background knowledge (Hudson, 1982), to bypass, in part, their syntactic deficiencies, and to begin interacting more successfully. However, as Ajideh (2003) discusses, pre-reading activities may not only make up for a second language reader's linguistic or sociocultural inadequacies; but they may also remind the reader of what it is that they do, that is, activating an existing schematic knowledge.

Some learners are not able to grasp a proper and satisfactory interpretation of a text, despite understanding both the vocabulary and the sentence structure of the paragraphs. It has been found that many students rely too much on bottom-up processing of individual words and analyzing sentence structures, but do not apply top-down processing in order to get an overall view of the text (Chia, 2001). Chia argues that previewing as a pre-reading activity aids the readers in predicting or

making educated guesses in interpreting the text. This, then, will activate effective top-down processing for reading comprehension. The title, photographs, illustrations, or subtitles in a text are usually closely connected to the content and the author's ideas, thus, students can make predictions about the content of the text based on any of them.

Pre-reading stage requires a range of topic-related vocabulary and adequate competence (Williams, 1987). Williams argues that a problem that may occur in pre reading is that some learners lack the required vocabulary or are not competent enough to produce correct sentences to reflect their ideas to generate statements and questions about the topic. Due to the students' lack of L2 proficiency, many EFL teachers might neglect the pre-reading procedure or discussion around the text, despite its importance, in an effort to avoid the learners' use of L1 in their interactions. Brown's (2001) discussion on group work also points out that teachers are often reluctant to use L1 in class because they feel that students will covertly use their native language. Williams further argues that another problem that may occur is teacher related problem. Teachers may be faced with unpredictable language demands, particularly in vocabulary. This can be a source of stress to some non-native teachers who are not fluent bilingual teachers. In these circumstances use of the learners' L1 will give priority to idea development for activating and developing background knowledge and motivates learners to participate. Similarly, Taglieber, Johnson, and Yarbrough (1988) state that pre-reading activities are motivational devices. According to Taglieber, et. al. the student participants in their study appreciated pre-reading activities before reading a passage and suggested that these activities made reading more enjoyable to them and encouraged more reading.

The main goals of the while-reading phase are linguistic development, strategy and skill practice, as well as helping learners to understand the writer's purpose, the



text structure and content. Several techniques help to achieve these goals, e.g., pre-text questions, which present learners with learning objectives before they read a text, and comprehension questions, which are the typical while-reading activity. Three main types of comprehension questions can be distinguished: (a) direct reference questions, which mainly practise language, rather than aid comprehension, since sometimes they can be answered without understanding the text; (b) indirect reference questions, usually employed to recognize text cohesion, where the reader has to identify in the text the words a pronoun refers to; and (c) inference questions, which require an understanding of vocabulary, and make the reader think about the text; as a result, they can help both to check comprehension and to develop it.

The post-reading phase helps learners consolidate what they have read and, at the same time, aims to relate the text to the learners' experience, knowledge, and opinions. To achieve these objectives, Barnett (1989) has proposed different activities, which contribute to the integration of reading with the other language skills, and which resemble 'real' activities performed by native readers, such as listing facts, summarizing, describing or providing information, as well as discussions, and writing compositions, new versions, or endings. In the post reading phase, the students are assigned tasks which consolidate their prior knowledge of the topic with information acquired from the text.

Post-reading activities give students the opportunity to review, summarize, and react to a reading passage. Post-reading activities such as debates, role-plays, games, and discussions take place in small and large groups, as well as with the entire class. Some post-reading exercises also assess how well the students have comprehended the reading material, and they often consist of a text followed by questions that check the comprehension of specific details, main ideas, and inferences. Atay and Kurt (2006)

investigated the effects of two types of post-reading activities on the vocabulary acquisition of young learners in an EFL setting. Use of interactive tasks as post-reading activities proved to be an effective way of enhancing the L2 vocabulary knowledge of the learners. According to them, reading should be supplemented by post-reading activities to enhance students' vocabulary learning.

Nystrand (1997) points out that discussion and interactive discourse promote students' learning and their engagement with their lessons. Post-reading discussion and interaction among learners can be a means of increasing both quantity and quality of student talk, and thus may promote a positive affective climate in which genuine communication can occur. In EFL contexts, according to Dörnyei (1990), where learners have not had sufficient experience of the target language community, motivation factors should receive special attention. Participating in post-reading activities such as whole class or small group discussions will motivate language learners. However in practice, in TL only classrooms this does not always happen. Studies (e.g., Hamouda, 2012) showed that in a TL only classroom learners who were not proficient enough to conduct the activities in L2 didn't participate in discussion activities. They could not follow what was going on in the discussions or in teacher talk and reported losing motivation. Judicious use of L1 in group discussion may have a role in increasing students' interest and their ability to build deeper understanding of what they are learning. Korean English teachers in Kim and Petraki's (2009) study perceived the use of L1 (Korean) very useful especially for low level students and pointed out that if the students don't understand English (L2) most of the time, they become demotivated.

One major criticism of native language use in the classroom is that it can cause learners to think that every word or structure they encounter in L2 has a viable L1

correspondent. Despite the traditionally negative view of translation, Atkinson (1993b) takes a contrary view and claims that translation not only allows learners to think comparatively but it is also a real life activity. By raising one's consciousness of the nonparallel nature of L1 and L2 languages the learning process becomes richer. Mahmoud (2006) argues that a special classroom use of the L1 is the translation of the L2 text into the L1. L2 to L1 written translation as a post reading task, as Mahmoud suggests, focuses on comprehension and draws the student's attention to the entire reading passage at the word, sentence, and text level. According to Mahmoud judicious use of translation can be one part of a teacher's methodological repertoire which along with some other techniques can be used to assess student's reading comprehension.

**The reading process in L1 and L2.** Much of the research on reading process has stemmed from first language studies in reading. However, the field of second language reading is no longer the mere imitator of first language models (Bernhardt, 2005). It is generally accepted that reading, whether it be in a first language or a second language, is an interactive process (Ehrich, 2006). Goodman (1970, 1988) argued that the basic process of reading is a 'universal' construct that underlies both first and second language use and involves the formation, testing, modification, and confirmation of hypotheses based on features of the text itself as well as the reader's prior knowledge. According to Bernhardt (2005) readers display similar patterns of behavior whether they are reading in first or second languages. She states that it is fundamentally the same cognitive connections get made within the cognitive framework that already exists. However, despite shared properties, there are differences that have an impact on L2 readers' processing and understanding of L2 text. Bernhardt, in her review of second language reading research, makes the point

that the most obvious variable, that is, the role of the first language in the second language process was missing and the actual act of using a first literacy was never really included in the array of research variables in second language text processing until the mid 90s. She further points it out that the ‘it’s all the same’ perspective about reading in L1 and in L2 is dangerous and emphasises the significance of deeper understanding of the relationship between the learners’ first language and the impact of that on literacy of the second.

**Use of L1 in L2 reading comprehension processes.** Recent studies on the use of L1 in L2 reading comprehension processes either have tried to explore the multifaceted role that mental translation plays in L2 reading (Kern, 1994), or beyond just the mental translation, have tried to explore when L2 readers used their L1 cognitive resources and how this helped them comprehend an L2 text while reading individually (Upton & Lee-Thompson, 2002). Attempts have also been made to discover possible reasons for the use of L1 while comprehending L2 texts, and to provide insights into the extent of L1 use in a collaborative situation (Seng & Hashim, 2006).

According to Kern (1994), “understanding the role the native language plays in L2 reading comprehension is an important objective in the development of a theory of L2 reading” (p.456). Kern studied English-speaking intermediate level students’ use of mental translation, a mental reprocessing of L2 in L1 forms, while reading L2 (French) texts. He discussed that translation is an important developmental aspect of L2 comprehension processes. In Kern’s study, quantitative analysis of the data obtained at the beginning and at the end of the semester showed a decrease in frequency of the learners’ use of translation and an increase in its relative effectiveness. Kern argued that the learners might be more selective in their translation use by the

end of the semester, having developed a metacognitive sense of when translation is most likely to be productive. The finding of this study also suggests that readers in the low and high ability groups may have used L1 very differently in reading L2 texts.

Descriptive analyses of translation use in Kern's (1994) study showed functional benefits of translation. For example, learners in this study commented that it facilitated semantic processing and permitted consolidation of meaning. Translation may reduce the load placed on cognitive resources. Kern further discussed that when the readers translate less familiar L2 (French) words into more familiar L1 (English) words, they optimize their short term retention. He also discusses that this familiar representation can be more effectively combined into meaningful propositions by means of L1 chunking processes.

However, Kern (1994) argued that translation may work against L2 acquisition. Too much reliance of the learners on L1 forms, in order to maximize their ability to integrate meaning may have significant consequences for L2 acquisition, based on written input. As kern pointed out, if readers dwell primarily on "transformed" L1 representations rather than on the original L2 forms during much of the meaning integration process, the written L2 input may, in such circumstances, have little impact on the learner's acquisition of the L2 forms.

Kern (1994) further argued that factors such as sentence length, syntactic complexity, and semantic complexity appeared to influence readers' decision to translate. In seeking to outline the conditions for mental translation, he argued that shifting to the L1 as the language of thought "is a way of trouble shooting when visual information from the text does not correspond to the readers already formed hypotheses about the text's meaning" (p. 451). And translation proved to be relatively

unproductive when it was done in word by word fashion, without integration of meaning.

Upton and Lee-Thompson (2002) used think aloud protocols and retrospective interviews with twenty native speakers of Chinese and Japanese studying in a U.S. university. They investigated learners' use of L1 of three proficiency levels, intermediate, advanced, and post-ESL. They tried to explore the use of L1 in L2 readers of differing L2 proficiency when using their L1 resources as they read an expository text in L2 (English), and how it helped them comprehend an L2 text. Results showed that for both the intermediate and advanced ESL students, the L1 played a critical role in L2 reading comprehension. For the post-ESL (higher proficient group) students, the L1 was not nearly as important but did serve as a useful comprehension tool from time to time. Nevertheless, even the post-ESL students in this study used their L1 as the language of thought when they experienced comprehension difficulties during the act of reading L2. Upton and Thompson found that, moving from the least to the most L2 proficient group, there was a clear and consistent trend across all reading strategy types in the shift from reliance on the L1 as the language of thought to L2. Reliance on the L1 as a reading strategy when processing an L2 text persistently declined as L2 proficiency increased.

Upton and Lee-Thompson (2002) tried to find out in what contexts the use of L1 facilitated L2 comprehension of the participants. Their analysis of the data revealed distinct patterns of L1 use which were identified as "supportive" or "non-supportive", that is, either facilitating or failing to facilitate comprehension. They reported that use of L1 assisted the reading comprehension of ESL students much more than it hindered comprehension. They further discussed that use of L1 was highly effective for post-

ESL students (the most L2 proficient group) compared to other groups and supported their comprehension of what they were reading 100% of the time.

The analysis of data in Upton and Lee-Thompson (2002) study compared to Kern's study indicates that L2 readers use their L1 for more than just mental translation. They used their L1 to accomplish metalinguistic functions and to think about and process information they receive in L2. The difficulty in thinking about complex concepts and ideas in an L2 places an extra load on memory and comprehension processes (Kern, 1994) and results in L2 readers switching to their L1 to think about what they are reading, in order to help them keep track of the overall meaning (Upton & Lee-Thompson, 2002).

### **L1 Use: Evidence from Language Learning Strategy Studies**

Learning strategies are referred to as learning techniques, behaviors, or actions; or learning-to-learn, problem-solving, or study skills. Language Learning strategies are steps taken by the learner to aid the acquisition, storage, and retrieval of information. According to O'malley and Chamot (1990), learning strategies are "the special thoughts or behaviors that individuals use to help them comprehend, learn, or retain new information". Research has investigated a wide range of different strategies for different aspects of language learning, such as overall strategies, vocabulary learning strategies, cognitive strategies, and social strategies. Taxonomies or classifications of language learning strategies have been developed (e.g., O'malley & Chamot, 1990; Rubin, 1987). However, language learning strategy classifications, as Rose (2012) discusses, have been subject to growing criticism regarding definitional fuzziness and invalid research instruments.

Effective language learners know how to use appropriate strategies to reach their learning goals, whereas ineffective language learners are less expert in their

strategy choice and use (Chamot & Kupper, 1989). L2 learners' strategy use has shown that L1 use is a common cognitive strategy used by learners in reading L2 texts (Chamot & Kupper, 1989; Cohen & Brooks-Carson, 2001; Ho, 2007; Kobayashi & Rinnert, 1992; O'malley & Chamot, 1990; Seng & Hashim, 2006), or in L2 writing (Friedlander, 1990; Liao, C.H., 2005; Liao, P., 2006; Wang, 2003). For many learners, the use of L1 is a communication and learning strategy that can be used in the classroom. Readers' strategy choice is a variable that appears to influence L2 reading comprehension. These strategies are of interest for what they reveal about the way readers manage their interaction with text and how they are related to text comprehension.

Reading strategies are any actions that are employed by the reader in order to construct meaning from the text (Block, 1986). Strategies can make learning more efficient and effective and thus, research related to learners' use of strategies will provide theoretical benefits for L2 reading. Through the identification of reading strategies, (Seng & Hashim, 2006) attempted to discover possible reasons for the tertiary ESL learners' use of L1 while comprehending L2 texts and provided insights into the extent of L1 use in a collaborative situation. The researchers reported that besides the L2, the L1 was also used in many of the reading strategies utilised by the students. This supports the argument by Cook (1999) that second language learners access their L1 while processing the L2. Seng and Hashim reported that the use of L1 facilitated the process of comprehending the text. They argued that L1 provided a common ground whereby the learners could verbalize accurately their thoughts, express their feelings and opinions, and be understood by others.

Studies on language learning strategies show that the strategies of the more successful students may be learnt by the less successful students and that teachers can



assist the language learning process by promoting language learning strategy awareness and use (Griffiths, 2004). Thus, the instances that L1 use supports L2 reading and how L1 might more effectively be exploited as a communicative and pedagogic resource in reading comprehension classroom might be taught to the readers to assist them to improve their reading skills.

### **L1 Use in L2: Evidence from Sociocultural Research**

Interaction is considered to be the site of cognitive development, including language development (Wigglesworth, 2005). Peer interaction in the L2 classroom, from a sociocultural perspective, facilitates language acquisition. Within this framework, language learning cannot be viewed as an immediate product of an individual; rather, it is the process by which learners engage in co-constructing their L2 knowledge through social interaction. Using the L1 while interacting with others in the classroom is shown to be a means to scaffold learning and co-construct knowledge (Antón & DiCamilla, 1999; Swain & Lapkin, 2000). This section reviews L1 use in research which employ the sociocultural perspective.

Several researchers have examined the discourse of students working collaboratively while engaged in second language learning tasks within the framework of sociocultural theory. The purpose of these researchers is to find out the ways in which speech is used as a cognitive tool. For example, Brooks and Donato (1994) extend the study of second language interaction beyond simple message transmission and comprehension. They maintain that as thinking is mediated by semiotic systems, especially language, speaking is cognitive activity. They view learners' speech during classroom interaction with greater insight into the role of speech (L1 or L2) as cognitive activity. Eight pairs of third-year high school learners of Spanish participated in their study. Brooks and Donato (1994) analyzed the discourse of these learners while

engaged in a two-way information gap activity. Although Brooks and Donato did not focus only on L1 use by the learners, they still observed that the use of L1 was “a normal psycholinguistic process” that facilitated L2 production, and also allowed the learners to both initiate and sustain verbal interaction with one another. They argued that foreign language learners’ use of L1 is characteristic of their discourse, especially during the tasks with which they are not familiar. However, the researchers noted that this does not mean the use of L1 during L2 classroom interactions should necessarily be encouraged.

Antón and DiCamilla (1999) is another study within the framework of sociocultural theory which specifically focused on the use of L1 in the discourse of L2 learners while they engaged in L2 writing tasks. The researchers used Vygotskian sociocultural theory to provide justification for their approach. Anton and DiCamilla claim the important role that problem-solving dialogue in L1 can play in learning an L2. Five pairs of university students, all learners of Spanish at the beginner level, and all native speakers of English, participated in their study. Anton and DiCamilla’s data demonstrated the critical importance of the L1 as a psychological tool enabling learners to perform three important functions. Anton and DiCamilla argue that composing a written text in a language one is learning can be done collaboratively in much the same way as any other joint activity. They argue that using a common L1 to solve the problems that arise in the process can help with the learning of L2. Based on Vygotsky, the authors argue that the students’ use of L1 “plays a strategic cognitive role in scaffolding, in establishing intersubjectivity and externalizing their inner speech as is necessary to perform the task, achieve their goals, and thus realize their levels of potential development” (p. 236).

Scott and de la Fuente (2008) investigated the use of L1 during a collaborative consciousness-raising, form-focused task and observed that learners use the L1 even when they appear to be operating exclusively in the L2. However, even the students who were required to use L2 during the task talked to themselves in the L1 as they translated the text, recalled grammar rules, reviewed the task, and planned what to say in L2. The researchers compared the learners' talk in their group interactions in which learners were allowed to use their L1 with those who were required to use the L2 only while doing the task. The comparison revealed four differences. First, there was a difference in the fluidity of the interactions. They reported that students who used L1 engaged in smooth, continuous interaction; whereas, the interactions of students who used L2 were characterized by frequent pauses and fragmented interaction. Another difference was the degree to which the conversation was balanced. Students who used L1 participated nearly equally in the interaction; however, the conversation in all pairs of students who used L2 was unbalanced with one student dominating it. The unbalanced interaction inhibited their capacity to engage in collaborative dialogue and students were less successful to work on the task. The degree to which the students in two groups used metalinguistic terminology was another difference reported by the researchers. The findings suggested that exclusive use of L2 may impose cognitive demands on learners that may have a negative impact on the allocation of cognitive resources for the task.

To a great extent, the language used by teachers and students in classrooms determines what is learned and how learning takes place, as stated by Wilkinson and Silliman (2000). Sociocultural and dialogic research supports claims that classroom discourse, including small-group work and whole-class discussion, enhance literacy development. Research indicates that both the higher- and the lower-proficiency peers

could provide opportunities for learning when they work collaboratively. For example, Watanabe (2008) study showed that learners preferred to work with a partner who 'shared many ideas', regardless of their proficiency level. Data from Antón and DiCamilla (1999) provides another example where the two members of the dyad managed to construct a dialogue that was effective in construction of collective scaffolding.

Studies within the sociocultural framework investigated the use of L1 as an important semiotic tool, especially among L2 learners who shared their L1. Participation in peer group interactions in institutional contexts brings about development. Language serves not only a communicative function, but is itself a psychological tool. Some research looked at learners' speech as cognitive activity to uncover how learners used their L1 as a cognitive tool (Brooks & Donato, 1994; Donato & Lantolf, 1990). Swain and Lapkin (2000) suggest that denying students' access to the L1 deprives them of an invaluable cognitive tool.

Unlike the advocates of Krashen's hypothesis who claim that comprehensible input results in the increase of linguistic competence and leads to learning, scholars who view language as a mediational tool suggest that what occurs in collaborative dialogues is learning (Donato, 1994; Swain & Lapkin, 1998). Donato (1994) suggests that in joint activity, language serves to co-construct knowledge and that the use of either the first language (L1) or the L2 as a mediational tool creates new language or new knowledge about language and consolidates existing knowledge. Donato concludes that "in social interaction, a knowledgeable participant can create, by means of speech, supportive conditions in which the novice can participate, and extend current skills and knowledge to higher levels of competence" (p.52). When looked at

from a sociocultural standpoint, collaborative production removes the need to separate language use from language learning (Donato, 2004).

### **Studies on Attitudes Towards Use of L1/TL in L2 Classroom**

For a better understanding of the L1 use in the foreign or second language classroom, some studies investigated teachers' attitudes (e.g., Anh, 2010; Bateman, 2008; Cook, 2001; Kharma & Hajjaj, 1989; Kim & Petraki, 2009; Lee, 2016; Levine, 2003; Paker & Karaağaç, 2015) and students' attitudes (e.g. Kim & Petraki, 2009; Levine, 2003; Macaro & Lee, 2013; Nazary, 2008; Paker & Karaağaç, 2015; Scheffler, Horverak, Krzebietke, & Askland, 2016) about this phenomenon. Most studies which investigated this phenomenon looked at teachers' or learners' attitudes towards the teacher use of L1 in L2 classroom practices. For example, Bateman's study on the teachers' attitudes about using TL identified the factors that inhibited teachers' ability to teach in the TL. Bateman pointed out linguistic limitations of non-native L2 teachers as one of the factors.

Macaro (1995) investigated 21 EFL secondary school teachers' attitudes regarding TL and L1 use in their classrooms at the context of Italy. Overall, teachers reported understanding the importance of TL use while acknowledging the need for L1 use as well. To them, both student motivation and proficiency level were important factors affecting TL use. Furthermore, giving instructions, organizing complex activities, and building student relationships were all activities in which teachers reported difficulties maintaining TL.

Kharma and Hajjaj (1989) conducted a study in order to investigate and evaluate the use of Arabic (L1) in the ESL classroom. Results showed that teachers thought L1 was a facilitator when giving meaning of difficult points, explaining grammatical structures, saying what could be difficult to say in English, providing

contexts for the functional use of language, and guessing meaning. However, the few teachers who said they used only the TL in class said that the L1 hinders fluency, destroys motivation, distracts students, and increases expectations of more L1 use. Moreover, when learner's attitudes toward L1 use were analyzed, it was seen that 75 percent of the learners felt L1 was helpful in facilitating learning of L2.

Some studies investigated learners attitudes toward their teacher's use of L1; however, fewer attempts have been made in investigating learners' point of views and comments regarding their use of L1 in L2 classroom.

Kim and Petraki (2009) studied both students' and teachers' use of and attitude toward L1 in the EFL classroom. Students in the study thought using Korean (L1) is useful, especially for reading comprehension and grammar, no matter which levels they belonged to. This study also revealed that Korean teachers found it very useful, especially for low level students, to use their L1. They pointed out that students became demotivated, especially in reading comprehension, if they did not understand English most of the time.

Nazary's (2008) study investigated 85 Iranian university students' attitudes on the role of L1 in L2 acquisition. Prodromou's (2002) survey was employed in this study. Nazary found results contradictory to the previous similar studies. He reported that Iranian university students of different proficiency level were reluctant to use their L1. Mahmoudi and Yazdi Amirkhiz (2011) conducted their study in terms of the quantity of use of L1 in two randomly-selected pre-university English classes in Iran. Their objective was to seek both students and teachers' perceptions and attitudes towards the use of L1 in L2 classes. The findings showed an excessive use of Persian (L1) in English classroom which had a de-motivating effect on students.

Paker and Karaağaç (2015) investigated the use and functions of mother tongue in EFL classes. The study intended to find out the extent to which the instructors in the School of Foreign Languages at Pamukkale University use mother tongue in their classes, and looked at both the learners' and the instructors' beliefs. In their study, they attempted to investigate whether mother tongue use changed according to different variables, and concluded that the mother tongue is an inseparable part of language teaching, and has different functions. The study also concluded that both the learners and instructors were aware of the importance of using TL in the classroom, but they also acknowledged the need for the mother tongue from time to time.

A study by Scheffler, Horverak, Krzebietke, and Askland (2016) investigated learners' attitudes to own-language use in classroom and at home. They used a questionnaire and interviews in order to investigate learners' behaviors and beliefs. Their data came from 400 Polish and Norwegian secondary school learners of English. Their results suggested that the two groups of learners had similar ways in which they used their own languages, however, their attitudes differed in how they used their own-language at home to support the learning of English.

Based on the studies mentioned above, teachers and student's attitudes appear to have an influence on language choice in the classroom. In order to gain more insight into learner's language choice, to interpret better how the learners use L1, and to track the learner's actual use of L1 to the reason behind it, further research is required. This study aims to fill in some of the gaps regarding this phenomena, and contribute to the body of literature.

This chapter reviewed the literature regarding the use of L1 in L2 learning. It first reviewed the debate and then the different language teaching method views regarding L1 use. Literature which argued for and against inclusion of L1 in L2

classroom was reviewed. The chapter provided different perspectives on L1, ranging from a hindrance to an aid. The reviewed studies report on the role and functions of use of the learners' L1 in L2 teaching and learning. Findings from language learning strategy studies and sociocultural studies were reported on and reviewed. The learners' use of L1 to support the process of L2 learning was discussed as well. Studies have found that students resort to their L1 as soon as they can (Carless, 2008; Meiring & Norman, 2002); however, fewer attempts have been made to determine what role the L1 plays in the reading of L2 text and in investigating why some L2 readers benefit from their use of L1 more than others. Further understanding regarding this phenomenon can be achieved through empirical evidence found in a social context of real time classroom in which instances of learners effective and supportive use of L1 can be examined closely. This research is trying to extend on the phenomenon by examining high school EFL learners' use of L1 in L2 reading classroom and hopes to fill a gap in knowledge using the SCT as a framework. The SCT-L2 is useful to this study as the study is interested in whether or to what extent L1 use as a sociosemiotic activity fosters communication as well as cognitive development in the form of L2 learning. The SCT-L2 acknowledges a role for the L1 as the primary semiotic artifact and is useful to the study in two ways. From the sociocultural perspective, L1 can act as a mediator in the process of L2 learning. According to the SCT-L2, learners' speech functions as a tool to mediate own thinking intramentally and their speech has the ability to regulate other individuals' learning as well, while interacting intermentally.



## **Chapter 3 Research Methodology**

### **Introduction**

This chapter provides information concerning how the research was carried out. The chapter is organized into five sections: (a) research design, (b) research context, (c) participants, (d) data collection procedures, and (e) data analysis and trustworthiness.

### **Design of the Study**

This study adopts a qualitative case study approach that covers both the phenomenon of interest, i.e. use of L1, and its context. Creswell (2007) defined a qualitative case study, “a qualitative approach in which the investigator explores a bounded system over time, through detailed, in-depth data collection involving multiple sources of information” (p.439). Qualitative case study guided the researcher in the process of collecting, analyzing, and interpreting the data. It allowed the researcher to collect rich data on the participants’ use of L1 in discussions while completing reading comprehension tasks in real time in a foreign language class. As Merriam (1998, p. 41) stated, case studies provide a rich and holistic account of a particular case as it is ‘anchored in real life situations’. This study investigated the phenomenon of L1 use in L2 reading comprehension in the social setting of classroom context in the learners’ interactions to find out what happens when learners used their L1 in reading L2; and whether L1 use facilitated or failed to facilitate L2 reading. A case study design was useful in understanding the broader range of what was happening in the classroom and how that might have helped or hindered L2 reading.

A case study design allows researchers to focus on a single case or multiple cases with a rich, in depth description and explanation in a specific context (Merriam, 1998). The researcher believed that the selected school identified as the case for the

study had the potential to provide evidence required for the design. (This was also evident from a preliminary study.) Through contact and interaction with the participants, the researcher, as the primary instrument (Merriam, 1998) of data collection and analysis in this qualitative study, was able to probe the study in detail. The researcher in this study observed the class sessions, audio recorded classroom interactions, interviewed participants, and examined learners' written works produced during lessons. Using multiple sources of evidence helped achieve as full an understanding of the phenomenon as possible, and helped extend the knowledge in the field.

### **Context of Study**

This study was conducted in an Iranian EFL school located in the ESL context of Kuala Lumpur, Malaysia. The Iranian Ministry of Education has set up schools overseas, giving the Iranians abroad access to Iranian education. In the following sections, the context of Iranian schools in Malaysia is provided, followed by the rationales for the selection of the site. Since these schools follow exactly the same curriculum which the schools in Iran do, the section after these provides the context of English in the Iranian school system in Iran.

**Iranian schools in Malaysia.** In Kuala Lumpur, there is one government supported and one private Iranian school in which students from primary to pre-university levels are enrolled. As mentioned earlier, these schools follow the same curriculum which the schools in Iran do. They are oriented towards Iranian school exams by the Iranian Examination Board. The same textbooks which are published in Iran and used in national schools are used in overseas schools as well. The school teachers are also supplied by the Ministry of Education. The government supported

school was chosen as the site for this study because it was the main school, and more students were enrolled there compared to the private one.

**Selection of site.** Due to circumstances that would not be possible in Iran, there was a much larger variety of student backgrounds all in one classroom in this school. The preliminary study showed that students enrolled in this school included learners who had studied in International schools or used to study in the local Malaysian schools previous to the Iranian school, students who had just arrived in Malaysia from the EFL context of Iran or those who had been in Malaysia for a few months/years, and lastly students who had been in Malaysia from an early age. This learner variation made the site of this study unique. So far, to the best of my knowledge, research has not been carried out in a setting such as this. Hence, it was hoped that investigating the phenomenon of L1 use in TL classroom in this context would generate a broad range of data, and would have the potential to contribute to the field.

Another reason why an Iranian school was chosen as the site for this study was that the researcher understood the language of the participants and was from the same language background as the students of this school. Being from the same language background as the participants allowed the researcher a broader and more in depth understanding of the learner interactions, and hence enhanced analysis of the data. Furthermore, accessibility to the site plays an important role in the data collection procedures (Merriam, 2009). It was not difficult to gain entry to the site. Another reason this site was chosen was because it was familiar for the researcher, and hence, it was a convenient site for her to conduct the research. Prior to the study, the researcher contacted the school principal and informed him of the purpose of the study and gained his consent for the research to take place there.

**English in the Iranian school system.** The status of English in Iran is that of a foreign language, where the students and teachers share a common language, Persian. Based on the new curriculum of the Iranian school system (implemented since 2011/2012), the English language is a subject which is taught beginning from junior high school (i.e., Grade 7) in both government and private schools. The school system consists of twelve years of schooling which commences at the age of six. Participants in 9th Grade were in their first year of senior high school and Grade 12 participants were in their pre-university level, after which they would be graduating high school. For the participants in this study, English was a compulsory subject (based on the old curriculum) since Grade 6.

As cited in Farhady and Hedayati (2009), the aim of English as a foreign language (EFL) at Iranian high school level is to enable students to use at least one foreign language to communicate with others at a basic survival level (Secretariat of the Higher Council of Education, 2006, p. 43). All decisions regarding curriculum, materials and instruction are determined by the Curriculum Development Centre of the Ministry of Education and teachers are expected to strictly follow the guidelines created for them by the national government. There is no official teaching method that English teachers have to follow; however as much L2 use as possible is encouraged. Pre-university level is the only level whose text book, “*Learning to Read English for Pre-University Students*”, is designed to teach reading comprehension and is targeted at the teaching of reading skills (see page 62).

According to the regulations set by the Ministry of Education at the time this study was carried out, all Iranian school learners were exposed to four hours of English instruction a week throughout their three years of junior secondary education (Grade 6 - Grade 8) and to three hours per week for the first grade in senior high school (Grade

9), as well as two hours of instruction a week in their coming years of high school (Grades 10 - 12) in government secondary schools. Private high schools allocate more time to the teaching of English compared to government schools. Some of the private primary schools also offer English as a subject to learners; however, it is not considered a compulsory course. According to some studies (e.g., Soori, Kafipour, & Soury, 2011) even after spending seven years of learning the English language in high schools, students do not develop a good command of the language and cannot use it properly or speak it effectively.

### **Participants in the Study**

The study involved the participation of Grade 9 and pre-university (Grade 12) students enrolled in one of the Iranian high schools in Kuala Lumpur, Malaysia. It should be noted that the study took place in an all-boys school, and hence all participants were male. It was a requirement by the Iranian Ministry of Education for all of them to take English as a school subject. Participants in Grade 9 ranged in age from 13 to 15 and pre-university students' ages ranged from 17 to 18. Persian was the native language of the participants. English was a compulsory subject since junior high school (it was in Grade 6 for these participants). Thus the Grade 9 learners had been exposed to the English language for at least three years and the Pre-university learners for at least six years. All students in Grade 9 and 12 consented to participate in the study, and hence, their participation was not based on a specific criterion. The total number of participants was 26, made up of 15 Grade 12 learners and 11 Grade 9 learners.

The rationale for selecting these two grades was that in the Iranian school system, Grade 9, at the time of study, was the first year in senior high school, and Grade 12, which is the Pre-university level, is the year which upon completion,

learners will graduate high school. In other words, the two levels were the entry and the exit points in senior high school. Moreover, unlike the Grade 9 level, reading skills were taught to 12th graders. Thus, the researcher expected to collect rich data of a broad range, and to come to a better understanding by conducting the study in these two classes.

The researcher obtained learners' consent at the beginning of the semester. An informed consent form was provided (see Appendix A) to explain the purpose of the study and the nature of the research, and to guarantee the confidentiality of the data and anonymity in the research report. All participants were asked to provide written permission of their participation by providing a signed letter of consent. Participants were made aware of their rights, and were assured that participation was voluntary, and that opting out of the study in no way affected class grades. They were assured that information would remain anonymous and all names would be pseudonyms in the report. They were informed that the researcher would be the only person with access to the audio recordings. The researcher was also the school English teacher and thus her role can be defined as researcher-teacher. Since the focus of the study was on the learners, the researcher's role was that of participant in the context of the classroom, but not a participant of the groups under study. However, since the focus of the study is on learners' use of L1, any L1 used by the teacher was not under the scope of the analysis.

The following paragraphs present the participants' background information obtained through a structured questionnaire (see Appendix B) distributed at the beginning of the semester when data collection occurred, and reflect the state of the participants at that time.

**Grade 9 learners.** Eleven Grade 9 learners participated in the study.

Ali: Is 15 years old. Has been living in Malaysia for six years. Has been studying English in Iranian school for three years. Has taken extra, outside of school English classes for five years. Speaks Persian at home and with his friends. Has started learning French for almost a year. He stated that he has difficulties with unknown vocabulary when reading English texts.

Amin: Is 14 years old. Has been living in Malaysia for almost two years. Has been studying English in Iranian school for three years, and has been taking extra, outside of school English classes for one and half years. Speaks Persian at home and with his friends. Stated that he has difficulties with unknown vocabulary when reading English texts.

Ata: Is 14 years old. Has been living in Malaysia for a few months only. Has been studying English in Iranian school for three years. Has just recently started taking extra, outside of school English classes. Speaks Persian at home and with his friends. He stated that he has vocabulary and grammar difficulties when reading English texts.

Dara: Is 14 years old. Has been living in Malaysia for one year. He has been studying English in Iranian school for three years. He has never taken any extra, outside of school English classes. Speaks Persian at home and with his friends. He did not mention whether he had any difficulties while reading English texts.

Hamid: Is 15 years old. Has been living in Malaysia for two and a half years. Has been studying English in Iranian school for three years. Has taken English tuition for a couple of months. Speaks Persian at home, and some English with some of his friends. Stated that he has difficulties with unknown vocabulary and grammar when reading English texts.

Hirad: Is 13 years old. Has been living in Malaysia for two years. Has been studying English in Iranian school for three years. Has never taken extra, outside of school English classes. Has been learning French for two months. Knows a bit of Bahasa Malaysia. Speaks Persian at home, and speaks a bit of English and Bahasa Malaysia with his friends. Has stated that he has difficulties with unknown vocabulary and with grammar when reading English texts.

Kian: Is 15 years old. Has been living in Malaysia for one year, but was living in Canada prior to coming to Malaysia. This is his first year studying English at the Iranian school, but went to international school prior to this. Has studied French for a couple of months. Speaks Persian at home, and English to some of his friends. He stated that he has difficulties with vocabulary and pronunciation when reading English texts.

Parsa: Is 14 years old. Has been living in Malaysia for nine years. He has been studying English in Iranian school for three years, but has taken many extra, outside of school English classes. Speaks Persian at home, and English with some of his friends. He studied Mandarin for 3 months. He did not mention any difficulties while reading English texts.

Reza: Is 14 years old. Has been living in Malaysia for three years. Has been studying English in Iranian school for one year. He went to international school prior to joining the Iranian school in KL. Has never taken extra, outside of school English classes. Speaks Persian at home, but he speaks English with his sibling. Speaks Persian to his friends. He stated that he has difficulties with vocabulary, specifically terminologies in his text books, when reading English texts.

Vahid: Is 14 years old. Has been living in Malaysia for five years. Has been studying English in Iranian school for one year in the Iranian school. But he went to



international school for four years previous to joining the Iranian school in KL. He also studied Turkish for three years. Speaks Persian at home. He stated that he has difficulties with unknown vocabulary and expressions when reading English texts.

Zia: Is 15 years old. Has been living in Malaysia for two years, and just joined the Iranian school in KL. Prior to this, he went to international school for two years, but studied English in another Iranian school for one year prior to that. Also had Spanish classes for two years in the international school. Speaks Persian at home, and English with some of his friends. He stated that he has vocabulary difficulties when reading English texts.

**Grade 12 learners.** Fifteen Grade 12 learners participated in the study.

Amir: Is 17 years old. Has been living in Malaysia on and off since 2007. Has been studying English for six years. Has taken extra, outside of school English classes. Speaks Persian at home and to his friends. He stated that reading English texts is difficult for him due to unknown vocabulary.

Arash: Is 18 years old. Has been living in Malaysia for three years. Has been studying English for six years. He has been to extra, outside of school English classes. Speaks Persian at home, but speaks to some of his friends in English sometimes. He stated that reading English texts is difficult for him due to unknown and difficult vocabulary.

Farid: Is 18 years old. Has been living in Malaysia for two years. Has been studying English in Iranian school for six years. Has never taken any extra, outside of school English classes. Speaks Persian at home and with his friends. Does not mention whether or not he has difficulties with reading English texts. Farid's stream of studies in school is biology.

Foad: Is 17 years old. Has been living in Malaysia for five years. Has been studying English for nine years. Has been to extra, outside of school English classes. Speaks Persian and Turkish at home. Speaks to some of his friends and his siblings in English sometimes. He stated that reading English texts is difficult for him due to unknown vocabulary.

Hadi: Is 17 years old. Has been living in Malaysia for four years. Has been studying English in Iranian school for six years, and has taken six years of extra, outside of school English classes. Speaks Persian, Turkish and a bit of English at home. Speaks some English with his friends and siblings sometimes. Stated that he has no reading difficulties when reading English texts. Hadi's stream of studies in school is humanities.

Hasan: Is 18 years old. Has been living in Malaysia for a couple of months only. Has been studying English in Iranian school for six years. Has never taken extra English classes. Speaks Persian at home, but speaks some English with some of his friends. Does not mention whether or not he has difficulties with reading English texts.

Iman: Is 17 years old. Has been living in Malaysia for three years. Has been studying English in Iranian school for six years, but has been seriously studying English for 3 years. He has taken extra, outside of school English classes in Malaysia. Is also learning to speak Bahasa Malaysia. Speaks Persian at home, and some English with his sibling. Speaks English to some of his friends. He stated that he has no reading difficulties when reading English texts. Iman's stream of studies in school is biology.

Mahdi: Is 18 years old. Has been living in Malaysia for only a few months. Has been studying English for eight years. Has taken extra, outside of school English classes. Speaks Persian at home, and speaks a little of English with his friends sometimes.

Mani: Is 18 years old. Has been living in Malaysia for one year. Has been studying English at school for six years, only at school. He has never taken outside of school classes. Speaks Persian at home. Speaks Persian to his friends. He stated that reading English texts is difficult for him due to unknown vocabulary.

Matin: Is 18 years old. Has been living in Malaysia for one year. Has been studying English in Iranian school for six years. Has taken extra, outside of school English classes for five years. Speaks Persian at home and with his friends. Does not mention whether or not he has difficulties with reading English texts.

Nima: Is 18 years old. Has been living in Malaysia for three years. Has been studying English at school for six years, but stated that he has been actively trying to learn English for only three years. Has been to extra, outside of school English classes. Speaks Persian at home, but speaks to some of his friends in English sometimes. He stated that reading English texts is difficult for him due to unknown vocabulary.

Omid: Is 17 years old. Has been in Malaysia for only a month, but lived in the UAE for three years when he was in primary school. Has been studying English in Iranian school for six years, and has taken extra, outside of school English classes for six years. Speaks Persian at home and with his friends. He stated that he has no reading difficulties when reading English texts. Stated that for two years now, he has been interested in studying English on his own. Omid's stream of studies in school is biology.

Salar: Is 17 years old. Has been living in Malaysia for five years. Has been studying English for eight years. Has taken extra, outside of school English classes for three years. Speaks Persian at home, and speaks some English with some of his friends. He stated that his difficulty with reading English text is his slow reading pace. Has taken an IELTS examination.

Sina: Is 18 years old. Has been living in Malaysia for one year. Has been studying English in Iranian school for six years. Has taken English tuition before. Speaks Persian at home, and some English with some of his friends.

Taha: Is 18 years old. Has been living in Malaysia for two years. Has been studying English in Iranian school for six years, and has taken extra, outside of school English classes. He has also started to learn French and Bahasa Malaysia in the past year. Speaks Persian and a bit of English at home. Speaks English to some of his friends. He stated that he has no reading difficulties when reading English texts.

Since the study was carried out in an all-boys school, all the participants were male. These participants were in the context of a Bahasa Malaya-speaking country, with English as a strong second language, as the school is located in the heart of Kuala Lumpur. Their backgrounds and their interactions with others were very varied, as evident in the individual student profiles above. For instance, some of the learners are still young, or had only recently moved to Kuala Lumpur from the EFL context of Iran. This group of participants tended to stay in the Iranian community more, and hence their interactions with speakers of other languages was very limited. Other learners, however, had been living in Malaysia for longer and had foreign friends who spoke English as well as other languages, including Bahasa Malaya. Hence, the learners' exposure to different languages and their experiences varied greatly from each other. It is also worth noting that English is spoken widely in Kuala Lumpur, so the need for learning Bahasa Malaya is not greatly felt in out of school life interactions. The profiles of the individual learners who participated in the study were reported earlier. These profiles include details of the language environment and contact that the students experienced.

## **A Typical Lesson in Iranian School Textbooks**

Pedagogy in Iranian school system is very much driven by the textbooks. The Ministry of Education in Iran compiles, develops and publishes textbooks and teaching materials for nationwide public and private schools. The same national textbooks are also used in Iranian schools overseas. Lessons are framed by the textbooks and so English textbooks are essential to the language teaching program in Iranian schools. Textbook and the teacher are the sole source of language input for the students. In order to provide more context on the study, a description of a typical lesson in English textbooks will follow. A sample lesson from each grade is provided in Appendix G and Appendix H.

**Grade 9 textbook.** The textbook is more structural than communicative. The senior high school (Grades 9-11) textbooks are very similar, with only a change in the level of difficulty. They all focus on vocabulary, reading comprehension and grammar. The teaching methodology is basically grammar translation and audio lingualism. The skills that are presented in the textbooks are not of a wide range of listening and speaking skills. Speaking is paid little attention to, and listening skill is almost completely neglected. Fluency skills are not given sufficient attention. There is almost no actual writing activity in these textbooks. Writing exercises and activities are just a written practice of grammatical structures. Although the reading, among other skills, looks to be of first priority in the design of the senior high school English text books, a big share of the lessons is devoted to grammar drills and the various forms of grammatical exercises throughout English Books for Grades 9, 10, and 11.

Reading tasks in the prescribed textbooks are mainly limited to question-answer types that range from simple scanning questions to questions that ask for opinions and arguments. Little attention is given to communicative activities such as

group work, or role play. The high school textbooks (Grades 9 to 11) are more or less similar with only a change at the reading level of the texts (see Appendix G) for a sample lesson from Grade 9 textbook). The reading texts and passages have a wide coverage of topics (e.g., science, transportation, foreign language, education, etc.); however, they lack variety in materials and activities.

**The Grade 12 textbook.** The English textbook for Grade 12 (pre-university) is different from other high school English textbooks. Unlike the other three high school textbooks in which reading skills are not taught or emphasized, the pre-university book emphasizes reading comprehension and has a special focus on the teaching of reading skills using longer reading texts (see Appendix H for a sample lesson from Grade 12 textbook). The title of the Grade 12 textbook is '*Learning to Read English for Pre-University Students*'. It consists of these sections: Title Page, Map of the Book, A Word to Colleagues, How to Study This Book, Some Advice for Better Learning, Review of English Book 3. These are followed by eight lessons and Appendices. Each lesson consists of the following parts: Before You Read (Pre-reading Activities), Reading Passage, After You Read (Post-reading Activities), Sentence Functions, Reading Skills, Vocabulary Review, Focus on Grammar, and Grammar Practice. Some of the topics of the texts in the book are related to science and technology (such as 'Global Warming', 'IT and Its Services', 'Why Exercise is Important?' and etc.). At the end of the book, there is a listing of some English 'Irregular Verbs' and a 'Word List' of new words and vocabularies which appeared in the book along with their lesson numbers and the phonetics for each word. At the 'Word List', a blank column is provided for the learners to write down the Persian equivalent of the words. In this book, teaching of reading skills with a deeper comprehension of passages is intended. Activities and tasks presented in the book are

required to be done individually, in pairs, in group collaborations or through whole class discussions.

Iranian high school graduates who enter universities are facing an increased need to understand English texts in content areas. It is needed that English reading achievement at the secondary level keep pace with this demand. The Grade 12 textbook, which has been published and distributed through the country since 2002, aims to meet this need of the learners.

### **Reasons to Study Reading Lessons**

Most of the previous studies on use of L1 in L2 learning have investigated the teacher's use of L1 and its functions, and there has not been adequate research on the learners' use of L1 in L2 learning. Of the studies which investigated the learners' use of L1, most focused on the writing process, grammar, or vocabulary, but not many have focused on the reading lessons. The few studies which did investigate the reading process were done on ESL tertiary students and in the while reading phase, but not on high school EFL learners or in whole reading lessons. Also, most of these studies were conducted in experimental settings, and not in the naturalistic setting of a classroom, which takes into account the impacts of interaction, and is needed to understand the relationship between theory and practice. Hence, due to the lack of adequate research on the reading process of high school EFL learners in a naturalistic classroom setting, more research is needed on this topic. Iranian high school EFL students will later go on to study very specialized subjects in university, where they will have to read many specialized texts and journal articles in English. Hence, learners need to learn how to make the most of their L1 while they are still in school, as they will need to draw on their knowledge later, and their reading lessons need to provide them with adequate skill and specialized knowledge to prepare them for the future reading. Studying the

reading lesson and how to better implement L1 into learners' L2 during it is therefore of utmost importance, and needs to be understood and researched more thoroughly.

### **Data Collection Procedure**

Four sources of data were utilized to answer the research questions of the study, namely, audio recordings of classroom interactions, transcripts of classroom interactions, follow-up interviews, and artifacts naturally produced by learners during lessons, such as notes made by them in their textbooks. Researcher's field notes were used whenever it provided information not captured or easily understood from the recordings. In addition, a demographic information questionnaire was used to understand the context; however, this questionnaire was not used to answer any of the research questions. It provided the researcher with some background on each learner, such as languages spoken at home, or standard English proficiency test scores, if any.

Audio files of the classroom interactions were used to answer the first research question of the study, which investigated the proportion and the extent of learners' interactions in L1 with the teacher or with other learners. Answer to this question provided the context for the response of the other research questions of the study.

Transcripts of classroom interactions were used to answer the other three research questions of the study. The second research question investigated the functions L1 served in classroom interactions during EFL reading to provide a better understanding of the role of L1 in L2 reading. Findings of Research Question 2 are implemented to answer Research Questions 3 and 4.

Research Questions 3 and 4 investigated learners' use of L1 while engaging in different reading tasks and the ways in which L1 was used by the students in learning L2 respectively. In order to have a clearer picture regarding the focus of the questions, follow up interviews based on transcripts or observations were conducted as well.



Transcripts of classroom interactions were used as the main source of data; however, data from follow-up interviews, and artifacts produced by learners were used to support findings. The following section are descriptions of sources of data and the details on how they were collected in the study.

**Audio recordings of students' interaction.** Whole class discussions and learners' interactions in separate, simultaneous group or pair work activities were audio recorded. For 12th graders, four reading lessons of their textbook, which were covered in 11 sessions, were recorded. For the 9th graders, five reading lessons of the textbook, covered in seven sessions, were recorded. The number of audio recordings was not predetermined, as it depended on the number of students in each class and the social arrangements at the time of doing the tasks. Audio recordings were made during normal class times and under normal class conditions. To acquire a high quality of sound, as well as to avoid being too distracting, digital audio recorders with internal microphones were set up at different locations in the classroom to catch both the teachers' and the students' utterances during class. Recordings of the sessions were arranged in such a way that they took place during reading lessons when the teacher was teaching the reading text as well as while doing the reading comprehension tasks. During the actual data collection sessions, the grammar part of the lesson was not recorded as it was not the focus of the study. However, in order for the participants to get comfortable with their voices being recorded, one or two sessions were spent in recording review sections of the two textbooks, which included grammar from previous years. Hence, by the time actual data collection took place, the students were familiarized and comfortable with being recorded, and hence our data on the reading sessions have more validity. The relatively small number of learners in each class

allowed the researcher to record all the groups as well as whole class teacher fronted interactions.

In order to avoid disturbing the normal pattern of the participants' use of Persian or English, learners were told that the goal of the research is to find out what they learn from classroom interactions. The participants were assured that the researcher would be the only person who would listen to recordings and that the recordings would just be used for the purpose of research. They were ensured that the recordings would not be used to evaluate their English or affect their marks in any way. Pseudonyms are used in the reports of the study. The data from these audio recordings were the main source of data for analysis, as they were used to answer Research Question One, while the transcripts from the recordings were also used to answer Research Questions Two, Three and Four.

Storch (1997) suggested dialogic interchanges as a suitable method of collecting data from second language learners. Audio recordings of classroom interactions and the transcripts of classroom interactions were two of the main sources of data for the study

**Follow-up interviews.** Interviews are interactive, thus the researcher can elicit additional data if initial answers are vague, incomplete, or not specific enough (MacKey & Gass, 2005). Interviewing is useful in understanding participants' beliefs, attitudes, and historical information, and their reflections. As Kalaja and Barcelos (2003) argue, interviews, unlike the questionnaires that restrict respondents' choices by framing the answers according to pre-established set of statements, will let the learners use their own words and make it easy to investigate learners' beliefs in their own terms.

We interview people to find out from them those things we cannot directly observe (Patton, 1990). Follow up interviews were used in this study. They allowed participants to explain their rationale for their use of L1 in classroom interactions. These interviews were based on data from the audio recordings and the observations. The audio recordings of the class discussions or group and pair interactions were played back to the participants whenever it was needed, or parts of the transcripts were referred to, and the learners were asked and probed about their use of L1 or L2. This helped bring the interviewees back to the situations where they used L1 and enabled them to reflect on them. The learners were asked for comments on the instances where Persian was used. In this way, the researcher was able to activate participants' memory and reminded them of the context.

The follow up interviews allowed the researcher to access the information unavailable in recordings and observation. Interviews were conducted in the learner's L1, thus removing concerns about the L2 proficiency of the learner impacting the quantity and quality of the data provided. Open ended questions were used and more talk was encouraged by asking Why, What, and How questions (see Appendix E for the follow up interview guide). This enabled them to focus on their opinions with more details and more reflections on their experiences (Atkinson, 1997). The interviews were conducted in a relaxed setting in the school. The interviews provided answers for Research Questions 2: "What functions does L1 serve in the Grade 9 and Grade 12 Iranian learners' intermental and intramental speech in an EFL reading class?"; Research Question 3: "How do Grade 9 and Grade 12 Iranian learners' use of L1 vary in different tasks?" ; and Research Question 4: "How do Grade 9 and Grade 12 Iranian learners use their L1 during an EFL reading class?" Victori (1999)

recommends combining interview with observation in order to compare participants' observed behaviors with their verbal reports.

**Classroom observations and field notes.** Observational data are common in second language research and observations are a useful means for gathering in-depth information about interactions, participants' actual behavior, and events that occur in second and foreign language classrooms. Using observation data along with the data from interviews provided the researcher the opportunity to study the relationship between learners' actions and their views in a more direct way. Since the researcher was observing her own classroom, the role of the researcher was participant observer (Lankshear & Knobel, 2004); however, the teacher's use of L1 was not the focus of the study, but on the learners' use of L1. The researcher tried to recognize and dismiss own assumptions and biases and remained open to what was observed. The observation took place in a natural setting of a classroom, hence, the findings are based on actual classroom data rather than an experimental study. Due to this, the investigation has the potential to yield a rich description.

According to Merriam (2009), observation is a research tool when it is systematic and addresses a specific research question. No one can observe everything, hence; the purpose and the questions of the study were used as a guide for what was observed. Gay and Airasian (2000) suggest that the observer should have a list of issues to guide observation. A guide was used to provide the researcher with a focus during the observations. This protocol was used as a framework for field notes, in order to make it easier to organize and categorize them.

According to Creswell (2013), the design and development of an observational protocol ensures that the researcher has an organized means for recording and keeping observational field notes. Thus, for taking field notes during the observation, a field

note protocol was developed by the researcher, based on a review of research (see Appendix D). Field notes were taken according to this observation guide. In the guide, the type of activity, the time spent and the patterns of L1 use in interactions were recorded, as well as other information such as: Who was being observed, how many learners were involved, what was going on, what was the physical setting like, the seating arrangement of the class and how the group members were seated.

Through field notes and observational protocols, in order to compensate for the absence of video recording, the researcher tried to capture description and understanding of the setting and participants of things that might not have gotten picked up in the audio recordings. This helped the researcher record descriptive and reflective aspects of things which seemed to be important for data analysis and further supplemented the audio recordings. Possible emerging themes at the time of data collection were noted down also. Field notes were taken during, if possible, or immediately following the classroom observations. Hence, the field notes taken were helpful in data analysis and interpretation, and provided input to answer all research questions of the study.

Eleven observation sessions for 12th graders and seven observation sessions for 9th graders were conducted during the semester. During the semester, the Grade 12 class was held twice a week, while the Grade 9 class was held once a week. A few of their class sessions were grammar sessions or quizzes/tests, and hence were not recorded or observed. The duration of each session was 80 minutes. Care was taken as to prevent the participants from getting distracted, and to ensure that the class observed is fully representative of the class in its typical behavior. It was ensured that the quality of the lessons was not compromised, and that conducting the research did not impact the teaching in any way.

Field notes were also kept pertaining to events that happened in the classroom but were not audio recorded or easily identified by only listening to the recordings. To serve as a reminder for the researcher, notes were taken and information was jotted down on what went on in the classrooms and on learner's reactions. These notes and information were later used for cross checking learners' use of L1 or L2 when transcribing the recordings. The notes taken during the observations facilitated data triangulation. In this way, audio recordings of classroom sessions were supplemented and triangulated by the observations, which further completed the picture and gave a better understanding of the learners' use of L1 in the classroom interactions.

**Questionnaires.** A structured questionnaire (see Appendix B) was distributed to students at the beginning of the semester. The purpose of the questionnaire was to identify demographic information about the participants, including their age, grade level, age at which they started learning English, their English score/mark, and their L1 score/mark. Learners' previous experiences of literacy in any language were also included as a question, even though the researcher did not expect a wide range of linguistic backgrounds or diversity regarding their mother tongue. The researcher believed the question was still of importance and should not be ignored. The questionnaire was not used to answer any of the research questions. The data were used for gaining insight and context into the participants' backgrounds.

**Preliminary study.** A preliminary study was carried out during the second semester 2012/2013 at the school. The main objective of the study was to examine the feasibility and appropriateness of the main aspects of the study design and to come up with some codes for data analysis. It helped examine whether the entire data collection procedure could proceed smoothly. It helped the researcher formulate the questions

for the interview guides and to try the appropriateness of the interview questions, and hence further improve the efficiency of the main data gathering methods of the study.

### **Data Analysis**

In order to fulfil the research objectives and answer the research questions of the study, data analysis was carried out. Data analysis is the process of making sense out of data. The audio recordings of classroom interactions, classroom interaction protocols, interview protocols, artifacts produced by the learners during the reading lessons (e.g., use of L1 to write the equivalents in their text books), and observation field notes provided the data for this research. The sections below address how the four research questions of this study were answered.

**Analysis of the audio recordings.** Quantitative analysis was done to establish the proportion of L1 and L2 in classroom interactions. This provided a partial understanding of what was going on in the classroom with regard to use of L1 in L2.

Five-second sampling was used for the quantitative analysis of the classroom audio recordings. Five-second sampling is a method where audio recordings are listened to, and at each five second mark, it is noted whether the interaction is in L1 or TL. Macaro (2001) used five-second sampling for his study. Other studies used different intervals to estimate the amount of L1 and TL use in the classroom. For example, Duff and Polio (1990) used 15-second sampling technique for their study and Wragg's study (as cited in Macaro, 2001) used three-second sampling. For the purpose of this study, data were analyzed quantitatively based on the five-second sampling used by Macaro, in order to increase accuracy of the frequency of the learners' language use in the classroom.

Learners' use of either L1 or TL in pair, group, and whole class interactions were tallied every five seconds. These were recorded in a tally sheet (see Appendix

C). This provided the figures for the calculation of the quantity of L1 use as a percentage of the total classroom language use, or for any other calculations needed to answer the first research question. For example, the proportion of L1/TL use by learners, in different lessons and across the semester, were calculated. Also, for each individual learner, the percentage of L1/TL use in total was calculated; as well as learners' L1/TL use in the different tasks of a lesson. When necessary, for better understanding, these tallies were used to calculate the rate of participation of a certain learner for further analysis.

Microsoft Office Excel was used to analyze and organise the audio recordings of classroom interactions data.

**Analysis of the transcripts of audio recordings.** Collection and analysis of data should be a simultaneous process in qualitative research (Merriam, 2009). Transcription forms part of the data analysis process. As data collection was carried out, the researcher personally transcribed the audio recordings of the lessons weekly. However, the analysis became more intensive once all of the data were gathered. To determine the role, amount, and functions of learners' use of their L1 in the class, audio recordings of sessions, group interaction and whole class discussions were transcribed. Contextual information and non-verbal cues (e.g., silences) were included in the transcription when it helped to make sense of classroom events.

The researcher read and reread the data and made notes in the margins, commenting on the data. To manage the data, it was organized into excel and coded for all instances of L1 use, as well as for the purposes they served in their particular contexts. "Coding allows for the deconstruction of data into manageable chunks, which in turn allows understanding of the phenomenon in question" (Cohen, Manion, & Morrison, 2013). Thus, data were systematically classified into a scheme (see



Appendix I). Research questions of the study guided the coding of the data. Coding categories from similar studies in the literature, as well as categories which emerged from the study's data were used.

After transcribing and coding the interaction data, the data were re-analyzed and similar codes were grouped together in order to reduce the data to a more manageable number. Thus, final categories and themes were established. Inter-rater reliability was determined through asking a bilingual speaker (Persian & English) to also code a ten percent sample of the data set of each grade. Inter-rater agreement rate was 84%. The disagreements regarding coding were then resolved through discussion. Accordingly, the coding for the rest of data was carried out by the researcher herself.

**Analysis of the interview data.** Data from follow up interviews were transcribed by the researcher verbatim. The data were analyzed by repeated readings from which tentative themes emerged until no more significant themes were uncovered. To ensure inter-rater reliability, the researcher asked a bilingual (Persian & English) colleague to code a ten percent sample from the data set for each grade. The inter-rater agreement rate was 85%. The disagreements on the coding were resolved through discussions. However, data from interviews were not included in the quantitative analysis of the study. The data for quantitative analysis used to answer any of the research questions were only taken from audio recordings and interaction transcripts.

**Analysis of the observational data.** MacKey and Gass (2005) suggest, observation schemes can promote valid findings only when they are appropriate and applicable to the research questions. Existing classroom observation schemes in the literature are mostly focused on instruction or on teachers' or learners' feedback. Since any one scheme in the literature was unlikely to capture all the relevant aspects of this

study, the researcher was unable to find one with a clear focus and relevancy to the questions being investigated in this study. However, there were common elements in other observation schemes found in the literature which the researcher included in this scheme. The researcher was open to ‘grounded codes’ (Freeman, 1998) which may have emerged from the data itself.

**Analysis of the artifacts.** The artifacts produced in the classroom during the reading lessons were examined for the use of L1. Instances where L1 was used were identified. The artifacts consisted of annotations and notes made by learners in their text books. To carry out the analysis and interpretation, the researcher investigated and found out the functions of the learners’ use of L1, and did the coding based on that. If the interpretation of their L1 use in their notes was not clear, the researcher went back to the learners and probed them for more elaboration on how the use of L1 served for them and what role they assigned to it. Since the data from the artifacts did not stand on their own, the researcher verified them with other data in the study, such as interviews with participants and the classroom interactions. This was for the purpose of triangulation.

Table 3.1 shows an overview of research questions along with sources of data used to answer them.

### **Trustworthiness**

With regard to the trustworthiness of the study, the researcher triangulated the findings using different sources of data. To enhance the trustworthiness and credibility of the study, the researcher also carried out peer debriefing (Lincoln & Guba, 1985). The following is a description of this process.

**Peer debriefing.** The researcher carried out peer debriefing to enhance the trustworthiness and credibility of the study. The researcher asked a bilingual (Persian

& English) peer in the faculty of education who is familiar with the qualitative research methodology to review and assess some of the transcripts, codes, and emerging categories from those transcripts.

**Triangulation.** As the aim of qualitative research is to develop understanding (Bogdan & Biklen, 1998; Merriam, 2009), transcriptions of classroom interactions and of interviews, artifacts produced by students, and classroom observation field notes were utilized in this study to provide in depth understanding of the phenomenon. All these were used to achieve a triangulation of data in order to increase the validity of the study (Cohen et al., 2013) and to reduce observer or interviewer bias, hoping that it enhances the trustworthiness and validity of the information.

**Translation issue.** The interviews were in participants' native language. During the lessons, the participants used both English and their L1. The transcripts both for the interaction and the interview data were prepared in the original language and were analyzed. Then, for the report, the findings and supporting evidence were translated and presented in English. "Back translation" (Merriam, 2009) strategy was used to check on the translations. Thus, the inter-rater reliability of the translation was further established.

**Ethical issues.** The researcher was aware of the importance of ethical issues at different stages of the research process, and was aware that ethical issues need to be anticipated in qualitative data collection. The participants were made aware of their rights, and the learners were assured that participation in the study was voluntary. As the researcher was the participants' teacher, this was explained to them to prevent them any feelings of obligation or gratitude. For other ethical concerns, privacy and confidentiality were assured with the use of pseudonyms. It was made very clear to participants that their anonymity would not be compromised in the research report and

Table 3.1

*An Overview of Research Questions Along with Data Sources and Data Analysis*

Research Questions	Sources of Data	Analysis of Data
1. To what extent do Grade 9 and Grade 12 Iranian students use their L1 when interacting with the teacher and peers?	- Audio recordings of classroom interactions  - Field Notes	5-second sampling was used to tally learner's L1 & L2 in their interactions.  Percentages of L1 & L2 for each lesson were calculated.  Percentages of L1 & L2 use by each participant were calculated
2. What functions does L1 serve in the Grade 9 and Grade 12 Iranian learners' intermental and intramental speech in an EFL reading class?	- Transcripts of classroom interactions & transcripts of follow up interviews	Classroom interactions & follow up interviews were transcribed verbatim  Data were coded based on the similar studies, the RQs & codes from the preliminary study
3. How do Grade 9 and Grade 12 Iranian learners' use of L1 vary in different tasks?	- Artifacts produced by the learners  - Field Notes	Analysis was open to the themes emerged in the data
4. How do Grade 9 and Grade 12 Iranian learners use their L1 during an EFL reading class?	- Questionnaire	Categories were established

analysis. The researcher made sure the participants understood the purpose of the study and that they felt comfortable participating in the research. Their recordings and interviews will be kept confidential. Professional etiquette was followed in order to

protect all participants from harm and embarrassment (Lincoln & Denzin, 2003; Ritchie, Lewis, Nicholls, & Ormston, 2013).

## **Chapter 4 Data Analysis and Findings**

### **Introduction**

This chapter presents the analysis of the data and reports the findings of the study. Both a quantitative analysis as well as a qualitative analysis of the data is presented. For quantitative analysis, the recordings of the learners' classroom interactions were used. For qualitative analysis, the transcribed classroom data were carefully analyzed to achieve a better understanding of the phenomenon under study. Learners' comments from the follow up informal interview data were used to better understand the reasons behind the learners' L1 use.

The organization principle of the chapter is based on the research questions of the study (See page 5). Each of the research questions will be restated at the beginning of each analysis.

### **Findings for Research Question 1: To What Extent Do Grade 9 and Grade 12 Iranian Students Use Their L1 When Interacting with The Teacher and Peers?**

The first research question of the study intends to establish the proportion of L1 and L2 in classroom interactions. This provided an overview of the relative importance of L1. The purpose of this question was to find out whether all the learners use their L1 and the extent to which they used it. Quantitative analysis is done to provide a partial understanding of what was going on in the classroom with regard to use of L1 in L2. The findings of Research Question 1, when combined with the findings of Research Question 2, contribute to the third question and set the stage for the consideration of amount and functions of L1 use in different tasks of a lesson.

The unit of analysis for answering the first research question is five-second sampling (See page 71). Five-second sampling is a method where audio recordings are listened to, and at each five second mark, it is noted whether the interaction is in L1 or

TL. Macaro (2001) used five-second sampling for his study. Other studies used different intervals to estimate the amount of L1 and TL use in the classroom. For example, Duff and Polio (1990) used 15-second sampling technique for their study, Saito (2014) used 20-second sampling, and Wragg (as cited in Macaro, 2001) used three-second sampling. In this study, data were analyzed quantitatively based on the five-second sampling used by Macaro (2001) in order to increase accuracy of the frequency of the learners' language use in the classroom. This helped make it more fine-tuned.

Data used included both that of Grade 9 and Grade 12 classroom interactions. Classroom recordings for one whole semester were used, and the learners' use of either L1 or TL in pair, group, and whole class interactions were tallied every five seconds. This provided the figures for the calculation of the quantity of L1 use as a percentage of the total classroom language use, or for any other calculations needed to answer the first research question. It should be noted that as the focus of this study was on the learners' use of L1 in reading, no instances of L1 use in teaching of grammar or while the learners were doing grammar exercises were counted or considered for data.

The analysis to answer the question is addressed in two steps. First, percentages of L1/TL used across the lessons during one semester were calculated and analyzed. This provided a general picture of the learners' use of language in the classroom. However, this did not reveal detailed and in-depth analysis of each learner's language use during the semester, nor the proportion of language used during the sub-sections of the lessons and while doing the different tasks. As a second step, L1/TL use for each individual learner was analyzed and is reported separately for each grade level. This provided a more detailed and in-depth analysis.

This section is presented according to the learners' grade level. Data were collected from two groups of learners, Grade 9 learners and Grade 12 learners, (See chapter 3) and are pertained to respectively in the paragraphs below. Data from one semester of both grade levels are used to answer the first research question.

**Grade 9 Learners' Use of L1.** At the Grade 9 level, the learners used varying amounts of L1/TL in their classroom interactions. Firstly, data showed that 25.81% of all Grade 9 learners' language use was in L1. The tally of the classroom recordings for this group of learners revealed 4,676 total instances of language use (L1+TL) of which 1,202 were in L1. Table 4.1 shows the summary of language use of this group of learners across the five lessons covered during the first semester. It should be noted that the overall percentage is not an average of the percentages in all lessons, but a percentage of the total instances of language (L1 / TL) used tallied across all five lessons.

Table 4.1

*Percentages of Grade 9 Learners' Use of L1/TL Across the Five Lessons During One Semester*

	Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5	Total % L1/TL
L1 %	39.24	18.11	31.60	29.37	15.29	25.81
TL %	60.76	81.89	68.40	70.63	84.71	74.19
Total	100	100	100	100	100	100

The percentages of Grade 9 learners' use of L1/TL across the five lessons during one semester are displayed in Table 4.1. What the table illustrates clearly is that learners' L1 is used during all the lessons, but that TL was used in a much larger proportion. Data showed that the percentage of learners' use of their L1 in L2 reading lessons differed for each lesson, and varied from 15.29% to 39.24%. It can also be



observed that across the lessons, the proportion of L1 use decreases steadily, with the exception of Lesson 2 where there is a significant drop (from 39.24% to 18.11%). Since changes in control over the L2 as a means of regulating self and others' behavior in performing a task is an evidence of development, we can conclude that learners had steadily gained more L2 knowledge as the school term went on, and hence their reliance on L1 decreased.

However, table 4.1 does not show every individual participant's use of language in classroom interactions. Table 4.2 shows a more detailed quantitative analysis. Individual figures of L1 or TL use for each of the participants were calculated. The frequency table presents the percentages of L1/TL, tallied for Grade 9 participants during each lesson, and finally the percentages of L1/TL use in the whole semester for each participant.

It should be noted that the data included in the analysis was not gathered across all of the lessons from all of the participants. Three participants were not present for the whole duration of data collection, but only for some lessons. Kian's data was gathered from the first 3 lessons because he left the school after that. Dara's data was gathered from the last 2 lessons because he joined the school later than all the other students. Hiran's data is missing Lesson 3 because he was absent during that lesson.

From Table 4.2, it can be observed that, as a general pattern, learners show a reduction in their use of L1 in the last lessons when compared to the first lesson. There are exceptions to this pattern. Lesson 2 has the lowest proportion of L1 use among the students. However, this could be due to factors out of the focus of this study, such as the lesson having the shortest reading passage among the rest, and/or having a lower difficulty level compared to the rest of the lessons. Either of these factors would have lessened the learners' need to use L1 as a scaffolding help.

Table 4.2

*The Frequency Table for Grade 9 Participants' Use of L1/TL in Each Lesson*

		Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5	Total % to Self
Kian	L1	45.00	34.70	41.90	-	-	40.88
	TL	55.00	65.30	58.10	-	-	59.12
Pars	L1	23.10	13.90	3.75	8.20	10.77	10.36
	TL	76.90	86.10	96.25	91.80	89.23	89.64
Reza	L1	3.65	2.17	2.5	4.46	5.03	3.56
	TL	96.35	97.83	97.5	95.54	94.97	96.44
Vah	L1	58.06	32.30	1.88	7.09	9.58	19.03
	TL	41.94	67.70	98.12	92.91	90.42	80.97
Ali	L1	44.82	0.00	44.44	37.33	16.26	32.31
	TL	55.18	100	55.56	62.67	83.74	67.69
Zia	L1	23.80	14.86	43.33	56.66	47.54	41.72
	TL	76.20	95.14	56.67	43.34	52.46	58.28
Hira	L1	5.55	0.00	-	15.57	6.81	8.96
	TL	94.45	100	-	84.43	93.19	91.04
Ata	L1	70.20	33.33	66.10	63.88	59.09	57.02
	TL	29.80	66.67	43.90	36.12	40.91	42.98
Ham	L1	35.89	25.00	32.25	24.00	10.47	25.57
	TL	64.11	75.00	67.75	76.00	89.53	74.43
Ami	L1	70.00	47.91	49.29	69.87	21.91	55.14
	TL	30.00	52.09	50.71	30.13	78.09	44.76
Dara	L1	-	-	-	53.33	16.66	27.45
	TL	-	-	-	46.67	83.34	72.55

Another exception to the pattern, as it can be seen in the table, is Zia, whose use of L1 increased across the lessons.

There is also another noteworthy feature seen in the table. From the data it can be seen that learners' use of Persian in their interactions varied with that of other learners', and it ranged from exclusive use of English to using Persian most of the time. The range of L1 use varies from 0% to 70.20% among the learners. Two of the learners, Hiran and Ali, show no L1 use during Lesson 2, which again, could be due to the lesson having the shortest reading passage among the rest, and having a lower difficulty level compared to the rest of the lessons. Other than the 'New Words' section, the rest of the tasks for Lesson 2 were teacher-fronted. Proficient enough, these two learners were able to communicate with the teacher in L2.

**Grade 12 learners' use of L1.** At the Grade 12 level, the learners used different amounts of L1/TL in their classroom interactions. Firstly, Data showed that 41.61% of all Grade 12 learners' language use was in L1. The Grade 12 learners produced more speech compared to the Grade 9 learners. The total number of instances tallied for both L1 and TL by this group of learners showed 17.8% more language (Persian and English combined) than for the Grade 9 learners. The tally of the classroom recordings for this group of learners revealed 5,508 total instances of language use (L1+TL) of which 2,292 were in L1. Table 4.3 shows the summary of L1 / TL use of this group of learners across the four lessons covered during the first semester. It can be seen that there is a tendency for learners to rely on their L1 as an aid in reading lessons. As mentioned earlier, the overall percentage is not an average of the percentages in all lessons, but a percentage of the total instances of language used tallied across all four lessons.

Table 4.3 displays the percentages of Grade 12 learners' use of L1/TL across the four lessons during one whole semester. Similar to the Grade 9 participants, it can be seen that this group of learners used L1 during all the lessons, and that the use of TL was much higher compared to their use of Persian. The data showed that the

Table 4.3

*Percentages of Grade 12 Learners' Use of L1/TL Across the Four Lessons During One Semester*

	Lesson 1	Lesson 2	Lesson 3	Lesson 4	Total % L1/TL
L1 %	33.96	29.62	43.15	61.33	41.64
TL %	66.04	70.38	56.85	38.67	58.36
Total	100	100	100	100	100

percentage of learners' use of their L1 in L2 reading lessons varied for each lesson, and ranged from 29.62% to 61.33%. Analysis of the percentage of L1 used by Grade 12 learners resulted in a greater range compared to Grade 9 learners' use of L1 which was between 15.29% and 39.24%. This could be due to a bigger gap of proficiency between the Grade 12 learners compared to the Grade 9 learners. However, this has no bearing on the results and the analysis of this study. It should be noted that the grade level comparisons do not refer to proficiency level of students but to the textbooks (see pages 61, 62) used by the two grades and text related factors (see page 173). And also comparing grade levels was not an objective of the study. It would be inaccurate to do so because there is an overlap in proficiency level in the two classes, as students in Iranian schools are not streamed on the basis of English language proficiency.

It can also be seen that unlike Grade 9 level, the proportion of L1 use increases steadily across the lessons, with the exception of Lesson 2 where there is a marginal drop from 33.96% to 29.62%. Lesson 2 could be an exception because due to outside

circumstances, the school was closed for 10 days before Lesson 2 was taught, and the teacher was behind the teaching schedule. Hence, to save time, Lesson 2 was completely conducted as whole-class teacher fronted, which may have influenced the amount of L1 use. Another reason for the low use of L1 during this lesson could be that Lesson 2 had a lower difficulty level easier compared to the other lessons in their textbook.

Table 4.4 contains a more detailed analysis and displays individual participant's use of language in classroom interactions for Grade 12 learners. It presents percentages of L1/TL use by Grade 12 participants during each lesson, and lastly the percentage of L1/TL use during the whole semester for each participant. As it is evident in the table, the data included in the analysis was not gathered across all four lessons from all of the participants. This is because not all the learners were present during all sessions. Mahdi's data is missing Lesson 3 because he was absent during that lesson. Sina and Hasan's data was gathered from the Lessons 2 and 3 because they joined the school later than all the other students and were absent during Lesson 4 session. Four other learners also were absent when Lesson 4 was being taught.

Table 4.4 discloses a significant finding regarding the Grade 12 learners: with the exception of one learner, Sina, all learners used their L1 in some way and in some part of the lessons in their attempts to participate in classroom interactions. However, it is not evident from the table and at this step of analysis whether the use of L1 happened during the whole class interaction or during the pair/group work or which section of a lesson. The noteworthy feature seen in the table is that this group of participants' use of L1 in classroom interactions varied with that of other learners', and it ranged from the exclusive use of English to using Persian 89.65% of the time.

Table 4.4

*The Frequency Table for Grade 12 Participants' Use of L1/TL in Each Lesson*

		Lesson 1	Lesson 2	Lesson 3	Lesson 4	Total % to Self
Salar	L1	26.32	36.00	61.32	77.45	55.29
	TL	73.68	64.00	38.68	22.55	44.71
Arash	L1	12.50	62.50	72.84	68.55	58.79
	TL	87.50	37.50	27.16	31.45	41.21
Iman	L1	30.43	4.63	37.5	7.40	22.43
	TL	69.57	95.37	62.50	92.60	77.57
Taha	L1	25.55	50.00	49.35	80.37	53.36
	TL	74.45	50.00	50.65	19.63	46.64
Foad	L1	21.65	23.08	71.79	-	31.05
	TL	78.35	76.92	28.21	-	68.95
Sina	L1	-	0.00	21.00	-	20.25
	TL	-	100	79.00	-	79.75
Hadi	L1	46.53	14.06	27.04	14.70	28.82
	TL	53.47	85.94	72.96	85.30	71.18
Hasan	L1	-	16.66	51.42	-	48.68
	TL	-	83.34	48.58	-	51.32
Matin	L1	16.66	59.25	29.21	51.16	41.07
	TL	83.34	40.75	70.79	48.84	58.93
Farid	L1	20.83	9.52	17.07	-	14.06
	TL	79.17	90.48	82.93	-	85.94
Omid	L1	31.20	11.11	19.44	5.88	25.99
	TL	68.80	88.89	80.56	94.12	74.01
Amir	L1	42.47	62.50	40.00	-	43.46
	TL	57.53	37.50	60.00	-	76.54
Mani	L1	48.68	89.65	68.31	62.41	63.40
	TL	51.32	10.35	31.69	37.59	36.60
Mahdi	L1	32.43	66.66	-	47.75	56.58
	TL	67.57	33.34	-	52.25	43.42
Nima	L1	54.28	78.72	48.09	-	55.35
	TL	45.72	21.28	51.91	-	44.65

Considering the total percentages of L1 use during the semester for each learner, it can be seen that it varied between 14.06% obtained from Farid's data and 63.40% calculated based on Mani's participation in the interactions. Varied percentages of L1 imply the individual differences among the same grade level learners and their use of L1 in TL reading. Moreover, it suggests that learners' reliance on L1 as a tool to understand TL texts or as a social communicative tool varied for individuals. This is further supported by the fact that according to the sociocultural theory, the quantity and varying levels of assistance and mediation needed for each learner differs based on individual's ZPD as well as aspects of the situated context.

As reported above, at this stage of analysis it is evident that all learners in the two grade levels used their L1 in order to accomplish the tasks assigned to them. Learners' used their L1 as a mediating tool in reading English texts and in doing the reading tasks. Also, L1 enabled them to engage in their learning process. However, the frequencies of L1 use indicated that each learner's use of L1 varied with that of other learners. The analysis of frequencies of L1 has shown that the amount of L1 varied in different lessons as well. This quantitative analysis was done to provide a partial understanding of what was going on in the classroom with regard to use of L1 in L2. Further statistical quantitative analysis was not aimed at for the study. It should be noted that the data for the study was collected in real time in an EFL classroom. Nothing was controlled at the time of data collection. In some sessions some learners were not present. However, in order to investigate the role of L1 in L2 learning, and determine how utilizing L1 benefits or hinders reading of L2, data needs to be analyzed qualitatively. The other research questions will provide this qualitative analysis, using the qualitative data gathered. This qualitative analysis of instances where L1 was used adds more insights to the findings , and thus, data were analyzed qualitatively.

## **Findings for Research Question 2: What Functions Does L1 Serve in the Grade 9 and Grade 12 Iranian Learners' Intermental and Intramental Speech in an EFL Reading Class?**

The second research question of the study sought to investigate the functions of learner's use of L1 in their classroom interactions while doing the reading tasks. Reporting only percentages of learners' use of L1, while useful, does not fully capture the dynamic nature of the interactions. In order to add to the findings from the quantitative analysis and capture dynamics of interactions, qualitative analysis is needed. Both the quantitative and qualitative analysis were used to answer this question.

The question of the status and function of speech is central to sociocultural theory (DiCamilla & Antón, 2004). Studies which investigated the functions of L1 in L2 learning have been mostly inspired by sociocultural view of language. Based on this view, language is an important psychological tool which serves a social function in mediating social interaction and also plays a self-regulatory function in mediating our mental activity. The Sociocultural Theory of L2 (Lantolf, 2000; Lantolf & Thorne, 2006), which provided the framework for this study, holds that learner's speech, either in L1 or L2, impacts L2 learning. This framework acknowledges a role for learner's L1 as a mediator in the process of L2 learning. Lantolf's Sociocultural Theory of L2 (SCT-L2) was used as the framework (see chapter 1) to analyze the data to answer three research questions of the study. SCT-L2 guided the analysis of findings for the functions of L1 in two ways; firstly, by maintaining that learners' speech has the ability to function as a "mediational artifact to control thinking" and secondly, by holding that learners' speech "may also be outwardly directed toward other individuals and may



regulate in some way those who are the object of speaking” (Lantolf & Thorne, 2006, p. 60).

Inspired by theoretical framework of the study, at first, two broad categories were considered, that is, L1 as a social tool in speech directed to others, and L1 as an intra-mental tool in vocalized private speech directed to oneself. For the coding of interaction data, a list of possible functions for L1, inspired by the earlier literature investigating L1 use in L2 classroom, was used. For example, DiCamilla and Antón’s (2012) study inspired the categories for the social functions of L1 use in L2 classroom for the study. DiCamilla and Antón’s study investigated functions of learners’ use of L1 in L2 classroom while they were engaged in a writing task, and so the categories had to be adapted slightly for the purpose of this study. The earlier literature on private speech (Centeno-Cortés & Jiménez Jiménez, 2004; DiCamilla & Antón, 2004; McCafferty, 1994) inspired the coding for the self-regulatory functions of L1 in learners’ thinking process.

From among different units of analysis used in previous studies, utterance seemed appropriate for the purpose of the study. Utterance has been used in previous studies in literature (Appel & Lantolf, 1994; Campa & Nassaji, 2009; Leeming, 2011) and thus it was used in this study as the measure to quantify and determine the frequency of functions of learners’ use of Persian (L1) in their speech. Since neither learner’s use of L2 nor any grammatical accuracy or proficiency development was the focus of this study, utterance as the unit of analysis served the purpose. Transcribed data containing Persian was first identified and divided into utterances and then these utterances were coded for the functions they served.

The data to answer this research question comes from both Grade 9 and Grade 12 learners. Data included the learners’ use of L1 in their speech in pair work, group

work, or whole-class tasks among learners or in their speech directed at the teacher. Careful consideration of data showed that learners used L1 in classroom interactions for a wide range of purposes, and that it performed different functions. Analysis of data showed that all of the learners in both grades used L1 to some degree. In some cases, they used L1 for a few minutes in a long discussion while occasionally used L2 words in between. Whereas, in some other instances, they used TL as the medium of group interactions and rarely reverted to L1. At this stage of analysis, the purpose of use of L1 and the functions it served in classroom interactions is considered. Data from follow up informal interviews were also used to shed light onto the analysis and provide evidence for the reasons of learners' use of L1.

**Macrofunctions of L1.** Data analysis revealed that the learners' L1 was used to serve two macrofunctions, that is, for interpersonal purposes, and for intrapersonal purposes. The learners used their L1 interpersonally as a social tool, in order to create a warm social environment. This facilitated learners' communication and created a friendly setting and a collaborative environment which assisted them in carrying out the assigned tasks. L1 was also used intrapersonally in the learners' private speech to regulate their own cognitive processes. These were utterances in the learners' speech which were neither intended for nor directed at others, but to the self, and were audible. However, the use of L1 in learners' vocalized private speech comprised a small proportion of the data. This figure, as it is evident in Table 4.5, accounted for only 5.14% of the total instances of L1 use by Grade 12 learners and 1.33% of the instances for Grade 9 learners' use of L1. Since the data for the study was obtained in the naturalistic social setting of classroom, this finding was not surprising. Due to the nature of the study which is investigating use of L1 in the learners' interactions,

Table 4.5

*Frequency of Macrofunctions of Use of L1 According to Grade Levels*

Macrofunctions of Use of L1	Grade 9	Grade 12
Intermental use of L1 in metatalk about language	975 (49.82%)	1652 (62.96%)
Intermental use of L1 in metatalk about task	572 (29.23%)	402 (15.32%)
Intermental use of L1 in interpersonal relations	384 (19.62%)	435 (16.58%)
Intramental use of L1 in vocalized private speech	26 (1.33%)	135 (5.14%)
Total use of L1	1957 (100%)	2624 (100%)

intermental use of L1 accounted for a very high percentage of all the instances of use of L1.

For the better understanding of the functions of L1 in the learners' interpersonal interactions, the broad category in which L1 was used as a social tool was further categorized into three groups, i.e. intermental use of L1 in metatalk about language, in metatalk about task, and in interpersonal relations. The total number of instances of use of L1 by the learners for each of the four macrofunctions and the percentages they made up is summarized in Table 4.5. The percentages in the table are based on the total number of use of L1 either as a social tool or in the learners' private speech. Intermental use of L1 in metatalk about language encompasses any speech by the learners in L1 discussing the language, such as any request for assistance, providing assistance, translations, etc., as it served to better understand L2 and assist one another in learning L2. Intermental use of L1 in metatalk about task includes L1 use in task management, for example, making decisions about who does and says what, as well as any other speech that was related to carrying out the task, in order to keep one another's interest in the task at hand. The category of intermental use of L1 in interpersonal relations involves use of L1 in any speech by the learners not directly

related to the task or to the linguistic aspects. This includes instances of L1 use during off task speech, making a humorous remark, etc.

For Grade 9 learners these three categories of functions accounted for more than 98%, while for Grade 12, they accounted for more than 94% of all the instances of use of L1 in classroom interactions. In both grades, use of L1 in metatalk about language was the most frequent function for L1 use. Use of L1 in interpersonal relations was the second most frequent category of functions for grade 12 learners (16.58%), while the Grade 9 learners used L1 to talk about the task more frequently (29.23%) compared to the category of interpersonal relations (19.62%). These functions of L1 as a social tool are discussed in detail in their respective related sections later. In the following sections, examples of L1 use in whole-class, group, and pair work interactions are provided to better illustrate the functions that L1 served for the learners. Examples are reported followed by the context of the interaction. The function of use of L1 is described and illustrated in detail. For each function, first, excerpts from the Grade 12 learners' interactions are reported, which are then followed by examples from the Grade 9 learners' interaction data. This is because the Grade 12 textbook, *Learning to Read English for Pre-University Students*, explicitly focuses on reading, whereas the Grade 9 textbook does not have such an overt focus on reading.

**Intermental use of L1 in metatalk about language.** For both Grade 12 and Grade 9 participants, the most frequent category of functions for L1 use was the instances when learners talked about the language. Intermental use of L1 in metatalk about language refers to any use of L1 in the learners' speech that had a common shared focus on language, including its meaning or form. Of the instances where the Grade 12 learners used L1, 62.96% falls into this category, while 49.82% of the Grade 9 learners' use of L1 falls into this category (Table 4.5). Analysis of the data showed

that this category included a wide variety of different functions. This is because the learners mostly used their L1 to translate, elicit assistance or to provide assistance to each other or argue about a point while doing the tasks. In order to reduce the data, it was further coded and grouped. For example, functions such as asking for L1/L2 equivalent, asking for clarification, expressing vocabulary or comprehension difficulty, seeking confirmation, and other uses of L1 to ask for help were grouped together as requesting assistance. Functions such as providing L1 equivalent, clarifying and providing further explanation, providing hints and etc. were grouped together as providing assistance. Table 4.6 shows the ranking for most frequent functions of use of L1 which were considered under this macrofunction across grade levels.

Table 4.6

*Rank of Functions of L1 in Metatalk about Language for Grade 9 and Grade 12*

Rank	Grade 9	Frequency (%)	Grade 12	Frequency (%)
1	Request assistance	261 (26.80%)	Translation	442 (26.76%)
2	Provide assistance	221 (22.69%)	Request assistance	383 (23.18%)
3	Argue / agree/ disagree	166 (17.04%)	Provide assistance	323 (19.55%)
4	Translation	123 (12.63%)	Argue / agree/ disagree	118 (7.14%)
5	Initiate L2	35 (3.59%)	Express understanding	91 (5.51%)
6	Express understanding	28 (2.87%)	Add on a partner's or the teacher's L1	68 (4.12%)
7	Respond teacher's question	27 (2.77%)	Respond teacher's question	64 (3.87%)
8	Check partner's comprehension	23 (2.36%)	Check partner's comprehension	32 (1.94%)
9	Miscellaneous	90 (9.24%)	Miscellaneous	131 (7.90%)
	Total	975 (100%)	Total	1652 (100%)

As it is evident in Table 4.6, among the Grade 12 learners, L1 was most frequently used for translation (26.76%) followed by requesting assistance (23.18%). However, for Grade 9 learners the most frequent use of L1 in the category of metatalk about language was for requesting assistance (26.80%), followed by providing assistance (22.69%).

The ranking and percentages for most frequent functions of use of L1 across grade levels as a percentage of the total social use of L1 by the learners is displayed later in Table 4.7.

The next sections report and extend on some of the identified uses of L1 in the data and in functional categories which constitute the macrofunction of intermental use of L1 in metatalk about language, in detail. Excerpts of the learners' interactions are used to illustrate how L1 was used in interacting with each other or with the teacher to better understand and learn L2. The macrofunction of intermental use of L1 in metatalk about language consisted of several microfunctions: Argue a point to express agreement/disagreement; Check partner's comprehension; Express understanding; Provide assistance; Request assistance; Respond to teacher's questions; Translation; and specific to Grade 9, Initiate L2; and specific to Grade 12, Add on to a partner's/teacher's L1. A Miscellaneous category was also created for microfunctions whose percentages were insignificant. In the first section, the microfunction of Translation to L1 is looked at.

***Translation to L1.*** According to the data, the most frequent use of Persian (L1) among Grade 12 learners was for the purpose of translation (n=442). Translation made up 17.76% of total use of L1 as a social tool alone (Table 4.7), while making up 26.76% of L1 use in the category of intermental use of L1 in metatalk about language by this group of participants (Table 4.6). Any use of L1 in learners' speech to tell the

meanings and the equivalents of L2 words or sentences without any request for it was considered under this category. Analysis of data revealed that some learners needed to relate vocabulary and meaning in the L2 to meanings in their L1. Whenever they faced a comprehension problem, the learners used L1 as an aid to their understanding and language learning. However, this does not mean that all the instances of translation led to the right comprehension of the text. Use of L1 in this category was either by the learner himself as a way to solve own comprehension problems or by another partner in the group in order to aid the partner to solve a problem. There were also instances in the data where learners attempted to translate but they could not finish their sentences or they got a wrong and inaccurate translation. Often, the learners used Persian expressions such as ‘*mige ke*’ or ‘*dare mige ke*’, meaning ‘the passage says that’, to start to translate the sentence. The following examples involve Grade 12 learners’ use of L1 for translation.

### Excerpt 1

1. Mani: Just because the weather has been hot for a month or two does not +
2. Salar: does not mean that global warming
3. Mani: that global warming
4. Salar: *khob, mige ke chon faghat*
5. [Ok, it’s saying that just because]
6. Mani: *ye lahze vaista, ye lahze vaista bebinam kojast*
7. [Hold on, hold on let me find it]
8. Salar: *chon faghat hava*
9. [just because the weather ]
10. Mani: *hava*
11. [the weather ]
12. Salar: *bara yek mah ya do mah garm boode be maani in nistesh ke zamin*
13. [has been warm for a month or two, it doesn’t mean that the earth ]
14. Mani: *XX (quietly) khob, khob*
15. [XX (quietly) Ok,Ok ]
16. Salar: *dar hale, chiz, padide ye **global warming**, yaani padide ye garm*
17. *shodan e jahani reside. Mifahmi chi migam?*
18. [is undergoing, um, **global warming**, which is the phenomenon of
19. the earth getting warmer. Do you get what I’m saying?]

(Grade 12, Group work, December 2013)

This conversation occurred during group reading. There were three students in the group, but only two took part in this conversation. The learners were asked to read the text in their groups and help each other with the vocabulary and meanings. Mani started off reading from the text, but paused after stuttering on the phrase ‘does not mean’. Then in line 2, Salar continued reading from where Mani had stopped. Mani, interrupting him, continued reading from where he had stopped (line 3). Once done, Salar went on to translate the passage. Mani interrupts him asking Salar to wait for him to locate the sentence in the text (lines 6-7). This indicates that he wanted to look at the sentence while Salar was doing the translation. Salar continued translating. Mani, in line 11, repeats the phrase ‘the weather’, indicating that he is paying close attention to Salar’s translation. Salar went on translating; at the same time Mani was whispering inaudibly to himself and at last finished with ‘Ok, Ok’. Salar finished the translation, and once done he asked to see if Mani had understood it. Data analysis revealed that most of Grade 12 learners had a tendency to read segments of L2 text and translate it into their L1, like the one in above excerpt.

Another example for the function of translation is from the interaction in a pair work occurring at the same session as the one reported above. The learners in this dyad first read aloud the whole passage to the end without much talk about the vocabulary or the sentences. Then, Sina started to translate some of the vocabularies whose L2 definitions were provided by the textbook’s glossary at the side of the text.

### Excerpt 2

1. Sina: **environment** *ham ke mishe mohit e zist.*
2. [environment means environment]
3. Amir: *ino dige nemidoonestam.*
4. [This I didn’t know]
5. Sina: *man behet migam ke bedooni.* (Humor)
6. [I’m telling you now so you know] (Humor)
7. Sina: ++**pollution** *mishe aloodegi.*
8. [++**pollution** means pollution]



9. Sina: +++**recycle** *mishe bazyaft*.
10. [+++**recycle** means recycle]
11. Sina: +++**Against** *mishe moghabel*
12. [+++**against** means versus]
13. Sina: ++**Weight** *mishe vazn vali inja ye chiz dige, + in mishe ahamiat*
14. *dadan*
15. [++**weight** means weight, but here it means something else + here it
16. means take something into account/consider ]
17. Sina: *Inam ke mishee*++ **extinction** *mishe engheraz*.
18. [And this means ++ **extinction** means extinction]

(Grade 12, Pair work, December 2013)

This excerpt shows a segment of learners' interaction while the dyad was doing the reading section of the lesson. Data analysis for this dyad showed that in many instances the interaction was not collaborative. As we see in this segment, it doesn't seem to be a productive interaction. Sina, on his own, decided which words to be translated. He translated the new vocabularies before his partner, Amir, asked for it. Amir's utterance, "*ino dige nemidoonestam*" meaning "I didn't know this one", in lines 3 and 4 indicates that not all the translations were necessary and he might have known some of them himself. Whereas he is suggesting to his peer that he knew some other words translated by him, in reply, Sina produced the humorous utterance "*man behet migam ke bedooni* [I'm telling you now so you know!]" (line 5-6) and continued translating some more words.

There were instances in the learners' interactions where one of them used translation as a hint to other learner to show him that his use of L2 and choice of word was wrong or improper. The following excerpt is an example of use of L1 for this purpose. The data for the following interaction is from a whole class interaction of Grade 12 learners when one of the learners was answering the teacher's question.

### Excerpt 3

1. Teacher: Matin, have you ever been to the gym?
2. Matin: Yes. I have been to the gym.
3. Teacher: Then you have the experience of exercising. Why do you
4. exercise? Can you tell us?

5. Matin: Because when we do exercise our muscles become, + become
6. strong
7. Teacher: That's right.
8. Matin: When our muscles strong we can do the hard work. For example
9. when we fighting, for example (interrupted by peers)
10. St: *Bara daava miri bashgah?* (others laugh)
11. [Do you go to the gym to fight?] (others laugh)

(Grade 12, Whole class, October 2013)

This excerpt exemplified an instance of learners' use of L1 to translate the improper L2 word used by a peer while he was using L2 to answer a question. Through lines 1-8 Matin was answering teacher's questions in L2, and the teacher tried to encourage him to continue by saying 'That's right' (line 7). Then, we see that another learner interrupted Matin, asking him a question using the L1 equivalent of the same improper L2 word. He used translation to make Matin realize his improper choice of word, i.e. 'fight'. There are other incorrect features in Matin's utterances (lines 8, 9); however, the other learners did not comment on them. This might indicate that meaning and content to them is more important than grammatical accuracy.

There were few other instances similar to the above example when the learners used translation as a hint and tried to show the peers the wrong choice of word that it did not make sense. To the best of my knowledge, the use of L1 in this way was not reported in the previous studies. By doing this learners assisted their peers monitor their comprehension and realize the problem. In some instances, the learner himself self-corrected after realizing it without further assistance from others.

Another example of use of L1 for translation was for the purpose of clearing up peer's confusion. Some learners were confused by words which were of similar pronunciation such as 'main' and 'brain', as it is illustrated in Excerpt 4. In the following example, we see Salar's use of L1 to translate these two words in Persian to clarify Mani's confusion.

#### Excerpt 4

1. Salar: *Baad power stations: main source of extra carbon dioxide ++ power stations, Aha, niroogah, niroogah e bargh. Niroogah ha, eem, chiz,*
2. *manba e asliye karbon di oxid e ezafe an.*
3. *[then, power stations: main source of extra carbon dioxide ++*
4. *power stations, right, power stations, electricity power stations.*
5. *power stations. Um, they are the main source of excess carbon*
6. *dioxide.]*
7. Mani: **main mishe manba?**
8. **[main means source?]**
9. Salar: *Na, **source mishe manbaa**, **main mishe asli**. ++**Main menu, main***
10. ***menu**, yaani **menu e asli**.*
11. *[No, **source** means source, **main** means main. ++ **Main menu, main***
12. ***menu**, means main **menu**.]*
13. Move: *sabr kon man ghati kardam. Asli?*
14. *[Wait. I'm confused. Main?]*
15. Salar: *Asli, **original***
16. *[main, **original**]*
17. Mani: *maghz chi mishe?*
18. *[What's brain in English?]*
19. Salar: **head**, (and then corrects himself) *maghz mishe **brain**.*
20. *[**head**, (and then corrects himself) brain is **brain**]*
21. Foad: *mind.*
22. Salar: **brain, brain**. (disagrees with Foad) ***Mind**, mishe fekr, **brain mishe***
23. *maghz. ++**Main mishe asli**.*
24. *[**brain, brain**. (disagrees with Foad) **Mind** is like thought, **brain** is*
25. *brain + **Main** means main]*
26. Mani: *in, **main***
27. *[So, this is **main**]*
28. Salar: *oon, **brain** (then continues reading) burning of fosile fuels...*
29. *[That is **brain** (then continues reading) burning of fosile fuels... ]*

(Grade 12, Group work, December 2013)

The above excerpt is taken from Mani, Salar, and Foad's interaction. The group is engaged in discussion about a picture before the reading passage, illustrating the causes of global warming. In their group interaction, Mani explicitly admitted his confusion (lines 14-15). As we see through the whole segment, the learners heavily relied on translation to clear up Mani's confusion. Finally, as it is evident in lines 27 to 30, the problem is resolved. Mani's utterance in line 28, "So, this is main", suggests to the peer that he is now clear about the two words. And Salar's utterance "That is brain" put an end to this and then they continued doing the task.

It was evident from the data that most of Grade 12 learners used L2-L1 translation in order to understand the meaning of L2 text, especially at parts which were not easy for them. First, they read a part of the text, and if the text was not complex they gave the L1 translation and then continued reading. In cases where they had comprehension difficulty, after reading the English text aloud, they tended to translate it word for word into Persian. Then, for better comprehension, the more proficient learner in the group gave a more proper translation that sounded closer to the Persian. This explains the high percentage of L1 for this function among Grade 12 learners, and is in accordance with findings of the first research question.

As mentioned when answering Research Question 1 (see Table 4.3), the grade 12 learners' use of L1 had increased at the end of the semester compared to the beginning of the semester. One reason for this could be their way of reading comprehension. Their reading a text, and then translating it word for word, could have contributed to the increased L1 usage, especially as the lessons in their textbook got progressively more difficult, due to their themes (e.g., global warming, earthquakes).

Informal follow up interviews with learners allowed the researcher more insight on the reasons for this behavior of learners. Learners in the interviews stated that when the L2 text was difficult, they often read and reread a part of the text, translated it, and then moved on to the next part. For example, Mani's comment, "*adatame*" meaning ["This is how I always do it."] points to the fact that he always did this when reading difficult English texts. Other learners reported other reasons for the use of L1 in translating the L2 text, such as the complexity of the sentence or the concept, and the length of the sentence itself. For example, Matin reported that even comprehension of long L2 sentences that had no difficult vocabulary was not easy. Another learner, Mahdi, commented on the benefit of translating L2 to L1, and said

this behavior helped him figure out which words in the sentence go together. What the learners reported in the interviews supports the finding in Kern's (1994) study that translation decreased the load placed on the learner's cognitive processing. This will be further discussed later when answering other research questions of the study.

Similarly, Grade 9 learners tended to translate L2 words, concepts or ideas in order to make sense of the L2 and be able to integrate meaning. However, compared to Grade 12 learners, as it is presented in Table 4.6, translation was only the fourth most frequent use of Persian (L1) among Grade 9 learners (n=123). Translation counted for 6.36% of total use of L1 as a social tool alone (Table 4.7), while making up 12.63% of L1 use in the category of intermental use of L1 in metatalk about language by this group of participants (Table 4.6). In the 'New Words' section of the lessons and the tasks on vocabulary, translation was very common among Grade 9 learners. Instead of defining the word and explaining it in TL, more proficient learners often gave a quick L1 translation. Below is an instance of use of L1 for the purpose of translation which is taken from Grade 9 data while the learners were doing the 'New Words' section of the lesson. In Excerpt 5, Kian used L2 to define 'cow'. In his definition he used the word 'dairies', but right after he assumed that the peers might not know it's meaning, and provided peers with its translation in line 2.

#### **Excerpt 5**

1. Kian: Cow also is a kind of animal and cow will give us milk, cheese and
2. some dairies. **Dairies** *mishe labaniat. Yadet moond?*
3. [Cow is a kind of animal and cow will give us milk, cheese and some
4. dairies. **Dairies** *mean dairies. Got that?*]

(Grade 9, Group work, October 2013)

Excerpt 6 and 7, taken from Grade 9 data, exemplify two other instances of use of L1 for translation while the learners were doing the 'New Words' section of the lesson. In Excerpt 6, Reza first translated the word 'understand' in the L2 sentence,

and then defined it in English. In Excerpt 7, Vahid used L1 in a slightly different way in the L2 sentence. He first read aloud the L2 sentence, and then substituted the L2 word 'deep' with its L1 meaning, '*amigh*,' in the sentence to help his peers to understand the meaning. There were other similar instances of use of L1 in the data in which learners gave an L1 translation of an L2 word preceding or following the L2 definition or a synonym of the L2 word.

#### **Excerpt 6**

1. Reza: understand means *fahmidan*, means getting to know the meaning
2. of it.
3. [understand means understand, means getting to know the meaning
4. of it.]

(Grade 9, Group work, December 2013)

#### **Excerpt 7**

1. Vahid: It's deep, it's *amigh*.
2. [It's deep, it's deep]

(Grade 9, Group work, December 2013)

According to sociocultural theory, speaking and thinking are interrelated. L2 learners in this study used their L1 in their social classroom interactions and this mediated their L2 learning in different ways such as in helping them focus their attention on problems of vocabulary and meanings faced in L2, and clearing up confusion. Findings supported Antón and DiCamilla's (1999) argument that L1 can be used as a means of understanding and evaluating the meaning of L2 texts (p. 322). The excerpts reported above show that both Grade 9 and Grade 12 learners used L1 as a psychological tool in their translations and that helped them mediate their own or peer's cognitive processes. It was illustrated that translation for some learners, especially Grade 12 learners, was an individual learning style which enabled them to

relate meanings or clear their confusions. For some learners, it helped strengthen their L2 vocabulary and was an effective way in helping them avoid misunderstanding.

*Use of L1 to request assistance.* This subcategory of functions included any use of L1 by the learners asking for L1 equivalents of unknown L2 words, asking for L2 equivalents of words, requesting more information or clarification, seeking confirmation, and requesting help regarding the spelling or the pronunciation of L2 words. Expressions indicating comprehension difficulty or vocabulary inadequacy, and the learners' request for repetition were included in this subcategory as well. This was the second most frequent group of functions for Grade 12 learners' intermental use of L1 in metatalk about language. There were 383 instances of Grade 12 learners' use of L1 in the data when the learners explicitly requested help from other learners or the teacher while doing different tasks. This category counted for 15.39% of total use of L1 as a social tool (Table 4.7) and made up 23.18% of L1 use in the broad category of intermental use of L1 in metatalk about language (Table 4.6) by this group of participants.

Excerpts 8 and 9 illustrate Grade 12 learners' use of L1 in their interaction while they used L1 to ask the equivalent of an English (L2) word appeared in the reading text or in partner's speech. The interaction in Excerpt 8 occurred during group reading. The learners were asked to read the text, and help each other with the meanings and vocabularies in order to be able to answer the comprehension questions later. It exemplifies use of L1 to ask the equivalent of an unknown L2 word which appeared in the reading text. While reading, Mahdi, who did not know the meaning of the L2 word 'healthy', used L1 to ask for help from other group members to provide him with its L1 equivalent.

### Excerpt 8

1. Mahdi: **Healthy** *yani chi*?
2. [What does **Healthy** mean?]
3. Hadi: *salem*=
4. [healthy]=
5. Foad: =*salem*
6. =[healthy]

(Grade 12, Group work, October 2013)

Excerpt 9 is taken from a pair work interaction data in which one of the learners used L1 to ask for the equivalent of an unknown L2 word uttered by the other peer. While Iman was summarizing what they had already read in L2, he used the word ‘schedule’ whose meaning the other partner did not know. Nima immediately interrupted Iman and used L1 to ask for the equivalent of L2 word ‘schedule’. Analysis showed that this was a frequent pattern which occurred during learner-learner interactions.

### Excerpt 9

1. Nima: *yani chi* **schedule**?
2. [What’s **schedule**]
3. Iman: *barname*
4. [schedule]

(Grade 12, Pair work, October 2013)

Examples mentioned earlier were from learner-learner interaction. Learners used L1 to ask for the L1 meanings in their learner-teacher interactions as well. The following dialogue taken from group work interactions, shows that L1 was also used to request help from the teacher. In the following segment of interaction, while reading, the learners come across an L2 word they did not know. In lines 3 and 7 of excerpt 10, Mani used L1 to ask Salar the meaning of unknown word ‘mild’. As we see in line 9-10, when Salar failed to provide the L1 equivalent, he called on the teacher for help.



### Excerpt 10

1. Salar: *khob, but the average weather* (interrupted by Mani)
2. [Ok so, but the average weather] (interrupted by Mani)
3. Mani: **Mild** (Wrong pronunciation /mild/ ) *chi mishe?*
4. [What does **mild** (Wrong pronunciation /mild/ ) mean?]
5. Salar: *Ha?*
6. [What?]
7. Mani: **Mild** (Wrong pronunciation) *alan maanish chie?*
8. [**Mild** (Wrong pronunciation) what does it mean?]
9. Salar: Mild. Sunny and mild, (reads previous part) *Khob chi mishe?++*
10. [Mild. Sunny and mild, (reads previous part) well, what does it mean?++]
11. mean?++]
12. Salar: *Khanom mild chi mishe?*
13. [Miss, what does **mild** mean?]

(Grade 12, Group work, December 2013)

There were many instances in the data where one of the learners in a group could answer the peer's request and helped other learner solve a linguistic problem. However, in case the problem was not within the L2 knowledge of any of the learners in a group, as the one reported in Excerpt 10, they called the teacher to assist them.

Learners did not use L1 to ask the meanings of just single words. Their request was not limited to just words, but in some instances to phrases or whole sentences as well. When they could not make sense of sentences in a paragraph, they used L1 to express their difficulty. The following excerpt is another example in which Grade 12 learners used L1 to request help from the teacher.

### Excerpt 11

1. Matin: *Khanom, in yani chi?*
2. [Miss, what does this mean?]
3. Hasan: *Khanom, 'with this in mind' yani chi?*
4. [Miss, what does 'with this in mind' mean?]
5. Teacher: With this in mind, means if we remember this, if we keep this in our mind, *ba tavajoh be in, ba tavajoh be in nokte ke ghablan gofte shode.*
6. mind, *ba tavajoh be in, ba tavajoh be in nokte ke ghablan gofte*
7. *shode.*
8. [With this in mind, means if we remember this, if we keep this in
9. our mind, keeping this in mind, in regards to what has been said
10. before]

(Grade 12, Pair work, December 2013)

As for Grade 9 learners, analysis of their interaction data showed that, while talking about language, the most common use of Persian (L1) for learners was for the purpose of requesting assistance (n=261). Use of L1 to request assistance counted for 13.5% of total use of L1 as a social tool alone (Table 4.7), while making up 26.80% of L1 use in the category of intermental use of L1 in metatalk about language by Grade 9 learners (Table 4.6). Data analysis revealed that the use of L1 in many instances arose from a need to know the meaning of vocabulary and expressions.

The next excerpt, taken from the transcript of Dara and Hiran, is an example of the use of L1 by Grade 9 learners. Similar to Grade 12 learners, this group of participants used L1 to ask the equivalent meanings of unknown L2 words. In Excerpt 12, Hiran was reading from the ‘New Words’ section of the lesson. Like many other instances of use of L1 observed in the data, these learners used L1 to clarify issues of vocabulary and meaning. In their dyadic conversation, there were a few instances when Dara relied on assistance from his partner, Hiran, to provide him the Persian equivalent of English words. For example, as it is shown in line 2, Dara did not know the meaning of ‘turn on’. The phrase ‘turn on’ was not included in the lesson. However, due to its similarity to ‘turn into’, which was a phrase included in the lesson, he confused the two phrases with each other. He interrupted Hiran to ask the L1 meaning. Once the issue was resolved, as it is displayed in line 9, Dara repeats both the meanings in L1. Data revealed this behavior as a frequent pattern in learners’ interaction. Such a behavior, after they could solve the problem of vocabulary and meanings, might indicate that using L1 in this way helped them internalize the L2 vocabulary.

### **Excerpt 12**

1. Dara: *Masalan migan **turn on** maani chi mide?*
2. [For example when people say **turn on**, what does it mean?]
3. Hiran: **Turn into** *che rabti be Turn on dare?*
4. [What does **Turn into** have to do with **Turn on**?]

5. Dara: *na. masalan yeki mige turn on oon ja maanish chi mishe?*
6. [No, when someone says **turn on**, what does it mean?]
7. Hiran: *Khob oon roshan kardane.*
8. [Well, that means turn on.]
9. Dara: *roshan kardan, oon tabdil shodan*
10. [turn on, the other turn into.]

(Grade 9, Pair work, December 2013 )

Excerpt 13 shows another instance of use of L1 in Grade 9 learner-learner interactions, where learner asks for the meaning of an unknown L2 word. In his speech, Kian used the L2 word ‘regularly’ when he was trying to define ‘servant’, a new word in the textbook. However, it might have caused Ata comprehension difficulty. Ata did not let his partner finish his sentence and immediately interrupted him to ask the meaning for ‘regularly’. Ata’s question “What?” (lines 2-3) further indicates that this might have been the first time he had come across this word. In reply, Kian repeated the word followed by its L1 equivalent to resolve the problem.

### **Excerpt 13**

1. Kian: Someone regularly (interrupted by Ata)
2. Ata: *Chi?*
3. [What?]
4. Kian: **Regularly**, *be tor e maamool o monazam.*
5. [**Regularly**, at regular times and routinely]

(Grade 9, Group work, November 2013)

A learner speaking in L2 or reading the L2 text, followed by another learner’s interruption in order to ask the L1 meaning of a word was one frequent pattern for the use of L1 in learner-learner interactions. The learner who did not know the meaning would use L1 to ask, and if the other learner knew the word he would provide the partner with the L1 equivalent. The question that arises is, what difference would it make if the utterance was in L2? Ata, in the above excerpt, was proficient enough to have been able to produce a simple utterance equivalent to it in L2, and yet he said “*chi?* [what?]”. What was the reason for him to using L1? In the informal follow up

interview later, Ata admitted he should have uttered that in L2 because it was easy. Ata's comment, "*amma in assoon bood , chera be fekram naresid?* [but this was easy, why couldn't I think of it?]" shows that despite having enough proficiency to respond in L2, the L2 equivalent for the word did not even occur to him at the time.

Other instances of L1 use to request assistance were when learners used L1 to request clarification when they faced a linguistic problem in processing L2. Excerpts 14 and 15, which are taken from Grade 12 learners' data, exemplify the use of L1 for this purpose. In the 'Reading' section of a lesson on global warming, during the whole class interaction, Farid could not comprehend the difference between two English words; 'weather' and 'climate'. The teacher had explained these two words using L2 and Farid probably tried to sort them out; however, the problem persisted. Then he used L1 and requested the teacher to explain the difference in Persian (L1). Excerpt 14 illustrates this segment of interaction.

#### **Excerpt 14**

1. Farid: *khanom fargh e **climate** va **weather** ro mishe be Farsi begid?*
2. [Miss, could you say the difference between **climate** and **weather** in
3. Persian?]

(Grade 12, Whole class, November 2013)

Another instance of learner's use of L1 to ask for clarification at the time of linguistic problem is shown in Excerpt 15. When engaged in reading section of a lesson about earthquakes, the L2 word 'rattle' was used. Farid did not know its meaning and repeated the word with a rising intonation, as if to pose a question. The teacher used L2 and defined the word 'rattle'. Omid, another learner, still had difficulty and did not understand whether it referred to the action or just the noise. Then he used L1 (lines 5-6) and asked the teacher to provide him with more information in order to resolve his problem.

### Excerpt 15

1. Farid: rattle?
2. Teacher: Rattle, it's a kind of movement that makes sound, or noise. For
3. example when you move your keys, you make noise. You move
4. and also make noise.
5. Omid: *be sar o seda migan ya be in kar?*
6. [Does it refer to the noise or the action?]

(Grade 12, Whole class, December 2013)

The next excerpt, taken from the transcript of Grade 9 data, also shows learner's use of L1 to ask for clarification. However, unlike the excerpt above, the context is slightly different in a way that in this piece of interaction learner's use of L1 followed the teacher's use of L1 to explain the meaning of L2 word 'wonder'. Following the teacher's explanation, it seems that the two words were confusing to Amin. It was hard for him to differentiate between these two words 'wonder' and 'wonderful'. So he needed more help to clear up the confusion.

### Excerpt 16

1. Teacher: **Wonder** *vaghti kasi az khodesh soal mikone.*
2. [We use **wonder** when someone ponders]
3. Amin: *Khanom wonder ba wonderful fargh mikone?*
4. [Miss, is **wonder** different from **wonderful**?]

(Grade 9, Whole class, December 2013)

The analysis of data also revealed that sometimes learners used L1 to seek for L2 equivalents. There were instances when the learners were trying to use L2 to answer the teacher's question. However, when they faced a vocabulary problem, they reverted to L1 and sought assistance to be provided with the L2 word they needed to use in their speech. Excerpt 17 and 18 are examples of learners' use of L1 for this function.

### Excerpt 17

1. Foad: *khanom 'tarashoh' chi mishe?*
2. [Miss, how do we say 'release' in English?]

(Grade 12, Whole class, October 2013)

### **Excerpt 18**

1. Omid: *Vakonesh e shimyayi chi mishe?*
2. [What is chemical reaction in English?]

(Grade 12, Whole class, November 2013)

Similar to Grade 12, this function of learner's use of L1 also occurred in Grade 9 learners' data. For example, in a group interaction, Hamid asked the peers what the L2 equivalent of 'liquid' was (Excerpt 19). And in another interaction, in whole class interaction while presenting in front of the class, Ata was trying to make a sentence using the word 'Germany'. He utilized L1 and asked the teacher what the L2 equivalent of 'developed' was (Excerpt 20).

### **Excerpt 19**

1. Hamid: *Mayeat chi mishe?*
2. [How do you say liquids in English?]

(Grade 9, Group Work, November 2013)

### **Excerpt 20**

1. Ata: *Pishrafteh chi mishe?*
2. [How do you say developed in English?]

(Grade 9, Whole class, October 2013)

There were a number of instances in the data from both grade levels where learners used L1 in their learner-learner or learner-teacher interactions to ask the pronunciation or spelling of an L2 word. In some instances, for example, they used L1 and explicitly asked the teacher to spell or pronounce the word. They used L1 to utter sentences such as "Miss, would you spell it?" or "How do you pronounce it?" It should be noted that while the learners in both grades were proficient enough to be able to produce such utterances in L2, they used L1. In other instances, learners went further, and used L1 to inquire about general rules, in order to avoid needing other people's assistance in the future. One such instance is illustrated in Excerpt 21. While reading, Mani did not know how to pronounce the word 'procedure' and the teacher

provided him with the correct pronunciation (line 3). Then in line 6, he tried to repeat the correct pronunciation after the teacher, and wanted to know if there is any way to tell when a word had a /dj/ sound.

### Excerpt 21

1. Mani: plan e-mer-gen-cy (broke the word up) procedures (wrong pronunciation)
- 2.
3. Teacher: procedures
4. Mani: procedures (tries to pronounce correctly), *az koja befahmim in /dj/ khoonde mishe?*
- 5.
6. [procedures (tries to pronounce correctly), How do we know this is pronounced as /dj/?]
- 7.

(Grade12, Pair work, December 2013)

Another function served by L1 is illustrated in the example below. It displays L1 used to express inadequacy. Analysis showed that learners used L1 to express inadequacy when they faced comprehension problem. At times when they could not add anything further to what they had already contributed to the group, or were unable to deal with a grammatical or a lexical problem either in L1 or L2, they used L1 to express their linguistic difficulty and inadequacy. Expressing inadequacy could be an indication of requesting assistance. Excerpts 22 and 23 show the Grade 12 learners' use of L1 for this function.

### Excerpt 22

1. Mani: *Man aslan ino nafahmidam.*
2. [I didn't get this at all.]
3. Teacher: *in ro?*
4. [This one?]
5. Mani: *bale.*
6. [Yes.]

(Grade 12, Pair work, December 2013)

### Excerpt 23

1. Matin: *aslan nemiad to zehnam.*
2. [I can't recall it at all.]

(Grade 12, Whole class, November 2013)

Excerpt 24 is a part of conversation which appeared in the group interactions of Grade 9 learners while they were working on the new words of the lesson, before the reading passage. One of the new words was ‘plant’. A member in the group, Hamid, was asked to define ‘plant’ in English. However, using TL, he provided some examples of ‘plant’ by saying the words ‘flowers’ and ‘grass’. Kian, another group member, first praised him using L1 and then reminded him that what he had already provided were examples and not a definition. And later Kian asked him again whether he knew how to define the word. Hamid who was not sure whether he could add anything or not, finally expressed inadequacy and said “*Nemidoonam che joori* [I don’t know how].”

#### **Excerpt 24**

1. Hamid: Plants are flowers, grass and something like that.
2. Kian: *Doroste. Maanisho baladi? ++ In ha ke gofti mesal hashe.*
3. [That’s right. Do you know the definition? ++ These are the
4. examples.]
5. Hamid: *be englisi? + mitoonam begam vali.. +++ na, nemidoonam che*
6. *joori*
7. [In English? + I can but, +++ no, I don’t know how.]

(Grade 9, Group work, October 2013)

This is an instance where a learner used L2 to initiate his conversation in order to answer the partner’s question; however, as we can see he was unable to produce an English definition and continued using L1 to express his inability. Hamid’s use of L1 at this point, as it is evident in the data, is not just an easy option. He started to talk in L2, and from analysis of his non-verbal interactions (his voice), it is evident that he was happy and eager to continue in L2. Hamid thought he would be able to define ‘plant’ in English, even after a partner reminded Hamid that what he had said were just examples. Later, he realized finally that he did not know how to say it in L2 and put an end to his hesitations and used L1 to express that he was not able to do that.



“*mitoonam begam vali, na, nemidoonam che joori* [I can say it, but, no, I don’t know how]”

Excerpt 25 is another evidence of using L1 to express inadequacy. While doing group work, the learners were looking for a synonym for ‘pretty’. Hamid offered the word ‘beautiful’; however, another member in the group, Ali, was not satisfied enough and wanted to add another word (line 2). The interaction in L1 continued on, until the third person in the group, Kian, offered another English word, ‘elegant’. Ali was not satisfied still and was trying to remember another word. He expressed difficulty in remembering and finally, when he could not recall the word, he gave up and agreed to use the word ‘beautiful’.

#### Excerpt 25

1. Ali: *Donbale ye chiz dige am.*
2. [I’m looking for another word.]
3. Kian: **elegant** *ham mishe.*
4. [We can say **elegant** too.]
5. Ali: *na. donbale ye chiz dige am.++*
6. [No. There is another word I’m looking for.] ++
7. Ali: *Yadam nemiad. Hamoon **beautiful** ro estefade konim.*
8. [I don’t remember. Let’s just use **beautiful**.]

(Grade 9, Group work, October 2013)

Unlike in Excerpt 25 where Ali expressed difficulty in remembering a TL word, in Excerpt 26 he was having difficulty finding an L1 word for an L2 word, and he utilized L1 to express this inadequacy. In this excerpt, Hamid, did not comprehend the meaning of ‘all over’ in the sentence ‘There are many countries all over the world’ which was in the textbook. He asked his partner, Ali, to say the Persian equivalent. However, Ali admitted that he did not remember the L1 equivalent. The word ‘all over’ was in Ali’s L2 vocabulary repertoire, but he could not recall the L1 equivalent for it.

#### Excerpt 26

1. Hamid: *khob. Aslan **all over** maani farsish chie?*
2. [What does the word **all over** mean, in Persian?]

3. Ali: *Man nemitoonam tarjome rahat bokonam. dar sath, dar +*
4. [I cannot translate it easily. on surface of, in+]

(Grade 9, Group work, October 2013)

L1 sentences or phrases such as: “*Dige chi begam* [what else to say]”, “*hamin ghadr mitoonam dige*, [It’s all I can do]”, “*dige in ro che joori begim* [How else can we say this]”, “*hamin ghadr khoobe dige* [It’s good enough]”, and “*man chi begam? mage man oxfordam?* [What do you want me to say? What am I? An Oxford dictionary?]” were used by the learners to express inadequacy.

Another function for the learners’ use of L1 was to request repetitions. During lessons, it happened frequently that learners asked a peer or the teacher to repeat what was already said. Sometimes a learner could not keep up with peers to make sense of L2 or to take down notes and thus, they needed others to say it again. In some instances, they asked others to repeat an L2 word in order to learn how to pronounce it. In many cases they used L1 to request help in the form of asking for repetitions. Excerpt 27, taken from Grade 9 learners’ data, is an example of learners’ use of L1 to ask a peer to repeat what he had said before. During the interaction, which is illustrated in the following excerpt, Amin and Ali were making their own sentences with the new words in the lesson. They had a long discussion and produced some sentences with which they were not satisfied. Finally, Ali came up with a sentence which Amin also agreed with and wanted to write it down.

### **Excerpt 27**

1. Amin: *chi? Ye bar dige begoo.*
2. [What? Say it again.]
3. Ali: a person
4. Amin: *na, na, na, example e khodet ro begoo.*
5. [no, no,no, What was your own **example** again?]

(Grade 9, Group work, November 2013)

Seeking confirmation, too, was another function of L1 as used by learners. There were many instances in the data from both grade levels in which learners used L1 to seek confirmation from the teacher or other learners. Learners' use of L1 for this function mostly occurred when they could not remember the right vocabulary or meaning; but they had a kind of hypothesis about the L2 word they read or heard in the interactions. In some instances, they were not sure whether they used the word correctly or not. In such cases, the learners sought assistance and solicited agreement from others. They used L1 to get support from other learners or the teacher. The following excerpt, which is a segment of Grade 12 learners' whole-class interaction, shows Omid seeking confirmation. The interaction involved the learners' discussion of the topic of the lesson 3 in Grade 12 textbook, which was about global warming. Omid confused 'warming' for 'warning'. The reason for this confusion can be attributed to the similar pronunciation of the two words. The teacher's reply, shown in line 5, included the L1 equivalent for 'warm', which made Omid realize that he had confused the two similar sounding words together. His confusion was resolved as we see in lines 7-8, where he produced an utterance in L1 and said "Oh, that's 'warn', warning".

### Excerpt 28

1. Omid: *global warming ham hamoon maani ro mide dige? Yani khatar e*
2. *jahani, khatar e hamegani.*
3. [Global warming means the same thing, right? Meaning global
4. danger, a danger to everyone]
5. Teacher: warming, warm, *garm*
6. [warming, warm, warm]
7. Omid: *Aha, oon warn e. Warning.*
8. [Oh, that's 'warn', warning.]
9. Teacher: *in warm*
10. [This is warm]
11. Omid: warming

(Grade 12, Whole class, November 2013)

Another example for this function is illustrated in Excerpt 29 which involved Ata and Kian while they were engaged in a group work. In this excerpt, Ata asked for help from Kian to confirm whether his comprehension of the word ‘left’, which was used in the textbook, was right or not. Unlike Excerpt 28, in the following excerpt Ata’s hypothesis is confirmed by the other peer. Kian provided the help by producing the L1 utterance ‘*bale*’ [Yes] followed by the L1 translation for the word ‘leave’.

### **Excerpt 29**

1. Ata: **Left** *zaman e gozashtey e leave e dige?*
2. [Left is the past tense for leave, right?]
3. Kian: *Bale, tark kardan.*
4. [Yes, leave]

(Grade 9, Group work, November 2013)

It should be noted that some of the utterances in the data could be put into more than one category. However, based on the context, they were only included in one. For example, Excerpt 29 could be considered both as metatalk about grammar as well as seeking confirmation. However, due to Ata exhibiting some prior knowledge of the word, and the use of the word “right?” by him, this was considered as him seeking for confirmation.

From the analysis it was evident that learners used their L1 frequently to ask for help in their social speech during classroom interactions. The instances of use of L1 to serve this function indicates that when facing problems during L2 learning tasks, the learners relied on their L1 in order to seek assistance and finally be able to solve the problem.

***Use of L1 to provide assistance.*** This category of functions included any use of L1 while providing L1 equivalents for L2 words in response to a partner’s explicit request, responding to a partner’s question, providing further explanation, providing hints to either facilitate peers’ L2 production or their understanding of L2, as well as

instances of peer correction. Analysis of data revealed 323 instances where Persian (L1) was used by Grade 12 learners and 221 instances of nine graders' social use of L1 to provide assistance to peers while engaged in doing different tasks.

An example of L1 use for this function appears in the following excerpt of interaction taken from Grade 12 learners. The three learners, Foad, Mahdi, and Hadi were reading a text in the textbook titled 'Why Exercise Is Important'. This segment of interaction happened when they had read the first two paragraphs of the text. Foad offers help (lines 1-2) to the less proficient peer in the group by producing an utterance in L1, meaning "Any questions?" Mahdi did not know the meaning for the L2 word 'pumping' and asks the other partners (line 7). Both partners provided him the L1 equivalent (lines 8-11). Hadi, after giving the L1 equivalent of the word, went even further and provided an example sentence using L1.

### **Excerpt 30**

1. Foad: *ta inja soali nadari?*
2. [Any questions up until now?]
3. Mahdi: *chera.*
4. [yes]
5. Foad: *bepors*
6. [ask]
7. Mahdi: 'Pumping'?
8. Hadi: *pomp kardan*
9. [pumping]
10. Foad: *pompaj kardan*
11. [pumping]
12. Hadi: *aha, pompaj, migan ghalb khoon ro pompaj mikone.*
13. [yes, pumping, like how a heart pumps blood]

(Grade 12, Group work, October 2013)

Another example of when learners used L1 to provide assistance is shown in Excerpt 31, which is taken from Grade 9 data. The interaction in this group was mostly in L2 and the proportion of L1 use counted for just 4.70% of their total language use. In this piece of interaction, it seems that Reza did not know what the L2 word 'servant' means. This is implied by his rising intonation when he uttered the word. In line 2,

Parsa used L1 to provide the help. Reza's utterance in L1 (line 4), meaning "Doesn't it mean a slave?" indicates that he had some idea about the word; however, he was not sure and asked for confirmation. In reply, Parsa uses L1 and expresses his disagreement with him when says "Not a slave". And finally Vahid uses L1 and assists partners by providing another L1 word close to the meaning of the word under query.

### Excerpt 31

1. Reza:     Servant?
2. Parsa:    *Gholam.*
3.            [Servant]
4. Reza:     *Barde nemishe?*
5.            [Doesn't it mean a slave?]
6. Parsa:     *barde na.*
7.            [Not a slave]
8. Vahid:     *khedmatkar.*
9.            [Maid]

(Grade 9, Group work, November 2013)

The analysis showed that the peers did not always get the correct assistance needed, and that there were instances when queries raised by a peer did not get the right answer, such as in the example below. In such instances, low proficient learners asked a more proficient learner a question and got an answer. The more proficient peer provided the assistance asked for. It served the function literally, but the feedback required and the intended meaning did not go across. This just added to the confusion. It should be noted that although the interaction was in L1, it still had the potential to confuse a low proficient learner.

Clarifying or providing further explanations was another function of use of L1 during reading lessons. In some instances, learners used L1 and produced utterances to assist each other through clarifying and providing further explanations, information, and examples. Excerpt 32, taken from Grade 12 whole class interaction, exemplifies use of L1 to serve this function. In this instance, Salar asked teacher what the word 'import' meant (line 1-2). The teacher did not give him a direct answer and instead, by

taking away the prefix and simply using the base of the word of Salar’s query, asked him a question to prompt him. She asked “what does port mean?”, in L1. Salar knew the answer and responded in L1. Foad, another learner, on hearing this back and forth, was spontaneously able to come up with further information and an example and other meanings for the word ‘port’ (line 7-10). Foad used L1 and produced an utterance directed at the teacher.

### Excerpt 32

1. Salar: *khanom **import** maanish chie?*
2. [Miss what does **import** mean?]
3. Teacher: ***port** yani chi?*
4. [What does **port** mean?]
5. Salar: *Bandar.*
6. [Port]
7. Foad: *khanom, **port** tanha Bandar ham nemishe ha, masalan **USB port***
8. *ham migim.*
9. [Miss, that’s not the only translation for **port**, for example a **USB**
10. **port]**

(Grade 12, Whole class, November 2013)

One other function of use of L1 in the interactions that took place during the L2 reading tasks was correcting a peer. During this learning process, some learners highlighted mistakes by their peers, and were able to give feedback and provide appropriate help. The help provided included corrections for wrong pronunciations, wrong translations, spelling mistakes, misconstruing meanings of words, and wrong usage of words. In the following excerpt of interaction involving Salar and Mahdi, we see that Salar, the more proficient learner, used L1 in two separate instances to correct Mahdi’s wrong translations (lines 8 & 16).

### Excerpt 33

1. Mahdi: *Goftesh ke tooye in pooste kheili chiz ha ast. shish kilometr ta ...*
2. [it says that there are many things in the earth’s crust. six
3. kilometres to]
4. Salar: *na, aslan nagofte kheili chiza hast. Gofte ke, hmm, gofte ke*
5. *hastesh in kheili **thin**, yani barik dar moghayese ba layehaye dige*
6. *kheili barik e. /thin/ na /tin/. Az khodet chera maani ezafe mikoni?*

7. (Laugh)
8. [No, it doesn't say that at all. It says, um, it says that the earth's crust
9. is really **thin**, meaning it is very thin compared to the other layers.
10. It's 'thin' not 'tin'(correcting pronunciation). Why do you add to it?]
11. (Laugh)
12. Mahdi: These plates float on the soft, plastic mantel below the crust. *yani in*
13. *safhe*, (interrupted by Salar)
14. [These plates float on the soft, plastic mantel below the crust.
15. meaning this plate, (interrupted by Salar)]
16. Salar: *in safhe ha*, **plateS**
17. [These plates, **plateS**]
18. Mahdi: *in safhe ha*, **plates** *chon gofte*
19. [these plates, because it says **plates**]

(Grade 12, Pair work, December 2013)

Excerpts 34 and 35, involving Grade 9 learners interacting, are more examples for learners' use of L1 which served the purpose of correcting peers' mistakes.

#### Excerpt 34

1. Reza: *Madde chi mishe*, **Chemical**?
2. [How do you say 'material' in English, **chemical**?]
3. Zia: **chemical** *ke mishe shimyayi*.
4. [**Chemical** means chemical]

(Grade 9, Pair work, October 2013)

#### Excerpt 35

1. Zia: leave; go away from somebody or something
2. Amin: *na baba in be ma'ani dar avordan e, in be ma'ani raftan, tark*
3. *kardan nist ke.*
4. [No, here it means to take off, it doesn't mean to go away or leave]

(Grade 9, Group work, November 2013)

As it was evident in the analysis of excerpts reported so far, participants in the study actively used L1 during classroom interactions. Use of L1 provided opportunities for students to seek and provide help from and to other peers. A question then arises as to what the significance of L1 use is. Analysis revealed that learners use of L1 contributed to their interaction in different ways. Learners' use of L1 created a relaxed atmosphere which resulted in more participation. In many instances, the learners might have not been able to resolve linguistic problems they faced if they had not used L1 in



their speech. This was also evident from Dara’s interview data (October 2013) “*kheili az bache ha mitoonan, vali man nemitoonam. Zabanam zaeefe*. [Many of the other students can, but I can’t, because my English isn’t good]”.

*Use of L1 to argue a point and express agreement/disagreement.* Analysis of the data showed that use of L1 in arguing a point was fairly frequent in the learners’ interactions. Data showed that learners used their L1 to argue a point, either about the task or an aspect of language. Excerpt 36 contains Grade 12 learners’ use of L1 to argue over the meaning of an L2 sentence and vocabulary in the reading passage. As shown in this example (line 1-3), Nima reads the sentence ‘Can you touch your toes easily’ and immediately gives an L1 translation which is not correct. Mani, expresses his disagreement and gives the correct translation for the sentence (lines 4-8). The whole segment of interaction happens in L1 except for English words that are used in L1 sentences or when they refer to words in the text.

### Excerpt 36

1. Nima: Can you touch your toes easily? *Mitoooni panje hat ro sari tekoon*
2. *bedi?*
3. [Can you touch your toes easily? Can you move your toes fast?]
4. Mani: *Na, in nist dige. Mige ke aya mitoooni dast hat ro be pahat beresooni*
5. *be asani? Be panjeye pat beresooni be asani, bebin mige **touch your***
6. **toes.**
7. [No, that’s not it. It says can you touch your toes easily? Reach your
8. toes easily, see it says **touch your toes**]
9. Nima: *Panjeye pa manzooreshe, na?*
10. [It means toes, right?]
11. Mani: **touch** *mishe chiz, mishe dastet ro beresooni.*
12. [**touch** means, like, to reach with your hands]
13. Nima: *dast o pashoon ro deraz konan.*
14. [*Stretch out their arms and legs*]
15. Mani: *deraz bara chi? Kham o rast konan. dast o pa na, badaneshoon ro,*
16. **bodies, kham and rast.**
17. [Why stretch? Bending and straightening up, not hands and legs,
18. their bodies, **bodies**, bend **and** straighten]

(Grade12, Pair work, October 2013)

The next example, taken from the transcripts of Grade 9 learners Amin and Zia, also shows the use of L1 to argue a point in pair work. While they were doing the comprehension questions after the reading text, Amin asks Zia to answer one of the questions in the textbook: ‘Did it snow all night?’. Unlike what was reported earlier in Excerpt 36, in the following piece of interaction the learners used L2 to initiate the argument (lines 1-3). However, then they used L1 to continue their argument and try to justify their own understanding of the L2 text.

### Excerpt 37

1. Amin: Did it snow all night?
2. Zia: Yes.
3. Amin: How you know that?
4. Zia: *tamam e shabo dasht barf mibarid.*
5. [It snowed all night long.]
6. Amin: (rereads quietly) *az koja midooni tamam e shabo? Mage goft?*
7. *Chizi az tamam shab nagoft. Aha inaha! What if it snowed*
8. *all night, are, are! Na az khodesh dare soal mikone khob,*
9. [How do you know that? Has it been said anywhere? Nothing about
10. it snowing all night. Oh, wait, here it is. What if it snowed all night,
11. yeah, yeah. No, he is asking himself the question.]
12. Zia: He wondered.
13. Amin: *az khodesh soal kard khob. az khodesh soal kard ke yani tamam*
14. *shabo baron oomade,*
15. [But he asked himself. He asked himself whether it’s been raining all
16. night ]

(Grade 9, Pair work, December 2013)

Later, in an informal follow up interview, when I asked them why they were talking in L1, Amin answered that, “Because we can’t fight in English.” A Grade 12 learner, Reza, answered to a similar question that “We started in English, but suddenly we realized we are talking in Persian”. It seems that L1 made their negotiation easier and expressing agreement or disagreement was clearer through the use of L1.

**Use of L1 to express understanding.** Frequent use of L1 was observed among the learners for the purpose of expressing understanding of what others had previously said, either in L1 or L2. For example, in Excerpt 38, which is a segment from a Grade

12 dyad's interaction while reading L2 text, one of the participants, Mahdi, produced the L1 utterance: 'Aha' (line 7) to suggest that he got the answer to his question.

### Excerpt 38

1. Salar: **Light** *yani sabok*
2. [Light means light]
3. Mahdi: *Sabok?*
4. [light?]
5. Salar: *Are Sabok. Mokhalefe heavy ye.*
6. [Yes, light. It's the opposite of heavy.]
7. Mahdi: *Aha.*
8. [Oh]
9. Salar: *Vali inja be maani zaeefe*
10. [But here it means weak]
11. Mahdi: It may be so light that only special
12. Salar: **special** *yani makhsoos*
13. [special means special]
14. Mahdi: *Midonam.*
15. [I know]

(Grade 12, pair work, December 2013)

Below is another excerpt of expressing understanding using L1.

### Excerpt 39

1. Salar: When a man jaye khali something, he makes something new. b. creates
2. [When a man blank something, he makes something new. b. creates]
3. Amir: *Chera b mishe?*
4. [Why b?]
5. Iman: Create means making something new, create something new.
6. Amir: *Aha gerftam, gereftam, thanks, thanks, thanks.*
7. [yeah, I got it, I got it, thanks, thanks, thanks]

(Grade 12, Whole class, October 2013)

It should be noted that sometimes learners' utterances and their tone of voice while expressing their understanding of language suggested slightly different messages. For example, in Excerpt 38, there are two instances of using L1 in which Mahdi expressed his understanding; Once in line 7 and once in line 14. In line 7, he expressed understanding after a peer gave him the meaning of a word, uttering "Aha". In fact, in several instances of group work involving Mahdi, data showed that in the instances when the assistance provided by peers or by the teacher was necessary to

him, he produced utterances to show his understanding. This was even followed by repetition of the answer or taking notes for himself. However, he sometimes used L1 to confer a different kind of understanding. For example, unlike the one in line 7, in line 14, he uttered “*midoonam* [I know]” which in this particular context conveyed the message that it was not necessary to translate the L2 word ‘special’ for him, because he already knew that. The assistance by the partner at this point of interaction was not welcome. There were several instances in the learner-learner or even learner-teacher interactions in which scaffold and mediation provided in L1 did not seem necessary for a learner. So, they used L1 to express their understanding, at the same time indicating that help was not required. Even once, when the teacher was providing assistance to a low proficient Grade 12 learner, he used L1 in his utterances directed at the teacher and said “*dige inghadr baladim khanom*” meaning “[I know that much, Miss!]”. This highlighted that scaffold provided through use of L1 must be withdrawn when not necessary.

***Add on to partner’s / teacher’s L1.*** This function is the sixth most frequent one in the category of intermental use of L1 in metatalk about the language for Grade 12 learners. However, this was not among the frequent functions for which L1 was used among Grade 9 learners. Excerpt 40 is a segment of interaction during which the teacher was attending a group. The learners were having difficulty understanding a particular sentence, and had asked the teacher for help.

**Excerpt 40**

1. Teacher: most are too small to be located, *bishtariashoon oon ghadr*
2. *koochikan ke nemishe* (interrupted by Mani)
3. [most are too small to be located, most of them are too small to
4. be (interrupted by Mani)]
5. Mani: *tashkhisheshoon dad*
6. [to be detected]

(Grade 12, Pair work, December 2013)

As can be seen, while the teacher was translating the sentence to L1, Mani interrupts her and adds to the teacher's L1 explanation, using L1.

Excerpt 41 includes two instances of learners' uses of L1 to add on to the teacher's L1 explanation. It took place during group work, when the learners' encountered difficulty understanding the difference between 'weather' and 'climate'. In lines 4 and 8, Mani and Salar respectively used L1 to complete or add to their teacher's explanation.

#### **Excerpt 41**

1. Teacher: **climate** *vaziat e joghraftayi ye ab o havast. Masalan migan*
2. **Malaysia is a warm and humid country**, *malezi garm o*
3. *martoobe, na inke emrooz garm e*
4. Mani: *too halat e koli*
5. [in general]
6. Teacher: *bale, too halat e koli mishe* **climate**
7. [Yes, in general it (weather) is called climate.]
8. Salar: *masalan garm o khoshk*
9. [For example, warm and arid.]

(Grade 12, Group work, December 2013)

In both above excerpts, learners use of L1 by them indicates that firstly, they were actively participating in the interaction and were mentally engaged with the teacher's speech, and secondly, that they wanted to express their understanding of the problem under query.

***Use of L1 to respond teacher's questions.*** Analysis revealed another function for the learners' use of L1 which involved learners and the teacher either in whole class discussions or at times when the teacher was attending the groups. At points, the teacher posed questions at the students, in order to attempt and get them involved in active participation or to check their comprehension of L2, as well as to give them hints for solving problems faced. In many instances, learners of both grades used L1 to respond to the teacher's questions. It should be noted that in some cases, the teacher required them to answer in L1 in order to check their comprehension and see whether

they have fully grasped the content. While, in other cases, it was the learners own choice to use L1 and answer the question. Excerpt 42 exemplifies learners' use of L1 in whole class interaction in response to the teacher's question.

#### **Excerpt 42**

1. Teacher: What does the pronoun 'they' refer to in this sentence?
2. Sts: *havashenasan.*
3. [Climate scientists]

(Grade 12, Whole class, November 2013)

#### **Excerpt 43**

1. Teacher: **fit** *ke sefat e pasvand e 'ness' ke migire mishe chi?*
2. [Fit is an adjective, what happens when we add the suffix 'ness'
3. to it?]
4. Sts: *esm.*
5. [a noun]

(Grade 12, Whole class, October 2013)

#### **Excerpt 44**

1. Teacher: Green, how do we say in Persian?
2. Hiraad: *nareside.*
3. [not ripe]
4. Teacher: *ye kalameye dige.*
5. [another word?]
6. Hiraad: *nares.*
7. [unripe]

(Grade 9, Whole class, October 2013)

The following excerpt exemplifies learner's use of L1 in an instance where the teacher explicitly asked a Grade 9 learner to use L1 as a measure of comprehension check.

#### **Excerpt 45**

1. Teacher: How does a monkey go to work?
2. Ata: Farmers learn how to hmm take.
3. Teacher: No. How does a monkey go to work? Think about the meaning of the question.
4. [the question.]
5. Sts: *Khanom ma begim?*
6. [Miss, may I answer?]
7. Ata: *hmm. Amoozesh dadan chi mishe?*
8. [hmm. How do you say training]

9. Teacher: Do you know what the question is asking?+++*maani soal ro*
10. *begoo.*
11. [Do you know what the question is asking ?+++translate the
12. question]
13. Ata: *maanish in e ke mige che joori ye **monkey** kar mikone.*
14. [It means that how a **monkey** works]
15. Teacher: No! How does a monkey GO, what does GO mean?

(Grade 9, Whole-class, November 2013)

In the above excerpt, there is a long back and forth between the teacher and the learner, Ata. Ata keeps giving the wrong answer to the teacher's question every time. The teacher notices a miscomprehension when Ata asks for the L2 equivalent of the phrase "*Amoozesh dadan* [training]", which has no relevance to the answer of the question. This prompts the teacher to ask Ata whether he understands the question, and uses L1 to ask Ata to translate the question for her as comprehension check.

*Use of L1 to check partner's comprehension of L2.* The use of L1 by the learners to check their partner's comprehension of L2 was also evident in the data. Excerpt 46 illustrates three instances where peers attempted to check partner's comprehension of the L2 text. In two of these instances, they used L1 to serve this function for them. As shown in line 9, Arash uses L2 and wants another peer, Nima, to translate what they have already read. Taha, the other group member, uses L1 to express his disagreement with Arash's suggestion, and instead, once in L2 (line 10) and later in L1 (line 13) asks Nima to summarize what they have read. Taha produces the utterance "*Age fahmidi, kholasash ro begoo* [If you got it, summarize it for us]". Arash's utterance "Translate it in Farsi", indicates that to them translation and retelling in L1 and summarizing the L2 text could be a measure of comprehension. Nima uses L1 to summarize the part of the reading text. Taha is satisfied with the summary, and says "You really get it. Let's continue", moving on to the next step.

### Excerpt 46

1. Taha: What was the words you didn't know?
2. Arash: *na*. Which words you didn't know the meaning?
3. [No. Which words you didn't know the meaning?]
4. Taha: Which words you didn't know the meaning?
5. Arash: *Alan mige hamash*.
6. [Now he's gonna say all]
7. Nima: *hamash!*(humor) *Hamash ro fahmidam dige*.
8. [All! (humor) I got it all.]
9. Arash: Ok. Translate it in Farsi.
10. Taha: *na,na,na. ye summary*. Summary of what you read.
11. [No, no,no. A summary. Summary of what you read]
12. Nima: XX
13. Taha: *Age fahmidi, kholasash ro begoo*.
14. [If you got it, summarize it for us]
15. Nima: *damaye zamin dare mire bala. Va taghsire ma ensanha ham hast*
16. *ke*
17. [the earth's temperature is rising and it's because of the things
18. we humans do]
19. Taha: You really get it. Let's continue.

(Grade 12, Group work, December 2013)

Another instance of learners' use of L1 to check their peers' comprehension occurs in Excerpt 47. In this excerpt, Sina checks Amir's comprehension by asking questions such as "What was this about?", and then encouraging him and prompting him while Amir is trying to answer by producing the utterance "Uh-huh". Other learners produced L1 utterances such as "*Fahmidi?*", "*Yad gerefti?*", and "*midooni ya'ni chi?*", all giving the general meaning "Do you understand?" to serve the function of checking their peers' comprehension.

### Excerpt 47

1. Sina: *chi bood in? dar bareye chi bood?*
2. [What was this about?]
3. Amir: ++ *in mige ke ye karhayi vojood dare +*
4. [++It says here that there are actions+]
5. Sina: *khob?*
6. [uh-huh]
7. Amir: *ke mitoonim anjam bedim zamin garm nashe*.
8. [that we can do so the earth doesn't get warm]

(Grade 12, Pair work, December 2013)



*Use of L1 to initiate L2.* This function is the fifth frequent one in the category of intermental use of L1 in metatalk about language for Grade 9 learners. However this was not among the frequent functions for which L1 was used among Grade 12 learners. The following is an example for this function which is taken from Ali and Hamid’s interactions. They were asked to make their own sentences using the new words in the lesson. In line 1, Ali presented his own sentence with which Hamid agreed by saying “*Aha, are* [ oh, yeah]”. Then, after a short pause, he used L1 and added “or we can say that” followed by his own L2 sentence with the word ‘foreign’.

**Excerpt 48**

1. Ali: English is a foreign language.
2. Hamid: *Aha, are.* + *ya mitoonim begim ke* ++foreign people are very rich
3. people.
4. [oh, yeah. + or we can say that ++foreign people are very rich
5. people]

(Grade 9, Pair work, December 2013)

In the above excerpt, Hamid’s utterance of [“oh, yeah. + or we can say that”] shows him stalling for time before he comes up with an L2 sentence. His long pause after said utterance, which was in L1, could indicate that he was trying to organize his thinking to come up with an L2 sentence.

A final subcategory for functions of learners intermental use of L1 in metatalk about language, as shown in Table 4.6, is the miscellaneous subcategory. This category includes utterances in L1 used for different functions which were not frequently observed in the data. These functions individually constituted a very small portion of the data in both grade levels. When put together, they amounted for 7.90% of instances of use of L1 in Grade 12 data and 9.24% of instances of use of L1 in Grade 9 data of learners’ intermental talk about language. Thus, this subcategory of functions groups L1 utterances which were not frequent.

**Intermental use of L1 in metatalk about task.** Analysis revealed another category of L1 in classroom interactions, which emerged at points at which the learners talked about the task. Learners used their L1 as a tool to manage and control the task. DiCamilla and Antón (2012) state that “to collaborate successfully, students need not only to resolve the linguistic problems that the task confronts them with, but also to reach an agreement concerning how they are going to work together, what their view of the task is, and so on” (p. 175). L1 use in utterances dealing with division of labor, task clarification and transitioning to the next step were considered under this macro function. Other uses of L1 in learners’ speech while they talked about what needed to be done such as, where to read or which question to answer and who use a dictionary to find the meaning of words, were also put in this category.

Intermental use of L1 in metatalk about task was the second most frequent macrofunction for which Grade 9 learners used L1; however, for Grade 12 learners, this macrofunction was their third most frequent category. The data displayed that groups which put more effort into getting organized and in planning the task seemed to be able to work more collaboratively. In many instances, learners used L1 for this purpose.

The following excerpt is a segment of Grade 12 learners’ interaction when they were engaged in doing one of the post reading tasks for Lesson 2 in the textbook. It exemplifies learners’ use of L1 in their social speech to talk about task in order to find out what the task is about and what needs to be done. According to the instructions in the textbook, they are supposed to give comments to an imaginary student on how to improve his speech based on the ratings for each criterion given by a teacher. The instruction was more complex compared to the previous ones they’d been given in their books, and hence, the learners may have felt more of a need to use L1 in order to

be able to discuss it properly. The interaction involves Salar and Mani's dialogue while they try to find out what they should do. First, Salar reads the instructions given in the textbook and asks the peer to see if he got it.

#### Excerpt 49

1. Salar: *Fahmidi chi gofte?*
2. [Did you get it?]
3. Mani: *mhmm*
4. Salar: *chi gofte?*
5. [What did it say]
6. Mani: *oon darajeye amalesh ro , bara oon daraje amal ye mesal*
7. *bezanim*
8. [his rating, that we give an example for each rating]
9. Salar: *na*
10. [No]
11. Mani: *ke che joor mishe*
12. [that how can he]
13. Salar: *Na. in ye **speech** dade, baad moaleme behesh shomare dade az 1 ta 4, khob?*
14. [No, the person gave a speech, then the teacher gave him a rating from 1 to 4, ok?]
15. [No, the person gave a speech, then the teacher gave him a rating from 1 to 4, ok?]
16. [No, the person gave a speech, then the teacher gave him a rating from 1 to 4, ok?]
17. Mani: *khob.*
18. [Ok]
19. Salar: *hala ba tavajoh be in shomareha ma bayad begim behesh tosie*
20. *konim ya na. Fahmidi? +++*
21. [so now, from these numbers we should advise him. Get it?+++]
22. Salar: *fahmidi?*
23. [Get it?]

(Grade 12, Whole class, November 2013)

Excerpt 50 is another example of Grade 12 learner's use of L1 to manage and control the task. This interaction involved Hadi, Foad, and Mahdi's use of L1 for general task management before starting to read the text. It should be noted that they did a good job with task management. They used L1 to discuss how to proceed with the task and reached an agreement on who does what. Mahdi, the less proficient in the group, used L1 to say "I'll ask the words which I don't know" (line 9-10).

#### Excerpt 50

1. Hadi: *Aval ye negah bendazim sari.*
2. [Let's take a quick look at it first.]
3. Foad: *Baad har kodoom ye paragraph bekhoonim, sohbat konim.*

4. [Then we will each read one paragraph, and talk about it]
5. Mahdi: *che kar konim? Ye doone, ye doone?*
6. [What do we do? Read them one by one?]
7. Foad: *are.*
8. [Yep]
9. Mahdi: *kalame ee ke balad nistam miporsam, begid.*
10. [I'll ask the words which I don't know]
11. Hadi: *ta inja khoobe man begam?*
12. [Is it all right if I read up to here?]

(Grade12, Group work, October 2013)

Some learners, like the one reported in Excerpt 50, planned what to do and how to accomplish the task requirements at the start of the group work, whereas others did not have task management at the beginning and each member started doing a part randomly. In either of these cases, learners used L1 in their task related speech and task requirements. However, the ones who properly managed the task were more engaged with it and worked collaboratively. A case where labor division is not articulated nor discussed is displayed in Excerpt 51.

The following excerpt from Grade 9 interaction data illustrates learners' use of L1 while talking about task. At this point of interaction, they were doing the 'New Words' of a lesson. They were required to read the sentences and answer the questions in a group and finally make their own sentences using the new words presented in the textbook and prepare for a presentation in front of class. Zia, Ali, and Amin use L1 to talk about the task; however, here labor division is not carried out well. At some points, Ali tries to lead the task and makes suggestions to other peers on how to do the task (lines 20-23). In lines 8 and 15 he suggests that they should follow the order of new words introduced in the textbook. As evident in this segment of interaction, it seems that reaching an agreement on how to do the task is difficult for these learners.

#### **Excerpt 51**

1. Zia: *vaista, daram **forget** ro peida mikonam.*
2. [Wait, I'm looking for the word **forget**]
3. Ali: *Servant an assistant you hire. *chi ro dari peida mikoni?**

4. [Servant an assistant you hire. What are you looking for?]
5. Zia: **forget**, *Inaha*.
6. [**forget**. Here it is]
7. Ali: **forget** *baadishe*.
8. [**forget** is the next word]
9. Zia: not remembering sth
10. Amin: *chi?* **Servant?**
11. [What? **Sevant?**]
12. Zia: *na, na, na*. Forget , forget.
13. [No, no, no. Forget , forget]
14. Ali: *baba* **forget** *baadishe*.
15. [I've told you, **forget** is the next word]
16. Amin: **forget** *nadarim*.
17. [I can't find **forget**]
18. Ali: *baba inaha*. (pointing)
19. [here it is ]
20. Ali: *baba bayad aval khodemoon begim age natoonestim dictionary negah konim*.
21. [*First, we have to try ourselves, if we can't then we'll look it up in the dictionary.*]
22. [in the dictionary.]
23. Amin: *khanom jomle ham bayad besazim?*
24. [Miss, do we have to make sentences too?]

(Grade 9, Group work, November 2013)

This example illustrates that although each learner is doing something for the group, effective learning doesn't seem to be taking place. Poor group management is evident in this segment of interaction. Learners' speech reflects the fact that no clear group dynamics have been established. Hence, it is unclear whether learners benefitted from their L1 interactions or their group work. If we were to compare the interactions in this group with that of learners' reported in Excerpts 49 and 50, a conclusion can be reached. From the above excerpts, it seems that it is not the use of L1 which should be questioned, but the way in which L1 is implemented. The manner of L1 use seems to influence the outcome of tasks and interactions, and may be both hindering or useful to learners. It seems that other factors of L1 use be highlighted.

**Intermental use of L1 in interpersonal relations.** The category of interpersonal relations involved any speech by the learners not directly related to the task or to linguistic aspects. Data analysis revealed that sometimes learners used L1

in their social talks to humanize affective ‘climate’ (Ferguson, 2003). This category of functions included any use of L1 in off task speech, in making jokes and humorous remarks, complaints, to praise or for teasing other learners, to give advice, to call the teacher, to respond to name when the teacher or a learner called them, and to make apologies. In some instances, learners used L1 to make peers feel confident and more comfortable. For both grades, the most frequent themes which were considered under this categorical function consist of use of L1 in off task speech, in learners’ complaints, or for the purpose of making jokes.

***L1 use in off task speech.*** Any utterances in the learners’ speech which were not related to the task at hand were considered under the Off Task category. This included a wide range of utterances, from anything slightly deviated from the task, such as discussing English vocabulary, not in the text or talking about different electronic dictionaries they were using, to topics which were completely unrelated, such as talking about the weather or discussing music. Utterances such as asking to borrow stationery from each other, talking about their English marks or other school subjects, the voice recorder, or even discussions about learning English in Europe were all put under this category as well. An example of this type of utterance is when Foad informed his peers that he learned the word ‘mild’ from the restaurant Nandos.

***L1 use to express humor and joking.*** Class recordings and the interviews with the learners suggested that they preferred to use their L1 over their L2 for humor. Excerpt 52, which is a segment of pair work interaction data, exemplifies Grade 12 learner’s use of L1 for humor. This is the conversation that follows the students nearly dropping the recorder. This may be because having a much better grasp on their L1, they can manipulate the language better to make it humorous. Also, they have more experience making jokes in their L1, which could also be another reason for it.

### Excerpt 52

1. Mahdi: (Screams)
2. Salar: *Chera jigh mizani khob?*
3. [Why are you screaming?]
4. Mahdi: *age mioftad bayad kolyam ro miforookhtam babatesh midadam.*
5. [If it had fallen, I'd have had to sell my kidneys to pay for it.]

(Grade 12, Pair work, December 2013)

Example 53, taken from a group work interaction, illustrates the learner's use of L1 to express humor and make jokes. In the example below, Ali, one of the Grade 9 learners, was talking to Amin while they were doing the Comprehension Questions section of the lesson. He is not satisfied with Amin's translation, and makes a joke about it.

### Excerpt 53

1. Ali: **google translate** *az to behtar tarjome mikone!* (laugh)
2. [Even **Google Translate** translates better than you!] (laugh)

(Grade 9, Group work, December 2013)

Another instance of L1 use for humor is when Ali incorporates humor to complain about the lack of contribution from his peer, Zia, during a whole-class presentation.

### Excerpt 54

1. Ali: *kaktoos mizashtim behtar bood.*
2. [A cactus would have done more than you.]

(Grade 9, Whole class, November 2013)

The finding that learners preferred to use L1 over L2 for the purpose of humor was supported by learners' comments during the follow-up interviews. For example, Iman, a Grade 12 learner, reported that “*Khob Kenariye man ham bayad be oon behkande...age be englisi begam bayad ghablesh fekr konam ke chejoori begam ke khandedar bashe.* [ Well, my partner has to laugh too...If I were to say it in English,

I'd have to think about how to say it beforehand to make it sound funny.]" (Interview with Iman, November 2013).

**L1 use to complain / praise.** Excerpts 55 and 56 are examples from Grade 12 data illustrating learners use of L1 to complain about other group members in their group. In Excerpt 55, Matin complains about the group the teacher assigned to him. Matin is not happy with his group because there are quite a few words in the reading text that neither his partner nor him knew the meaning of. When his partner failed to answer Matin's questions a few times, he used L1 and complained about it.

#### **Excerpt 55**

1. Matin: *Yeki az yeki badtar, in che vazieh?*
2. [Dumb and dumber, what kind of group is this?]

(Grade 12, Pair work, December 2013)

In Excerpt 56 below, a more proficient learner, Salar, complains to a less proficient one, Mani, after Mani asks a question that they had already answered. He gets frustrated at Mani, and utters "We've been talking about it for two hours!"

#### **Excerpt 56**

1. Mani: *in 'climate' yani chi?*
2. [What does **climate** mean?]
3. Salar: *Do saat roosh sohbat kardim!*
4. [We've been talking about it for two hours!]
5. Foad: *bebin, migan masalan kavir khoshke ya Bandar abbas sharjiye in*
6. *climate she. Ab o havaye nahiyashe.*
7. [Look, you know how they say, desserts are dry or Bandar Abbas
8. is humid, this is **climate**. The general weather of a place.]
9. Mani: Ok.

(Grade 12, Group work, December 2013)

Excerpt 57 is an instance of use of L1 by Zia, a Grade 9 learner, to complain about one of the peers.

#### **Excerpt 57**

1. Zia: *alan 'few' im, mige in yeki ro begoo. Nim saate daram migam.*
2. *Migam bede man benevisam, nemideh.*



3. [Now that we're doing 'few', he asks me the previous one, we've
4. been talking about it for half an hour. I say let me write notes, he
5. doesn't.]

(Grade 9, Group work, November 2013)

Most of the instances of use of L1 for the function of complaining were in group interactions among themselves; however, sometimes learners called the teacher and complained to her on either an aspect related to peer's language proficiency, or on a partner not cooperating.

Table 4.7

*Rank of Social Functions of L1 for Grade 9 and Grade 12*

Rank	Grade 9	Frequency (%)	Grade 12	Frequency (%)
1	Request assistance	261 (13.50)	Translation	442 (17.76)
2	Provide assistance	221 (11.43)	Request assistance	383 (15.39)
3	Off Task	194 (10.04)	Provide assistance	323 (12.98)
4	Task guide / what needs to be done/labor division	184 (9.52)	Off Task	300 (12.05)
5	Activity instruction	171 (8.85)	Argue	118 (4.74)
6	Argue	166 (8.59)	Activity instruction	103 (4.14)
7	Translation	123 (6.36)	Task guide / what needs to be done/labor division	93 (3.74)
8	Task related Q & A	68 (3.51)	Express understanding	91 (3.66)
9	Transition to next step of work	63 (3.26)	Task related Q & A	84 (3.38)
	Total	1451 (75.07)	Total	1937 (77.82)

An interesting finding of the study, which is evident in some instances of using L1 to complain, is related to the learners' complaints about other group members. When the proficiency level of the learners in a group were too different, after a while, the more proficient learner complained and was not eager to continue. Some of the L1

utterances they produced to complain in cases like this included: [“How many times do I have to tell you?”] or [I’m getting tired.”].

The analysis of classroom interactions showed that although the learners who participated in the study were of two different grades, the more frequent social functions of utilizing L1 were almost the same in both groups. The rankings of the functions; however, slightly differed between the two groups, as evident in Table 4.7.

It should be noted that being in a higher grade level does not necessarily indicate a higher level of L2 proficiency for the participants in this study.

**Intramental use of L1 in vocalized private speech.** According to Vygotskian sociocultural theory, speech has dual mediational macrofunctions - a primary function, to mediate our social activity, and a secondary function, to mediate our mental activity (Appel & Lantolf, 1994, p. 439). It is an orientation towards viewing dialogue as both a means of communication and a cognitive tool (Swain & Lapkin, 1998). Data analysis in this study provided support for the theoretical orientation that views dialogue as both a means of communication and a cognitive tool.

Similar to other studies in literature (e.g., Antón & DiCamilla, 1999) the analysis of data revealed instances where learners used L1 not for a communicative function, but as a means for self-regulation. While doing the tasks, there were instances in classroom interactions when both Grade 12 and Grade 9 learners used L1 in their speech; however, those utterances were not intended for an audience. Private speech as Lantolf (2000) states is “speech that is not directed at an interlocutor but is intended for the speaker himself or herself” (p. 88). According to Lantolf (2000), private speech is a “speech that has social origins in the speech of others but that takes on a private or cognitive function” (p. 15). There were 26 examples of private speech in the data obtained from Grade 9 learners and 135 examples of private speech in the data

obtained from Grade 12 learners. This made up 1.33% and 5.14 % of total use of L1 for each grade level. Analysis of functions revealed that learners used L1 as a tool to mediate and direct their thinking. Self-questioning, repetition, and producing utterances such as “*Mige ke*, [it says that]”, and “*Aha, gereftam!* [got it]” were observed in data and served the function of focusing learners’ attention on the task or the linguistic problem they were trying to solve. In some instances, it helped them to retrieve knowledge from the memory and make meaning of L2 text in their own minds as well. Excerpt 58 is an example for the use of L1 which is taken from Matin and Arash’s pair work. It exemplifies the metacognitive function of private speech as a ‘problem solving tool’ (Centeno-Cortés & Jiménez Jiménez, 2004, p. 11). It comes from an activity wherein learners were doing the Reading section of the lesson.

### Excerpt 58

1. Matin: when a lot of water covers an area that is usually (dry), *Aha flood*
2. *ham mishe + bala payin shodan e ab masalan too darya+*
3. [when a lot of water covers an area that is usually (dry) Oh, and
4. **flood** means + the rising and falling of water, like in the sea+]
5. Arash: *Na, flood mishee* (drawn out) +++*baroon mishe?* +++ *Seil, seil.*
6. [No, **flood** means (drawn out) +++ does it mean rain?+++flood,
7. flood]
8. Matin: *Seil?*
9. [flood?]
10. Arash: *Are flood mishe seil.*
11. [Yes, **flood** means flood]

(Grade 12, Pair work, December 2013)

In the excerpt above, when the learners were engaged in reading the L2 text, Matin had a lexical problem. He did not know the meaning of the word ‘flood’. Matin referred to the glossary by the text and read the definition aloud (line 1- 4) but did not finish the sentence . However he got the wrong meaning from the glossary definition. Arash realized that the meaning was not correct but he himself could not recall immediately. Arash used L1 in two utterances which seemed to help him remember the L1 equivalent for the word ‘flood’ (line 5-6). His tone of voice and the way he

uttered '*mishe*' indicate that he was thinking and wanted to take his time. After a pause, he produced a self-directed question "*baroon mishe?* [does it mean rain?]" . He was not seeking a response from Matin and this was not intended to his partner because it was Matin who had started the query in the first place. From the context, it is evident this is a self-question to regulate his own thinking and gain control over his abilities to retrieve from memory the L1 equivalent. Here, private speech is the site where a lexical search took place. Finally, the question was answered not by the listener but by the speaker when he remembers the L1 equivalent for 'flood' and utters "*seil, seil*" [flood, flood] in line 5.

Data analysis revealed that learners used self-talk in their speech as a means of 'mediating mental functioning' in complex cognitive tasks (Lantolf & Thorne, 2006). In many instances, they used L1 to serve them cognitive, metacognitive or affective functions. For example, Mani, a Grade 12 learner, when doing the reading part of the lesson, sometimes evaluated the L2 text and produced L1 utterances such as "*in ke hichi*" meaning this is nothing or it's easy, "*inam ke fahmidam* [ got this too]" in his private speech. Motivational statements such as the ones uttered by Mani were also reported in other studies which investigated private speech. When interviewed later, he reported that doing this helped him focus his attention and direct his thinking to more complex parts of the L2 text. He stated that "*injoori havasam bishtar jam e ghesmat haye sakhtesh mishe* [in this way, I can focus better on the more difficult parts.]" It could be inferred that Mani's evaluative statements in L1 had an affective function too, ["I don't have to worry about this"].

"Learners use language for strategic purposes, one of which is to mediate their own activity through private speech" (DiCamilla & Antón, 2004). Mani, a Grade 12 learner, used L1 for self-talk at points where he faced comprehension difficulty during

reading. Sometimes, when he faced a problem, he asked for help from other learners. After being provided with help, he used L1 and produced the utterance “*Aha gereftam*”, [Oh, got it.]. Later, in the informal follow up interview, he commented that in this way, he gained control over his ability to think, remember, and learn. Mediatational function of his private speech was further supported by his comments in the follow up interview data. He reported that,

### **Excerpt 59**

shakam bartaraf mishe. ... Chizi ro ke midoonam rahat tar minevisam ya anjam midam. ... Motmaen misham miram ghesmat e ba'adi.

[It removed any doubts I had, ... and so I wouldn't get stuck on a task . . . I'm sure, so I can continue on to the next part.]

(Interview with Mani, October 2013)

Excerpt 60 exemplifies Matin's use of L1 in private speech which served metacognitive function for him. It is taken from Matin and Hasan's interaction, and illustrates an evidence of learner's use of L1 in reading L2 for making more meaning out of the text. The two learners were engaged in the 'Reading' section of the lesson. Matin, after reading a sentence which was a definition for what 'climate change' was, tried to make sense of the sentence. He did not know the meaning of 'pattern' and looked it up in a bilingual dictionary, and then read the meaning out loud (line 1-3). From Hasan's response to this, “*khob az khodam miporsidi dige*” meaning “you could have just asked me”, we can infer that Hasan had known the equivalent for 'pattern' and expected his partner to involve him more in the task. Matin did not react to what Hasan said and reread the sentence again (line 7-10). And then, he produced the utterance ‘*Aha*’ [Oh] which indicates he finally made sense of the sentence. This is further supported by his attempt to go ahead and explain the sentence when produced

the utterances ‘*dare mige*’ and ‘*vaghti mige*’ [It’s saying that]. However, as we see, he did not finish his translation of the sentence and instead had a social speech with his partner. What Matin said to his partner (lines 13-18) is proof of L1 use in his private speech to make more sense of L2 text.

### Excerpt 60

1. Matin: general patterns, ++ patterns mean (looks up dictionary) +++
2. patterns means *tarh, olgoo*.
3. [general patterns, ++ patterns mean (looks up dictionary) +++
4. pattern means pattern, design]
5. Hasan: *khob az khodam miporsidi dige*.
6. [You could have just asked me]
7. Matin: climate change is a change in these general weather, *aha, dare*
8. *mige bar hasb e, vaghti mige ye*
9. [climate change is a change in these general weather, oh, it’s
10. saying that, based on, when it says a]
11. Hasan: *ye olgoo*
12. [a pattern]
13. Matin: *na! vaghti mige* (did not finish his sentence). *Agha, man ke*
14. *daram tozih midam manzooram in nist ke to nafahmidi. Vase*
15. *khodam chiz mikonam, tozih midam*.
16. [No! When it says (did not finish his sentence). Dude, I’m not
17. explaining because I think you don’t understand, I’m
18. explaining it for myself]
19. Hasan: *midoonam. Begoo*.
20. [I know. Go on.]

(Grade 12, Pair work , December 2013)

Matin explicitly verbalizes that his use of L1 when attempts to translate the L2 text is for his own understanding and his own thinking process. As evident in lines 13 to 18, he emphasized that it was not socially directed at his partner but meant for himself. In line 16, when Matin said “No”, he meant it as “don’t talk, I’m thinking”. He then realized that his tone of voice was harsh, and so explained that he was thinking out loud to himself. Matin’s L1 speech (lines 7-10) seemed to be communicative; however, this was also directed to self. This indicates his use of L1 as a cognitive tool to control his own cognitive process.

Grade 9 learners also used L1 in their private speech to focus on problems and search their memory to find solutions. An example of L1 in self-talk is given in Excerpt 61 which is taken from whole class interaction, while the class was engaged in reading the passage. The passage comprised of two short stories on the importance of learning a foreign language.

### **Excerpt 61**

1. Amin: Here is a one French man. He want to go to the, Ummm, *koja mikhast*
2. *bere? ye lahze.*
3. [Here is a one French man. He want to go to the, Ummm, Where did
4. he want to go? Wait]

(Grade 9, Whole class, December 2013)

After having one of the students read the text out loud, the teacher asked another learner, Amin, to tell what the first story was about. Amin started to talk about the story. But when he reached a part where he could not remember the destination of the traveller in the story, he was unable to continue and paused, followed by a self-talk. The question “, *koja mikhast bere?* [Where did he want to go?]” and the utterance “*ye lahze* [Wait]” later was not for a communicative function and show that he tried to use L1 as a cognitive tool to control his own cognitive process. These utterances in Amin’s speech helped him search his memory.

In another excerpt, an example of use of L1 which was not frequently observed in data is reported. Excerpt 62 illustrates learners’ use of L1 when adding to what the teacher was saying in L2. The L1 use for this function is significant because for some learners, it might be an indication of an ongoing processing of L2 content in L1. This suggests that some learners mostly use L1 for their thinking process and sense making of what they read or listen in L2. The following interaction, taken from a pair work, occurred between Amir, a Grade 12 low proficient learner, and the teacher during a reading task while the teacher was attending a learner’s group.

## Excerpt 62

1. Teacher: When we weigh something against something it means we
2. compare two things and then decide which one is = more
3. important
4. Amir: = *Kodoomesh behtare*
5. [= which one is better ]

(Grade 12, Pair work, December 2013)

**Summary of the findings for Research Question 2.** The second research question of the study investigated the functions served by learners' use of L1 in their classroom interaction. In the light of the sociocultural theory of L2 (SCT-L2), the classroom interactions were analyzed to gain insight into the different functions that learners' use of L1 served them. According to SCT-L2, tools, either physical or psychological (e.g., language), are used as mediators which help accomplish different tasks efficiently. Findings suggested that all learners participating in this study, regardless of their grade level or proficiency, used their L1 as a tool to serve many different functions.

Analysis revealed that L1 served to mediate learners' activity both in the form of social speech and in the form of private speech. Learners used L1 to seek out other-mediation when they asked for help and also to mediate others when help was required. In many instances, learners' use of L1 made it possible for them to have effective interaction and active participation in doing the different reading tasks.

Learners' L1 utterances were grouped into two broad macrofunctions: as an intermental tool and as an intramental tool. The learners' intermental use of L1 were then further categorized into: intermental use of L1 in metatalk about language; intermental use of L1 in metatalk about task; intermental use of L1 in their interpersonal relations.

There were instances where learner's use of L1, either in serving the function of regulating self or others, helped them move to a point where they became self-



regulated in their learning process. By using L1, learners were afforded opportunities to mediate and assist each other. The question that arose was as to whether it would be possible for the participants in the study to do the assigned tasks using exclusively in L2. Analysis for the other two research questions of the study helped shed further light on the phenomenon of L1 use by the learners.

### **Findings for Research Question 3: How Do Grade 9 and Grade 12 Iranian Learners' Use of L1 Vary in Different Tasks?**

Research Question 3 investigated the learners' use of L1 as a mediating tool in classroom interactions, with a focus on different tasks. Both quantitative and qualitative analyses were performed. Since the Iranian school system is very much driven by the textbooks, different sections of lessons from the learners' textbooks were considered as different tasks each. Data used included both that of Grade 12 and Grade 9 classroom interactions; however, data from all classroom tasks was not used for the quantitative analysis at this stage. Some tasks appeared in all lessons of the textbooks, and some did not. Thus, for the quantitative analysis, only learners' interaction data from tasks present in all the lessons were utilized. For Grade 12, the tasks whose data were included for analysis comprised of 'Title and Picture Discussion Task', 'Reading Text', 'Comprehension Questions', and 'True / False or Not given questions'. As for Grade 9, learners' use of L1 while doing the 'New Words' section, 'Reading Passage', Comprehension Questions, 'True or False' questions, and their L1 use during whole-class 'Presentation Task' were included for analysis.

To answer Research Question 3, the analysis was addressed both quantitatively and qualitatively, and thus, the findings are presented in two sections. In the first section, findings from the quantitative analysis of data are reported. This section addresses the analysis of the proportion of L1 use in learners' speech, either during whole-class or pair/group work. This is followed by the findings of the quantitative analysis of the data for the functions of L1 use in classroom interactions during different tasks. The analysis of data from five-second sampling (see page 71) was utilized in order to report on the proportion of learners' use of L1 across different tasks. Additionally, data from quantitative analysis of functions of use of L1 by the learners

was used to find out whether L1 served learners different functions in doing different tasks of their text book. In other words, for the quantitative part, the analysis used to answer Research Questions 1 and 2 were pulled together with a focus on different tasks, in order to answer the third research question of the study, and determine if L1 use varied in different tasks. Following this section, findings from the qualitative analysis of the learners' use of L1 across tasks is reported. For the qualitative part of the analysis, transcripts of interaction data were used.

**Proportions of learners' use of L1 in different tasks.** The third research question of the study addressed learners' use of L1 in classroom interactions in different tasks. In order to answer this question, firstly, analysis from the five-second sampling was used to find out what proportion of learners' speech occurred in their L1 while they were engaged in different tasks of a lesson. This provided a partial understanding of classroom interactions of the participants, by illustrating how much the learners relied on their L1 to carry out the tasks. Tables 4.8 and 4.9 summarize the proportion of L1 and L2 use by Grade 9 and Grade 12 learners respectively. The quantity of L1 use as a percentage of the total use of language in each task (L1+L2) is displayed in the tables. The bottom row displays the percentages of the total number of instances of L1 and L2 use to the total speech produced in each specific task within the duration of one semester. During the semester in which data collection was carried out, the twelfth graders studied four lessons, while Grade 9 learners studied five lessons of their textbooks. (See page 11).

The total instances of speech, either in L1 or L2, produced by Grade 9 learners for all tasks was 4,516, of which 56.33 % of the instances belonged to New Words (n= 2,544). The rest in decreasing order were during: Reading Passage (n=756, 16.74%), Presentation (n= 519, 11.49%), True or false (n= 374, 8.28%), and the Question and

Answer Task (n= 323, 7.15 %). As is evident in the following table, Grade 9 learners used L1 during all the lessons. In total, at the Grade 9 level, L1 was most frequently

Table 4.8

*Proportion of L1 Use of Grade 9 Learners for Different Tasks*

Task	<u>New Words</u>		<u>Presentations</u>		<u>Reading Passage</u>		<u>Q &amp; A</u>		<u>True / False</u>	
	L1%	L2%	L1%	L2%	L1%	L2%	L1%	L2%	L1%	L2%
Lesson 1	45.82	54.18	26.12	73.88	0.74	99.26	23.08	76.92	0.00	100
Lesson 2	24.42	75.58	7.44	92.56	32.26	67.74	32.50	67.50	42.86	57.14
Lesson 3	36.67	63.33	3.70	96.30	0.00	100	22.73	77.27	40.00	60.00
Lesson 4	22.04	77.96	28.13	71.88	30.38	69.62	42.65	57.35	36.00	64.00
Lesson 5	19.17	80.83	15.79	84.21	15.49	84.51	4.46	95.64	9.52	90.48
Total	30.11	69.89	13.87	86.13	18.78	81.22	26.01	73.99	31.02	68.98

used in True/False and New Word tasks. The tally of classroom recordings for the True or False tasks revealed a total of 116 instances of L1 use, which make up 31.02% of total learner's speech during the task. Tally of classroom recordings for the New Words task revealed a total of 766 instances of L1 use, which comes up to 30.11% of total learners' speech while engaged in the task. It should be noted that although, when looking at percentages, the differences between L1 use during these two tasks is very minor, total speech produced during New Words was much higher than True/False. This indicates that learners were more engaged with New Words task. On the other hand, the least frequent use of L1 for Grade 9 learners occurred during the Presentation task, with L1 making up only 13.87% of the total speech during this task. For this task, the learners had to define certain vocabularies included in the 'New Words' section of the lesson and present their own sentences using those words and answer the teacher's questions using L2. An explanation for the low use of L1 during this task

could be that the learners had previously rehearsed it among their own group members, and hence, they were more prepared for the task. Another reason could be the nature of the task, as it was done in the presence of the teacher, and so learners were aware that they should be using L2.

Also, as displayed in the table, learners did not use any L1 in certain tasks of two lessons, the True or False task of Lesson 1, and Reading Passage of Lesson 3. Additionally, only 18.78% of their speech was in L1 during Reading Passages. There are two possible explanations for the low use of L1 during Reading Passages. First, the learners may have already resolved many of their vocabulary problems during New Word and Presentation tasks. This could have contributed to their better comprehension of the reading passage, possibly resulting in low L1 use during it. Another factor that could have contributed to the low use of L1 is that, due to time constraints as a result of the school moving its location, all tasks for Lesson 2, except for its New Words task, were carried out as whole-class task, guided by the teacher. Learners may have used more L1 in learner-learner interactions as opposed to in learner-teacher interactions, and hence, this could have led to less L1 use.

The quantitative data of the proportion of use of L1 by Grade 12 learners was analyzed with a focus on the different textbook tasks, and the results are displayed in the Table 4.9. The total instances of speech, either in L1 or L2, produced by Grade 12 learners for all tasks was 4,526 during semester. Analysis showed that total speech articulated during Reading task was much higher than any other task. During Reading task, learners produced a total of 3,399 instances of L1 and L2 together. This made up 75.10% of the total learners' classroom interactions in one semester. The rest in decreasing order were during: Title and Picture Discussion (n=566, 12.51%), Question and Answer (n=503, 11.11%), and True or false (n= 58, 1.28%).

Similar to Grade 9 learners, Grade 12 learners used L1 during all the lessons. As evident from Table 4.9, unlike Grade 9 learners, Grade 12 learners had the most use of L1 during the Reading Text task, with L1 use occurring 1,474 instances. This makes up 43.37% of all learners' speech during reading, and 31.95 % of all speech produced across all the tasks. The second most frequent use of L1 was during

Table 4.9

*Proportions of L1 Use by Grade 12 Learners in Different Tasks*

Task	<u>Title/Picture</u>		<u>Reading Text</u>		<u>True/False</u>		<u>Q &amp; A</u>	
	L1%	L2%	L1%	L2%	L1%	L2%	L1%	L2%
Lesson 1	27.85	72.15	34.58	65.42	22.22	77.78	26.67	73.33
Lesson 2	1.28	98.72	34.55	65.45	5.88	94.12	12.00	88.00
Lesson 3	35.36	64.64	44.29	55.71	30.77	69.23	33.44	66.56
Lesson 4	16.67	83.33	61.85	38.15	57.89	42.11	27.03	72.97
Total	28.62	71.38	43.37	56.63	31.03	68.97	27.24	72.76

True/False, where L1 made up 31.03% of total learner's speech during this task. The least frequent use of L1 occurred during the Question and Answer task, which comes up to only 27.24% of all learners' L1 speech. Very little use of L1 was observed during Title/Picture, True/False, and Q & A tasks of Lesson 2 compared to other lessons. Due to time constraints (time limitations due to outside circumstances, school was closed for 10 days) these tasks were not carried out as pair or group work. Instead they were done as whole class, teacher fronted tasks.

As evident in Tables 4.8 and 4.9, Grade 9 and Grade 12 learners used L1 during all the lessons. However, the percentages of L1 use varied for different tasks across the two grades. When the proportion of L1 use for the two groups of participants in the study were compared, it was observed that Grade 9 learners' use of L1 during the

Reading Passage was only 18.78%, while this figure for the Grade 12 learners was 43.37%. This, in fact, was the task in which the most frequent use of L1 in the Grade 12 data was observed, whereas use of L1 in Reading Passage was the second least frequent instance of L1 use among Grade 9 learners. Variation in the proportion of L1 use across tasks indicates that learners in two grades did not rely on their L1 to the same extent in order to carry out similar task. From this, we can infer that task type alone cannot determine the learners' use of Language. Grade 9 learners spent quite some time on the vocabulary section, named 'New Words Task', before doing the 'Reading Task'. In The Grade 12 textbook, there is no section for the introduction of new words of the lesson, hence all of the Grade 12 learners' discussions on vocabulary they encounter fell within the Reading Task itself.

Learners in both grades used L1 frequently in True / False tasks. They used L1 to express their ideas and disagreements on the statements given in the task. When there were no disagreements, they just read the sentences and determined whether they were true or false very quickly. Data from follow-up interviews with the learners showed that learners relied on their L1 to argue when there was a disagreement. When asked about the reason for their L1 use, Amin, a Grade 9 learner, used a little bit of humor and replied that it is because ["We can't fight in English"]. Reza, a Grade 12 learner, reported switching to L1 without even noticing it. Almost 31% of both groups of learners' speech during True/False task was in L1. However, during this task, Grade 9 learners produced more speech (n= 374) than Grade 12 learners (n=58). This might be because the data for Grade 9 was collected during five lessons of their textbook, which was one lesson more than Grade 12. Another reason could also be that Lesson 4 in the Grade 9 textbook had two True or False tasks, one based on the reading passage

and another just for the sake of practice, which caused a considerable amount of argument among the learners.

**Frequency of functions of learners' use of L1 in different tasks.** As a further step to answer the third research question of the study, which investigated the phenomenon of learners' use of L1 in their classroom interactions in different tasks, data was analyzed quantitatively for the functions of L1 use. This added to the earlier analysis which only provided an overview of the extent of L1 use by the participants. At this stage, data from both Grade 9 and Grade 12 were included in the analysis with a focus on macrofunctions of L1 used by L2 learners across tasks. Table 4.10 and 4.11 summarize the results of the quantitative analysis of intermental and intramental functions of L1 use in different tasks. Furthermore, subcategories of functions were looked at in order to reach a better understanding of learners' use of L1. A close analysis of data was done to specify not only the functions which were present in all tasks, but also the functions served by L1 in certain tasks only. This helped elucidate whether tasks had any impact on the functions served by the learners' L1.

Table 4.10 shows the number of L1 utterances by the Grade 9 learners, coded for the functions they served, along with the percentages they represent out of all L1 functions. Grade 9 learners' data showed intermental use of L1 in metatalk about language as the most frequent function in the New Words, Reading, True or False, and Question and Answer tasks. Intermental use of L1 in interpersonal relation was the most frequent function in the Presentation and Multiple Choice tasks, respectively.

When Grade 9 learners' data from different tasks was examined closely for the macrofunction of intermental use of L1 to talk about Language, it showed that L1 was used for fewer range of functions in some tasks. In other words, use of L1 was absent or low for some functions in certain tasks, and high in others, and hence, learners' use



Table 4.10\*

*Frequency of Functions for Grade 9 Learners' Use of L1 Across Tasks*

	New Words	Reading	Q&A	True/False	Presentation	Multiple Choice	Match to Correct Option	Fill in the Blanks	Total
Intermental use of L1 in metatalk about language	642 50.39%	97 45.33%	84 57.14%	84 63.64%	43 34.40%	6 23.08%	14 56.00%	5 35.71%	975
Intermental use of L1 in metatalk about task	456 35.79%	46 21.50%	8 5.44%	17 12.88%	24 19.20%	8 30.77%	10 40.00%	3 21.43%	572
Intermental use of L1 in interpersonal relations	158 12.40%	64 29.91%	54 36.73%	31 23.48%	58 46.40%	12 46.15%	1 4.00%	6 42.86%	384
Intramental use of L1 in vocalized private speech	18 1.41%	7 3.27%	1 0.68%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	26
Total	1274 100%	214 100%	147 100%	132 100%	125 100%	26 100%	25 100%	14 100%	1957

of L1 varied in different subcategories of functions across different tasks. When interaction data for New Words was examined, analysis showed that L1 was used by learners to serve most functions during this task. It was revealed that 65.10% of the total functions served by L1 were during New Words. Following this, the variety of functions, from most to least number of functions served, was in Reading Passage, Question & Answer, True or False, and Presentation tasks.

When compared, it was seen that the frequency of use of different L1 functions across all tasks was almost similar, with New Words being an exception to this. The difference in New Words with the other tasks was especially prominent in the subcategories where L1 was used to provide hints and clues to peers, to argue a point and express agreements or disagreements, to check their partner's comprehension, to initiate L2 and to ask for repetition. It should be noted that, when the learners' data for the True and False task was examined, it was seen that L1 was used more frequently in the use of L1 to argue a point and express agreement/disagreement subcategory, except for in New Words. In fact, use of L1 for this function was the second most frequent use of it.

Furthermore, data from different tasks were examined closely for each subcategory under the macrofunction of intermental use of L1 in interpersonal relations. It was seen that L1 was used more frequently to serve the functions of praising and complaining during New Words compared to other tasks. That is to say, use of L1 in all tasks except for New Words was similar regarding both instances where learners were praising or complaining about each other. A reason for this could be that the New Words task required high collaboration among the group members, leading to further interaction between them. As learners' were required to present their work as a group, and the results would affect them all, it was seen that their orientations

toward this task was different than other tasks. They used L1 in order to appreciate each other's contributions to the group, or to reprimand each other for lazy behavior. At times, they directly criticized one another, while at other times the complaint was made to the teacher. Use of L1 for this purpose was almost absent from all other tasks.

Table 4.11 shows the number of L1 utterances by the Grade 12 learners which were coded for the macrofunctions they served and the percentages they represent out of all L1 functions. Grade 12 learners' data showed intermental use of L1 in metatalk about language as the most frequent function in the Title – Picture, Reading, and Question and Answer Task. For True or False task, intermental use of L1 in interpersonal relations was the most frequent function for which L1 was used by learners. As it is displayed in the table, the number of L1 utterances coded for various functions is much higher during the Reading Task (n= 2,161) compared to other tasks. In fact, this made up 82.36% of all functions served by L1 for Grade 12 learners. Reading Task is followed by Title - Picture Discussion (n=182, 6.94 %), Question and Answer (n=180, 6.86%), and True or False (n=101, 3.85%).

Table 4.11

*Frequency of Functions for Grade 12 Learners' Use of L1 Across Tasks*

	Title/Picture	Reading	Q&A	True/False	Total
Intermental use of L1 in metatalk about language	126 69.23%	1375 63.63%	131 72.78%	20 19.80%	1652 62.96%
Intermental use of L1 in metatalk about task	26 14.29%	351 16.24%	17 9.44%	8 7.92%	402 15.32%
Intermental use of L1 in interpersonal relations	24 13.19%	316 14.62%	22 12.22%	73 72.28%	435 16.58%
Intramental use of L1 in vocalized private speech	6 3.30%	119 5.51%	10 5.56%	0 0%	135 5.14%
Total	182 100%	2161 100%	180 100%	101 100%	2624 100%

As is evident from the table, 402 utterances of L1 were coded as intermental use of L1 in metatalk about task. From this, 351 instances occurred during the Reading task, which make up 93.10% of L1 use across all the tasks for this particular macrofunction. In other words, when all tasks were compared, it was seen that a very high percentage of learners' intermental use of L1 to talk about task occurred during Reading. When data was examined for the macrofunction of intramental use of L1 in vocalized private speech, it was seen that there was no L1 use during the True/False task, and that both Title-picture (n=6) and Q & A (n=10) tasks had similarly low use of L1. However, learners' L1 was highly used during the Reading task (n=119).

As the next step, data from the subcategories under each macrofunction were analyzed. When the distribution of the functions served by L1 in different tasks was examined in detail, it was revealed that the functions of L1 use in Reading Task had a much higher range than the functions of L1 use across all other tasks. Analysis also revealed that L1 was used for the fewest range of functions in 'True or False' task.

When Grade 12 learners' data from different tasks was examined closely for the macrofunction of intermental use of L1 to talk about language, it showed that during the Reading Task, L1 was most frequently used for the purpose of translation. It was seen that there was a noteworthy difference between L1 use for translation during Reading task (n=397, 89.82%) when compared to the Title Picture (n=25, 5.66%), True-False (n=1, 0.23%) and Q & A tasks (n=19, 4.30%). When learners interacted with each other trying to make meaning of the text, they often used L1. It was mainly when understanding the text was challenging for them that learners used their L1 to translate.

There were instances in the data where they read a part of text and produced L1 utterances such as "*khob in ke hichi* [this one doesn't need much]", "*in ke asoone*

[this one is easy]”, and “*ino ke fahmidam* [I got this]” and then continued reading the L2 text without translating. This is evidence that learners did not translate L2 to L1 when a part of the text was easy for them to understand. This indicates that translation helps learners get more meaning from challenging texts, and aids in comprehending and recalling it better. It is evident that when learners are reading an easier text, they do not rely on their L1 for comprehension, however, when faced with a more challenging text, there is a need for L1 as a resource.

As was the case for Grade 9, the Grade 12 learners’ use of L1 was absent or low for some microfunctions in certain tasks, and high in others. When compared, it was seen that the frequency of use of different L1 functions across all tasks was almost similar, with the Reading Task being an exception to this. This was especially prominent in the subcategories where L1 was used to express the main idea of the L2 text and to add to the teacher’s or peers’ L1. It was only when working on the Reading Task that the learners used their L1 to summarize and convey the main idea of the L2 text. This is most probably because the nature of the reading task was the only one that required summarizing, while the others did not.

One frequent use of L1 during Reading was to add on to a partner or the teacher’s L1 (n=66). The use of L1 for this purpose was not observed during the other three tasks. In some instances, use of L1 for this function could indicate that the learner wants to convey that they are paying attention, or to affirm that they understand the topic that is being discussed. When instances where L1 was used to add on to the teacher’s L1 or a peers’ L1 were looked at, it was seen that in each case, learners wanted to convey their mental engagement with the teacher/peer, or wanted to express their understanding of the topic under question. This kind of interactions helps both

the teacher and the more proficient learners to ensure the point they are trying to explain to someone is fully understood by them.

When the macrofunction of the intermental use of L1 to talk about task was examined, it was seen that L1 was more frequently used during reading compared to other tasks (n=351). More specifically, L1 was used in this task in order to manage and guide the task (n=169). L1 use also varied greatly between the Reading task and other tasks when learners used it to argue a point related to the task, with L1 being almost absent in the other tasks.

**Findings for qualitative analysis of data in different tasks.** A closer qualitative analysis of classroom interaction data allowed the researcher to gain more insights to the learners' use of L1 in the process of learning L2 during different tasks of a lesson. While attempting the tasks in their textbooks, L1 provided the learners in two grade levels with the tools to mediate own and peers' learning. According to the sociocultural theoretical perspective which was used as the framework for the study, language is one of the most important artifacts which mediates our learning, and it plays an important role in our cognitive development. In this view, language functions as mediation between the intermental and intramental worlds. In the process of L2 learning, as DiCamilla and Antón (2012) note, L1 is an important semiotic device that mediates the L2 learning process. As another step of the analysis and with respect to the role of language as a mediating tool, occurrences of L1 in learners' speech were analyzed qualitatively to find out how L1 was used by learners while interacting when engaged in different tasks. Analysis of data for both groups of participants revealed that learners used their L1 for different purposes. L1 was used to regulate both their peers' and their own cognitive process in the learning of L2. In the following section, the findings for each grade level are discussed individually.

*Findings for Grade 9.* Since Grade 9 learners' use of L1 mostly occurred during the New Words task, it was used as the basis for the comparison with the other tasks for this group of participants. When the data was analyzed qualitatively for the functions of L1 in different tasks, it was found that learners' use of L1 was different in a number of ways. When Grade 9 learners' data from different tasks was examined closely for the macrofunction of intermental use of L1 to talk about language, it showed that although use of L1 for a certain function was present in all tasks, the nature of learners' use of L1 was not the same. Moreover, analysis also revealed that the way learners offered mediation through L1 and responded to the mediation was not the same in all tasks. In what follows, segments of Grade 9 learners' interactions are used to discuss and better illustrate these findings.

One frequent use of Grade 9 learners' L1 across tasks was for the purpose of arguing with their partners and to express agreement or disagreement with their peers. However, analysis provided evidence that the nature of the argument was not the same in all the tasks. For example, in the New Words, learners used L1 in their arguing with partners mostly to express agreement or disagreement with a peer in a more positive way. They used it to offer help which, in many instances, led to co-construction of L2 knowledge. During True or False, learners' L1 was also used to argue in case of disagreements. However, in these cases L1 use mainly served to express their disagreements and justify their own answers or to provide reasoning in order to prove their own points. These kinds of arguments rarely led to learning opportunities. Excerpts 63 and 64, taken from Amin and Zia's interaction, exemplify instances of use of L1 for the function of agree / disagree during New Words and True or False respectively.

### Excerpt 63

1. Amin: Snowplow
2. Zia: *shoghl e.*
3. [It's a job]
4. Amin: *nakheir, ine baba.*
5. [No! It's this thing.] (points to the picture in the textbook)
6. Zia: *midoonam.*
7. [I know.]
8. Amin: *hala chi mishe/ be englisi.* It's a + (not finished)
9. [so what is it? In English, I mean. It's a + (not finished)]
10. Zia: It's like a, it's like a, but it has some ++
11. Amin: push the snow
12. Zia: It has iron surface and push the snow.

(Grade 9, Pair work, New Words, December 2013)

Excerpt 63 took place while the learners were doing the 'New Words' section of the lesson. They were required to read certain sentences, answer the questions in this section, and learn the L2 definition of the new words as well as make their own sentences with them. The word 'snowplow' was among the new words for this lesson. In excerpt 63, Zia first states that 'snowplow' is a job. Amin uses L1 (line 4-5) to express his disagreement with what his partner had said in line 2. Zia does not refute Amin's point, as proven by his "I know" (line 7). Then, immediately afterwards, Amin tries to move forward, and asks Zia's opinion on the definition of the snowplow. He even tries to initiate the definition, but pauses, and is interrupted by Zia. From there, together, they try to come up with a co-constructed definition for the word 'snowplow'.

Excerpt 64 illustrates another example of Amin and Zia's use of L1 to argue, while engaged in a True/False task. The statements they were working on were based on the reading passage. At first they read out the statement, 'The school bus arrived very late'. Unlike in excerpt 63, their continuous arguments do not get them anywhere. They each stand by their own point, and even repeat the same sentences over and over again. In the end, without agreeing on an answer, Zia uses L1 and suggests that they move on to the next statement in the task.



#### Excerpt 64

1. Amin: The school bus arrived very late.
2. Zia: True.++ (Then silent for a while) **True e.**
3. [True.++ (Then silent for a while) *That's true*]
4. Amin: *aslan nayoomad ke.*
5. [But it didn't come at all]
6. Zia: **True e.**
7. [That's **true**]
8. Amin: *aslan nayoomad ke.*
9. [It didn't come at all]
10. Zia: *dir oomad.*
11. [It arrived late]
12. Amin: *aslan nayoomad.*
13. [It didn't come at all]
14. Zia: *dir oomad.*
15. [It came late]
16. Amin: *Baba in yaroo snowplow bood*
17. [It was the **snowplow** that came]
18. Zia: *bekhoon. Bekhoon.*
19. [Just move to the next one]

(Grade 9, Pair work, True – False, December 2013)

Interestingly, a close qualitative analysis revealed that the way learners offered mediation through L1 and responded to the mediation was different in New Words compared to other tasks. In all tasks, learners used L1 to serve them different functions to help each other; however, when they used it during New Words they continued providing assistance and mediating peers' L2 learning process up until they were assured that each of them had reached the self-regulation process. In the 'New Words' task, while Grade 9 learners were interacting and helping each other understand the meanings of the L2 sentences or construct new sentences, they willingly offered each other help and were keen in accepting the assistance provided. L1 was used actively by both the more proficient learners while offering help, and by the less proficient peers who took advantage of the help provided. In this way, L1 helped them engage more with the task and played the mediating role in their L2 learning process.

According to findings of the second research question, one of the intermental uses of L1 in learners' utterances was to ask the teacher or peers to repeat what they

had already said (See page 103). This function of L1 was present in the New Words, as well as Presentation, Reading, and Comprehension Questions Tasks; however, it occurred much more frequently during New Words compared to other tasks. Besides, the context in which they occurred was not similar. Analysis of data revealed that in the very few occurrences of use of L1 to ask for repetition during reading (n=2), Comprehension Questions (n= 3), and Presentation (n=1) tasks, learners used it to ask the teacher or their peers to repeat a question which they had not heard or gotten. In contrast, during the New Words, the use of L1 for this function occurred mostly as a response to another peer's mediation. In other words, during New Words, asking for repetition happened frequently when learners wanted to ask peers or the teacher to repeat L2 words or phrases in order for them to get a chance to imitate and rehearse it. An example of L1 use for this function appears in Excerpt 65, which involves Kian and Ata.

### Excerpt 65

1. Kian: **Boil** *asoone, to begoo.* (talking to Ata) **Boil** *chie? Jooshandan.*
2. **Boil** *assone, diksheneri ham nazanim mitoonim begim.* When we
3. heat, for example, when we heat something like water it will
4. become boiling.
5. [**Boil** is easy. You define it (talking to Ata). What's **boil**? To
6. boil. **Boil** is easy, we don't even need a dictionary for it. When
7. we heat, for example, when we heat something like water it will
8. become boiling.]
9. Ata: **like water ya on water?**
10. [**like water or on water?**]
11. Kian: **like.** *Masalan chizi ke mesl e abe, behesh garma bedim joosh*
12. *miyad dige. Fahmidi?*
13. [For example, anything like water will boil if we heat it up. Get it?]
14. Ata: *bale.*
15. [yes]
16. Kian: *Chiz e sakhti nadare. Jooshandan. Ye dor begoo.*
17. [It's easy. To boil. Say it once.]
18. Ata: *dobare begoo to.*
19. [Can you say it again first?]
20. Kian: Tsk. ++
21. Ata: *begoo, begoo.*
22. [Please say it. Say it.]

23. Kian: When we heat something like water  
 24. Ata: heat?  
 25. Kian: heat, *garma dadan*. When we heat something like water  
 26. [Heat. Warming something up. When we heat something like water]  
 27. Ata: When we heat something like water  
 28. Kian: *mesle ab*. When we heat something like water, it will become  
 29. boiling.  
 30. [like water. when we heat something like water, it will become  
 31. boiling.]  
 32. Ata: When we heat something like water, it will become boiling.

(Grade 9, Group work, New Words, November 2013)

In this segment of interaction, learners are trying to define the word “boil”. Kian reassures Ata (lines 1-6) that it is an easy word to define, and since they know its L1 equivalent, defining it would not be difficult [“We don’t even need a dictionary for it.”]. Kian then defines the word himself, and then asks for Ata to define it. However, this was not enough for Ata to reach a sufficient understanding to be able to define the word, and so he asks Kian to repeat it again (line 19). Kian, however, shows some impatience by making a “tsk” noise. After this, Ata uses L1 and explicitly requests that Kian repeats the definition (line 21). In line 27, after Kian has repeated the definition once again, Ata repeats it after him but stops mid-sentence. His tone implies that he wants Kian to repeat the rest of the sentence for him to be able to complete it. There were many instances in the data where learners used L1 and asked a peer to either pronounce an L2 word, or to repeat the definition of a word or a sentence in order for them to imitate it.

As Vygotsky (1987, p. 210) argues, “development based on collaboration and imitation is the source of all specifically human characteristics of consciousness that develop in the child.” According to SCT-L2 internalization relies heavily on imitation, which entails selective attention resulting in repetition of social models. Lantolf and Thorne (2006, p. 176) propose that “internalization occurs through imitation, which is not a mindless coping activity, but an intentional complex, and potentially

transformative process”. In many instances it was observed that through use of their L1, learners engaged in collaborative learning. Data were evident how less proficient learners developed their learning of L2 by the help of a more proficient peer. It was frequently seen that the less proficient learners used utterances such as “*Ye bare dige ham begoo* [Say it one more time]”, and “*In dige bare akhare* [this is the last time]” and “*Faghat ye bare dige* [just one more time]” in order to request for repetitions. This also indicates that some learners were aware of the amount and the kind of support they needed in order to perform the task and move their learning to a higher level in their developmental stage.

Additionally, unique to the ‘New Words’ task was the use of L1 for scaffold and assisting a peer through providing hints or clues in L1. Use of L1 to serve this sub-function was not observed in learners’ interaction during other reading tasks. An example of learners’ use of L1 for this function in mediating a peer’s learning is shown in Excerpt 66 which is taken from a group work interaction. In this segment, the learners are trying to define the word ‘yard’. Dara, a low proficient learner, is grouped with two more proficient peers. While working together, Hiran utilizes L1 to mediate Dara’s production of L2 definition for ‘yard’. The first instance of this is in lines 7-8, where Hiran produces the utterance “*kojas* [Where is it?]”, suggesting to Dara how to start his definition. This happened after he had already provided L1 equivalents for yard. However, the assistance provided was not enough for Dara, as evident by his L1 utterance “*chi kar konam alan?* [What do I do now?]”, in lines 9-10. This is why Hiran used L1 again to provide further hints (lines 17-19).

#### **Excerpt 66**

1. Dara: **Yard** *yani chi?*
2. [What does **yard** mean?]
3. Hiran: *Hayat khalvat?* (he is not sure if it is the right equivalent)
4. [backyard?]

5. Hiram: Wait, wait, one by one. You Dara. Yard.
6. Reza: Explain the meaning of yard.
7. Hiram: *balkon o hayat khalvat o ina, teras. + Kojas?*
8. [Balcony, backyard, stuff like that. Terrace. + Where is it?]
9. Dara: *chi kar konam alan?*
10. [What do I do now?]
11. Hiram: *begoo chie, Be englisi.*
12. [Say what it is, in English.]
13. Reza: Explain the meaning of it.
14. Dara: *ha? +++hayat khalvat*
15. [What? +++ backyard]
16. Hiram: in English. *Na, begoo. Ghashang begoo.*
17. *masalan begoo age ye khoone darim, kojash mishe yardesh?*
18. [In English. No, No, tell us. Tell us whatever you can.
19. Like say for example if we have a house which part is the **yard**?]
20. Dara: *baba vel kon!*
21. [Let it go]
22. Reza: (laughs)
23. Hiram: Ok. For example, we have a house, *hayat khalvat*, [Backyard]
24. and there is a thing, place that you put all of your, you
25. know, junk stuff you don't need.
26. Reza: look outside. This is a yard.
27. Dara: *midoonam, khob?*
28. [I know. So?]
29. Hiram: Sometimes we put toys, junk things, the things we don't need.
30. Reza: Yard is a place where you grow plants

(Grade 9, Group work, New Words, December 2013)

As is evident in this excerpt, the two peers chose different ways to mediate Dara's L2 learning process. Hiram used L1 to provide hints (lines 7-8 & 17-19) to enable Dara to produce the L2 definition, while Reza simply took advantage of sitting by the window of the classroom and pointed to the school yard (line 26). However, at this point Dara knew the approximate L1 equivalent since Hiram already provided him with an array of equivalents of 'yard' in Persian (line 8) and other close meanings in line 23. Dara's problem, then, was not the meaning. He had difficulty in producing L2 utterances to define the word in English.

In Iranian houses, the backyard usually acts as storage space, the equivalent of a garage in English, whereas a yard is more like a garden. Hiram confuses these two concepts, leading to an unsuccessful L1 mediation. In this instance, it was seen that L1

could potentially become counterproductive, as cultural differences associated with the L1 bring about deviation from the true meaning of the L2 word. Up to a certain point, his L1 hints could have been helpful to his peer. However, after his confusion with the L1 term for yard, his hints not only turned ineffective, but in fact led to a wrong definition of the word by the learners. Hence, in this example, the need for more appropriate assistance is evident. However, unlike this excerpt, there were many instances in the data where clues and hints provided in L1 successfully mediated a peer's learning, and provided a scaffold for the less proficient learner.

As reported earlier, Grade 9 learners produced more speech, either in L1 or L2, during the New Words. L1 was used for a variety of functions in a wide range during this task, and qualitative differences were observed in the use of L1 and the contexts it was used in. All this indicate that the Grade 9 learners were more engaged with New Words as an activity than other tasks. There are a few possible explanations for this. Due to the nature of the task, encountering new vocabulary might have motivated them to take the learning process more seriously and perform differently than they would in other tasks. Another reason could be that the task might have been more challenging, since it required them to come up with their own sentences using those words. And finally, learners were aware that they would have a group presentation in front of the class following the group work. Hence, during the task, they were willing to offer assistance to each other and get engaged with partners' ideas in order to perform better as group.

It was evident from the data that having a common goal, i.e. performing successfully in front of the class after the group work, affected the nature of learners' use of L1. Utterances such as “*Alan bayad berim oonja begim* [We have to go say it at the front]”, or “*oonja aberoorizi nakoni* [Don't embarrass us over there]” and etc. all

show that they are more invested in the New Words task, as they want to make sure they get it right in front of the whole class during the presentation. For this purpose, learners repeatedly read the co-constructed sentences; imitated and repeated them. They used L1 in this process to assist them in different ways. This suggests that learners' orientation towards the task affected the group behavior of some learners and their use of L1 in their speech too.

In order to have a better picture of how assistance provided in L1 benefited the learners in the process of L2 learning, data from New Words and Presentation tasks was compared. This provided more insight on both the learners' performance with assistance from peers, and on the extent to which the learners benefited from the assistance. Analysis revealed that for some learners, the assistance in L1 benefitted the learners not only in the New Words task itself, but it also helped them transfer the mediated performance to the next task, i.e. Presentation task.

A close investigation of data showed that some Grade 9 learners performed better during the actual Presentation Task compared to the rehearsals they had in their own groups. During doing the 'New Words' section of the lesson, some learners were more engaged with the task and worked more collaboratively compared to other learners. They actively participated to generate and revise their own sentences using the new words introduced in the section. It was seen that learners in such groups performed better and demonstrated greater independence during the Presentation task. In instructional settings, learning collaboratively shapes and aids development (Vygotsky, 1978). L1 use created more interaction with peers and for some learners was an effective way to develop their L2. By using L1 in their questions, prompts, and scaffolds, learners encouraged one another to focus on the linguistic problems and to think of solutions amongst the group. Analysis revealed that some learners no longer

needed the mediation (scaffold) during the Presentation task after being mediated in both L1 and L2 by their peers during the rehearsals.

For example, while doing the New Words task, Hamid was being other-mediated by more proficient peers in his group or was self-mediating by repeating the words or sentences to himself. During the presentation task, he did not need mediation anymore. Excerpt 67 is taken from a group interaction which involved Hamid's participation. Excerpt 68 is taken from a Presentation task which involved Hamid's participation as well. Considering Hamid's utterances in these two segments of interactions, we see Hamid's increasing control over L2 utterances, and we might argue that Hamid needs no more mediation for this particular L2. He did not require the active use of mediation by others, such as by the teacher or his peers, nor did he need mediation through referring to his notes, i.e. L1 equivalents of unknown words.

### Excerpt 67

1. Kian: **Boil** *ke+*
2. [Boil is+] (did not finish. Thinking)
3. Hamid: **Boil** *mishe sorkh kardan*
4. [**Boil** means to fry]
5. Kian: *na baba, ki gofte?*
6. [No, says who?]
7. Ata: **Boil** *yani roghan*
8. [**Boil** means oil]
9. Hamid: *agha aval be farsi sho darbiarim.*
10. [Let's find the Persian term for it first]
11. Kian: **Boil** *yani kase.*
12. [**Boil** means bowl]
13. Hamid: *aval be farsi dar biarim, befahmim ghashang mafhoom ro, baad*
14. *englishish ham baramoon rahat mishe.*
15. [Let's find the Persian term first, and understand it well, then
16. it will be easier for us to define it in English.]
17. Kian: *bebin **boil** chi mishe. Chi neveshte? +++ bede bebinam*
18. **Boil** *mishe hamoon jooshandan.*
19. [Check what boil means. What does it say? +++ Let me see (the
20. dictionary) **Boil** means to boil.]
21. Hamid: *jooshandan* (repeats)
22. [To boil.]
23. Kian: **boil** *asoone. Dictionary ham nazanim mitoonim begim.* For
24. example when we heat something like water it will become



25. boiling.
26. [**Boil** is easy (to define). We don't need a dictionary to define it.
27. When we heat something like water it will become boiling.]
- (...)
28. Hamid: When we heat the water or Umm +++ *mayeat chi mishe?*
29. [When we heat the water or Umm, +++, what's liquid in
30. English?]
31. Kian: *chi?*
32. [What?]
33. Hamid: *mayeat?*
34. [liquids?]
35. Kian: solids (the wrong L2 equivalent)
36. Hamid: water or solis in a pan
37. Kian: solids
38. Hamid: (rehearses while the other two peers talk. )
39. Kian: **pan nagoo. Begoo masalan in a kettle.**
40. [Don't say **pan**. Say, for example, **in a kettle**.]
41. Hamid: in a kettle (wrong pronunciation. Pronounced /katel/)
42. Kian: kettle, kettle
43. Hamid: Kettle? (Pronounced correctly)
44. Kian: *ketri*
45. [kettle]
46. Hamid: *aha, ketri.* in a kettle after a few minutes it will be boil so the
47. bacteria (pronounced /bakteri/) of it
48. [Oh, a kettle. In a kettle after a few minutes it will be boil so the
49. bacteria of it]
50. Kian: (interrupted Hamid) *ino dige nemikhad begi. Hamin ro begoo*
51. *khoobe dige.*
52. [You don't need to say that part. The first part is enough.]
53. Hamid: When we heat water or solid in a kettle it will be boil.

(Grade 9, Group work, New Words, November 2013)

Excerpt 68 was taken from an interaction with the teacher during the Presentation task which occurred after the events of Excerpt 67.

### Excerpt 68

1. Teacher: The next word is 'boil'.
2. Hamid: When we heat the water in the, umm, or solids in a kettle after a
3. few minutes will be boil.
4. Teacher: Ok. Is it hot or cold?
5. Hamid: When we boil it, it becomes hot water.

(Grade 9, Whole class, Presentation, November 2013)

As it is evident in Excerpt 68, Hamid has grasped the definition of the word "boil", mostly through help and mediation from his peer. As displayed in Excerpt 67,

he asked a more proficient peer the meaning for ‘liquid’ (lines 28-30), and got the wrong word for it in response. Therefore, this excerpt shows that group work also has the potential for misunderstandings, as Hamid also learns the wrong word for “liquid” from his peer Kian, and mistakenly uses the word “solids” instead of ‘liquids’.

***Findings for Grade 12.*** Grade 12 data revealed that learners’ involvement in the task was very high during Reading task. Throughout the lessons, learners were more vocal and also used more L1 while doing the task. Since Grade 12 learners’ use of L1 mostly occurred during the ‘Reading’ task (see Table 4.11), this task was used as the basis for the comparison with the other tasks for this group of participants. Analysis of data for the macrofunction of intramental use of L1 in different tasks revealed some noticeable differences. There was no instance of intramental use of L1 during True/ False task. It was also found that Reading task engendered more L1 mediation for private speech than the other tasks.

It should be noted that as the tasks were done in pairs or groups, and since no video recordings (for the evidence of eye contact) was used, it was appropriate to classify utterances which could have been both private and social as social speech. Only the utterances which had the characteristics other than eye contact among participants were considered as intramental speech. The L1 utterances which learner’s tone of voice indicated being directed to self or were ignored by peers, and the questions immediately answered by self were counted as intramental speech.

There were 135 instances of intramental use of L1, i.e. use of L1 utterances in learners’ private speech, during all tasks of which 119 instances occurred during the Reading task. And just a few instances were observed during Question and Answer (n=10) and Title and Picture discussion (n=6) tasks. In what follows, the findings of a

detailed analysis are reported and segments of learners' interactions are used to discuss and better illustrate them.

Analysis of the intramental use of L1 in the Grade 12 learners' interaction data revealed that there was no instance of L1 use in learners' private speech while doing the 'True / False' section of the lesson. This could be due to a few possibilities. First, this was a task of sentence recognition as being true or false based on a text already read. It did not require any expressive language skill. For True or False task which followed the Reading task, the learners already had some general understanding of the text, and had gotten familiar with the vocabularies. Besides, the language in the statements used in the True/False task usually were easier compared to language in the text. In other words, to successfully perform a True/False task, the learners had to be competent in regards to both the language and the information given in the statements. Because the learners in this study had spent quite some time on the Reading task and had previous to this resolved many of their vocabulary and language problems, they probably faced less difficulty doing the True/False.

Another possible explanation could be the way some learners did the True/False task in their groups. In some groups, the learners first did the task individually and silently to decide if the statements were true or not on their own. Later, they just compared their answers with that of their peers'. With this way of doing the task, even if they had produced private speech utterances, their utterances might not have been captured in the recordings. Others put less group thought and effort into doing this task, as this type of task did not require a complex response from the learners. In cases of agreements between members of a group, there was no more speech on the item and in case of disagreements, they had the text to refer to. All this might have contributed

to the True/False task being less complex or less challenging for the learners, and thus, eliminating the need for L1 private speech during this task.

Moreover, there was a noticeable difference in use of L1 for this macrofunction between the Reading task (n=119) and the Question and Answer (n=10) or Title and Picture discussion (n=6) tasks (see page 151). The relationship between cognitive performance and private speech is documented in many studies and it is found that it differs with respect to the task complexity and demands (Diaz, Winsler, Atencio, & Harbers, 1992; DiCamilla & Antón, 2004). The Reading task was more demanding compared to the other tasks, as it required higher levels of thinking, and more collaboration and discussion among more and less proficient peers. For the Reading task, unlike the True/False task, learners had to formulate more verbal responses in order to negotiate and grasp meaning of unknown words and phrases.

For a more detailed analysis of the data, the instances of Grade 12 learners' use of L1 in their private speech were coded for the content and functions they served based on the earlier literature (Centeno-Cortés & Jiménez Jiménez, 2004; McCafferty, 1994). When learners' speech coded in terms of content, analysis revealed that the L1 utterances were used in repetitions, affective expressions, self-directed explanations, pause fillers, self-directed questions, self-addressed negation, and self-addressed directive. Then, these utterances were coded for the functions they served. Table 4.12 is an overview of the findings for the functions and contents of L1 utterances as private speech produced by Grade 12 learners across different tasks.

Analysis of content of private speech data revealed some differences for the content of private speech in different tasks. As it is displayed in Table 4.12, learners produced more varied L1 intramental utterances in terms of content during the Reading task compared to other tasks. For example, self-addressed directives and self-

addressed questions were not used during Question and Answer. Repetitions, Self-addressed explanations, and self-addressed negations were not used during Title and Picture Discussion.

Literature shows that both children and adults use language not only for communicating socially, but also in a self-regulatory manner as a tool to plan, guide, and to monitor their own behavior. DiCamilla and Antón (2004, p. 41) argue that “language use is not restricted to the exchange of information. Learners also use language for the strategic purposes, one of which is to mediate their own activity through private speech.” According to SCT, private speech plays an important role in the movement from interpersonal mediation to independent problem solving. From the analysis it was evident that the most frequent use of L1 in learners’ utterances in their private speech was for repetition (n=45). Repetitions occurred only during the Reading (n=43) and Question and Answer (n=2) tasks. Analysis showed that most often, repetition occurred after the mediating role of the teacher or a more proficient peer in the group. By repeating to himself, the learner was taking over the regulating role played by others earlier. This indicates learners’ active participation in their own process of learning. Learners produced more intramental, self-addressed utterances during the Reading task. This suggests that the Reading task required more effort, verbal self-regulation, and active participation from the learners. The Reading task was more challenging and required learners to integrate their L2 knowledge and their knowledge of the world acquired through their L1.

Reading texts in the Grade 12 textbook are longer and include more new vocabularies than the other three previous high school textbooks. Learners encountered more new vocabularies at the time of reading a text without having been introduced to them earlier in a section like the ‘New Words’ section of their previous

Table 4.12

*Overview of the Findings for the Functions and Contents of L1 Private Speech Produced by Grade 12 Learners Across Tasks*

Content of L1 PS	Title-picture Task	Reading Task	Q & A	T/F
-Repetition	NA	- Focus attention -Internalize newly encountered vocabulary	-Focus attention -Lexical search	NA
-Affective expressions		-Sign of discovery of a solution -Motivate the self -Emotional release regarding own performance	-Sign of discovery -Motivate the self	NA
-Self-directed explanation	NA	-Affective use to reduce anxiety -Search memory -Confirm own comprehension -Check if something makes sense	-Comprehend a question	NA
-Pause fillers	-L1 lexical search	-Search -Avoid distraction	-Lexical search	NA
-Self-directed question	-L1 lexical search	-L1 lexical search -L2 pronunciation -L2 -Confirm own comprehension	NA	NA
-Self-addressed negation	NA	-Discover own mistake -Think of the correct answer -Self-correct	-Discover own mistake	NA
-Self-addressed directive	-Control frustration & anxiety -Avoid distraction	-Control frustration & anxiety -Self-correct	NA	NA

textbooks. Thus, the Reading task, for them was a high cognitive demand task and required higher order thinking and drawing on their linguistic resources.

The following excerpts are examples from data illustrating use of L1 by Grade 12 learners for repetitions which served different cognitive functions. In Excerpt 69, which is taken from whole class interaction during the Question and Answer task, the teacher asks the learners to talk about exercising and being fit. Nima tries to answer in L2, but he is unable and reverts to L1. The teacher then asks for the L2 equivalent of “*vazn kam kardan* [losing weight.]” Another learner, Foad, uses L1 in his private speech and repeats the teacher’s question to himself ‘*vazn kam kardan*’, in search for the L2 equivalent. As it is evident in the excerpt, he used repetition of an L1 word for an L2 lexical search, and came up with the correct answer eventually.

#### **Excerpt 69**

1. Teacher: One of you, talk about exercising and being in shape,
2. being fit.
3. Nima: When somebody exercise, ++ Um, *vaznesh o kam mikone*.
4. [When somebody exercise, ++ Um, they lose weight.]
5. Teacher: OK. How can we say this in English, +++ *vazn kam kardan*?
6. [OK. How can we say this in English, +++ losing weight?]
7. Foad: *vazn kam kardan*, ++ cut weight, lose weight, lose weight
8. [Lose weight, ++ cut weight, lose weight, lose weight]

(Grade 12, Whole class, Q&A, October 2013)

Excerpt 70 provides another evidence of the use of L1 as repetition in learners’ intramental speech. In this segment of data, which occurred during the Reading task, Mahdi, who finds out another meaning for ‘plates’, repeats the two different meanings (lines 18-19), the one he already knew, the flat dish, and the one just provided by the teacher, layers (of Earth’s lithosphere). This repetition of L1 equivalents might assist Mahdi to organize his L2 and make the newly encountered vocabulary stick in his mind. In this way he is reminding himself of the two different meanings of the L2 word ‘plate’, the one he knew previously and the one just learned. In other words, repeating

the L1 utterances in his self-talk acts as a regulation strategy and might have helped Mahdi be more successful in remembering the words later, and can also be an indication of a shift from being other-regulated to being self-regulated.

### Excerpt 70

1. Mahdi: It is broken into many (reads slowly word by word)
2. Salar: It is broken into many pieces.
3. Mahdi: pieces. Pieces yani chi? yani bakhsh.=
4. [pieces. What does **Pieces** mean? Means part.=]
5. Salar: =ghet'ee ha
6. [=pieces]
7. Mahdi: called plates. Plates yani boshghab.
8. [called plates. Plates means plates (a dish).]
9. Salar: called plates. **Plates Yani, +yani**
10. [called plates. Plates means + means]
11. Mahdi: Teacher? What's the meaning of plates?
12. Teacher: *safhe, too zaminshenasi.*
13. [layers (of lithosphere), in geology]
14. Salar: *Aha. Safhe, are. Safhe, safhe. farsish yadam rafte bood.*
15. *Boshghab mishe vali inja be maani safhas.*
16. [Oh, plates, yes. Plates, plates. I'd forgotten the Persian. It can
17. also mean a dish, but here it means plates (of the earth).]
18. Mahdi: Plates, *boshghab, safhe*
19. [Plates, the flat dish, plates of the earth]

(Grade 12, Pair work, Reading, December 2013)

Further support for repetition in L1 as learner's private speech is visible in Excerpt 71 in which Salar is utilizing L1 to focus his attention and make sense of the L2 text. The part of the text being discussed in Excerpt 71 was as follows: "Since a large number of the world's earthquakes each year occur along the Pacific Ocean, this is the most probable area for today's earthquakes". In this example, Salar, in a quiet voice, repeated an L1 translation for a part of L2 text so that he might avoid distraction.

### Excerpt 71

1. Salar: *az an jayi ke har sale tedad e ziadi az zamin larzeha,* + (quietly
2. repeats) *az an jayi ke har sale tedad e ziadi az zamin larzeha,*
3. *etefagh miofte dar oghyanoos e aram , in mahal be onvane +*
4. [Since each year a large number of earthquakes, + (quietly)
5. repeats) *since each year a large number of earthquakes,*
6. *occur in Pacific Ocean, this area is +]*
7. Mahdi: most probable



8. Salar: *Por ehtemal tarin mantaghe baraye zamin larze*  
9. [The most probable area for an earthquake.]

(Grade12, Pair work, Reading, December 2013)

Another instance of use of L1 by Grade 12 learners as private speech was in utterances produced as affective utterances. This group of utterances included the utterances indicating affective expressions of the learners either regarding the task or their own performance. Utterances of self-criticizing, self-encouraging comments, any motivational utterances, those which were signs of discovery or indicators of learners' notice of an error are categorized as affective expressions. In fact, this group of intramental utterances was the second most frequent one (n=32) across tasks of which 29 occurred during the Reading task. The most frequent L1 utterance as affective expressions observed in the Grade 12 data was "Aha" [Oh] (n=26). "khob" [So], "Ah" [Ugh] and 'Are' [Yeah] were other examples. These utterances sometimes were followed by an L1 explanation or repetition. Excerpt 72 is an example for an L1 affective utterance as private speech. Salar is reading and translating. The sentences he was reading is as follows: "The world is getting warmer. It has warmed by half a degree centigrade over the past 100 years". One of the words in the sentence he is reading is 'centigrade', a cognate word; however, Mani, the less proficient learner in the group, did not realize this at first and had difficulty pronouncing it. He asks the other two partners to provide him with the L1 equivalent, while pronouncing the word wrong. When they point out to him that the word is the same in both Persian and English, Mani gets angry at himself for not having recognized it, as can be indicated by him uttering "[Ugh!, ok, ok, ok, ok!]"(lines 9-10). Mani's "ugh" is a self-criticising remark, followed by him repeating the word "ok" over and over to himself, trying to recognize his mistake and prevent making it another time. He seemed to be trying to

focus on other important parts of the task, as opposed to the unnecessary mistake he had made.

### Excerpt 72

1. Mani: kenti, kentigrad (wrong pronunciation) *chi mishe?*
2. [What does kenti,kentigrad (wrong pronunciation) mean?]
3. Foad: *Chi?*
4. [What?]
5. Mani: Centigrade (pronounced /**Sentigrad**/) *chi mishe?*
6. [Centigrade, (pronounced /**Sentigrad**/) what does it mean?]
7. Foad: *hamoon sanigrad e khodemoon*
8. [It's the same for us (in Persian)]
9. Mani: *Aaah! Khob, khob, khob, khob.*
10. [Ugh! Ok, Ok, Ok, Ok.]

(Grade12, Group work, Reading, December 2013)

Excerpt 73 is another example of learner's affective utterances in their intramental use of L1 as private speech. Hasan's use of the L1 utterance "*Ahaa* [Ohhh]" is a sign of discovery. This was followed by his intermental use of L1 to talk to his peer very excitedly. The utterance "*Ahaa*" might have helped Hasan to reduce anxiety, and also signals his recognition and excitement at having figured out the meaning to an unknown L2 text. He then goes on to repeatedly address a rhetorical question to his peer, indicating even more excitement at wanting to tell his peer of his discovery.

### Excerpt 73

1. Hasan: *Ahaa! Midooni chi mige? Midooni chi mige?*
2. [Ohhh! do you know what it says? Do you know what it says?]

(Grade 12, Pair work, Reading, December 2013)

Use of L1 as affective markers is also demonstrated in Excerpt 74, when Salar produced utterances "*Aha* [Oh]" and "*are* [Yeah]" after the teacher provided the L1 equivalent of 'plates' in the context which it was used in the text. As it is evident in Salar's speech, he knew the word before but was unable to recall it. This can be seen from his utterance "[I'd forgotten the Persian]". And the two L1 utterances "*Aha!*" and

“*are*” indicate that he was not happy with his forgetfulness, and wonders how he could not remember something he knew of. His utterances “[Oh!]” and “[yeah]” functioned to bring the forgotten L1 to the forefront of his mind, and reduce his anxiety at not knowing the word. After this, he repeats the word to himself, in order for it to stick in his mind, as to recall it easily in the future.

#### **Excerpt 74**

1. Salar: *Aha! Safhe, are. Safhe, safhe. farsish yadam rafte bood.*
2. *Boshghab mishe vali inja be maani safhas.*
3. [Oh! plates, yeah. Plates, plates. I’d forgotten the Persian. It can
4. also mean a dish, but here it means plates (of the Earth).]

(Grade 12, Pair work, Reading, December 2013)

One way in which learners used L1 private speech was as pause fillers. Pause fillers consist of meaningless sounds such as “um, er, uh,” etc. as well as random utterances which learners use to buy time. These are followed by a short pause and indicate a thinking process. For this study, pause fillers such as um, er, uh, etc. were not counted or included for the analysis. Only L1 utterances used as pause fillers were taken into account. These L1 utterances were often used by learners to help focus their attention or to plan their next utterance. Examples of L1 pause fillers from the data include “*Masalaaaaan...*(drawn out) [for example]”, “*chiz* [like]”, “*migeeee* (drawn out) [it says]”, and “*misheeee* (drawn out) [it means]”. These L1 utterances usually functioned as a search process for the learners, in order to avoid distractions and to gain sufficient time for thinking up answer. In order to judge the effectiveness of the pause fillers, they were coded for a second time as ‘effective’ or ‘ineffective’. If the pause-fillers were accompanied by correct answers from the learners, they were coded as ‘effective’, and if they were not, they were coded as ‘ineffective’. Excerpt 75 is an example that illustrates an effective search and an instance of ineffective search is displayed in Excerpt 76.

### Excerpt 75

1. Mani: *in chi mishod? Mishod* (drawn out) *Gofti ha, madeye ghazayi dige?*
2. [What was this again? It was (drawn out). You just told me,
3. nutrients, right?]

(Grade 12, Pair work, Reading, October 2013)

Excerpt 75 exemplifies an effective use of L1 as a pause filler in learners' private speech. Mani, a low proficient learner, while thinking about the word 'nutrient', whose meaning he had been told before, uses the utterance "[What was this again?]" as a self-directed question. His question is obviously rhetorical, as he goes on to say that he had been given the answer to it before, and then answers his own question followed by an L1 utterance "*dige*" for seeking confirmation. The pause filler "*mishod*" in this instance could have functioned as a way for Mani to organize his thoughts, and search for the correct L2 word. The pause filler gave him enough time to gather his thoughts, and finally come up with the correct answer. Hence, the pause filler proved effective in this instance.

### Excerpt 76

1. Hadi: **depends** *yani ++ chiz*
2. [depends means ++ the (umm)]
3. Foad: *bastegi dashtan*
4. [To depend.]
5. Hadi: = *bastegi dashtan* (repeats after Foad)
6. [To depend.]
7. Mahdi: = *bastegi dashtan* (repeats after Foad)
8. [To depend.]

(Grade12, Group work, Reading, October 2013)

Excerpt 76 displays an example of an ineffective use of L1 as a pause filler in learners' private speech. Here, Hadi, a more proficient learner, was unable to remember the L1 equivalent for L2 word 'depend'. He utilized an L1 utterance, "*chiz* [the]", in his private speech as a pause filler. This functioned as a lexical search. However, in this instance this was ineffective, and as we see, the other more proficient

learner in the group provided him with the L1 equivalent. This was followed by the two peers who did not know this word repeating it to themselves. This repetition of the meaning of the word functioned as private speech, and may have helped stick the meaning in their memory.

Analysis revealed that the number of instances of effective searches, i.e. accompanied by a right answer, were much more than the ineffective ones. This indicates the positive role of L1 on learners' cognitive processes. Such L1 utterances assisted learners to avoid distraction and focus on the specific problem. It was seen that through use of L1 for problem solving, learners were able to think, perform in the task, and regulate their learning.

Another group of L1 utterances used in learners' private speech was self-directed questions. They included questions directed to the self and not intermentally to others. This kind of questions, even in a social setting, is ignored by other participants and might be answered immediately by the individual himself. However, they have regulatory functions for the other participants in the setting as well as for the individual himself. Functions such as self-regulation, managing thought process, task orientation, lexical search and etc. are reported in previous studies for these questions. In this study, self-directed questions were the third most frequent utterances produced in L1 (n=15) to help learners to gain self-regulation. These L1 utterances mainly functioned as a search process for the learners in this study. Learners used them to direct their thoughts towards a specific item and be more focused on a problem. Similar to pause fillers, the L1 self-directed questions were coded for a second time as 'effective' or 'ineffective'. That is based on the search results, if they were followed by correct answers from the learners, they were coded as 'effective', and if the search was not successful, they were coded as 'ineffective'. In Excerpt 77, Mahdi produced

two self-directed questions in his private speech. The paragraph the learners were reading at the time was about how exercising makes one flexible. The first L1 self-directed utterance assisted him in remembering what he was looking for, as indicated by his utterance “*Aha!* [Oh!]”. However, the second one was an ineffective search, as indicated by his L2 utterance “I don’t know”, which came after a long pause. He used self-directed questions in order to direct his thoughts towards a specific objective so that he could retrieve information from memory.

### Excerpt 77

1. Mahdi: And not flexible. And + *dige chi bood?* +++ Aha! In young,
2. younger, for example 18,...
3. [And not flexible. And + what else? +++ Oh! In young,
4. younger, for example 18, ...]  
(...)
5. Mahdi: *chera mige ke injoori mishe?* +++ I don’t know.
6. [It asks why this happens? +++ I don’t know.]

(Grade12, Group work, Reading, October 2013)

Functions served by self-addressed questions were not limited only to the L1 lexical searches or to looking for meanings. Excerpt 78, taken from Salar’s data, is an evident of use of L1 in search for correct L2 pronunciation.

### Excerpt 78

1. Salar: *chie?* Santi, santigrad, senti (tries different pronunciations)
2. [What is it? Santi, santigrade, senti (tries different pronunciations)]

(Grade12, Group work, Reading, December 2013)

It was observed that in a few instances in the data, learners used self-directed questions, such as Salar in Excerpt 78, which proved effective. These self-directed questions were followed by a few attempts at properly pronouncing an L2 word. They would usually utter both the wrong and the right pronunciation, and then decide which was right. When Salar was asked on how this repetition helped him, he answered with

“*Injoori mifahmim kodum ghashangtare*. [It lets me know which sounds better.]” By this, he is indicating that one pronunciation is more familiar to him than the other.

Moreover, learners used L1 in their self-directed explanations. Use of L1 as this content only occurred in the Reading task (n=15) and Question and Answer (n=2). During Question and Answer, L1 was used by the learners in order to explain the meaning of the question to themselves. However, when data was examined for the regulatory functions of private speech, it was found that the functions served by L1 during reading showed more variation. In some instances it was used to reduce anxiety and affective load. In other instances, it functioned to retrieve from memory or confirm own comprehension or to make sense of L2. Excerpt 79 is an example of use of L1 for self-directed explanations where Mahdi used L1 in his private speech to make sense of a part of the reading text which was challenging for him. Mahdi and his partner were reading a text about earthquakes, and the sentence under question in Excerpt 79 was “This is because several million earthquakes occur each year.”

#### **Excerpt 79**

1. Mahdi: (quietly) *tedad e maadood e milionha!* +++ (Can't make sense)
  2. (quietly) [A small number of millions!]+++ (Can't make sense)
- (Grade12, Pair work, Reading, December 2013)

At first, Mahdi did not know the meaning of the word ‘several’, and asked his peer, Salar, for the meaning. After being provided with a meaning by Salar, he tried to substitute it into the sentence. In this way, he tried to resolve the conflict between words whose meaning he already knew and the meaning for the word ‘several’ offered by Salar, through explaining and translating to himself. However, the sentence as a whole did not make sense. As a result of this, the meaning provided by Salar was rejected by Mahdi and he called the teacher for help.

**Summary of findings for Research Question 3.** Research Question 3 investigated the learners' use of L1 as a mediating tool in classroom interactions, with a focus on different tasks. Quantitative analysis were performed to find out the proportion of L1 in learners' speech and the frequency of functions it served for them in different tasks. To do this, the analysis used to answer Research Questions 1 and 2 were pulled together with a focus on different tasks in an attempt to illustrate how much the learners relied on their L1 to carry out the tasks.

Using the SCT-L2 framework, qualitative analysis was done to provide further understanding on the learners' use of L1 as a mediating tool in classroom interactions, during performing different tasks; and to find out when learner's use of L1 was most likely to be supportive for L2 reading. A finding of the study was that learners' use of L1 for problem solving discussions during the 'New Words' section of the lesson for Grade 9 learners and during the Reading task for Grade 12 learners played an important role and resulted in their learning of L2. It was seen that L1 brought about enhanced engagement with the task.



#### **Findings for Research Question 4: How Do Grade 9 and Grade 12 Iranian Learners Use Their L1 During an EFL Reading Class?**

Research Question 4 investigated the learners' use of L1 as a mediating tool in classroom interactions qualitatively to find out how they utilized their L1 in reading L2. The data was further analysed to understand in what context use of L1 was beneficial for learners or caused a hindrance to them. According to the sociocultural theoretical perspective which was used as the theoretical framework for the study, language - either L1 or L2 - mediates L2 learning process (DiCamilla & Antón, 2012). All learners of two grades used L1, both intermentally and intramentally, in the process of reading L2 to a greater or lesser extent. Thus, a close analysis was done to find out the processing differences and similarities in the use of L1 by different learners and to get insights on how they used L1 to handle the comprehension difficulties.

For both grades, the transcripts of classroom interactions, follow up interviews with the learners, and the learners' notes in their textbooks formed the data for this research question. Segments of interaction data are presented and quotes from follow up interviews are included to clarify what contributed to learners' use of L1. To further support the findings, images of learners' use of L1 in their textbooks are provided. The themes are presented to provide interpretive insights into the major findings. The findings are reported in two sections, first for Grade 9 and then for Grade 12.

The participants were classified within a proficiency range of low to upper-intermediate learners of English. Different studies, based on their purposes, had different points of view regarding L2 proficiency when they divided their participants into different levels. For example some took into consideration participants' L2 vocabulary and grammar knowledge (Lee & Schallert, 1997). For the purpose of this study, investigating L1 use during L2 reading, L2 proficiency was operationalised as

L2 reading comprehension. And thus, participants' placement in different levels of proficiency was decided based on their reading scores, as this seemed more relevant to this study.

As it was earlier mentioned (see Chapter 3), English classes in Iranian schools are not streamed for the English proficiency level of learners. Thus, being in a lower grade did not necessarily mean that all Grade 9 learners were less proficient compared to all Grade 12 learners. For the purpose of this study, learners' L2 proficiency was assessed through IELTS reading test samples, taken from online sources. Grade 12 learners' scores ranged between 4.5 to 7.5 and Grade 9 learners received scores from 3.5 to 6. Based on their scores, Learners were placed in one of three proficiency groups i.e., upper-intermediate, intermediate and low proficient learners of English. The learners whose scores were 5.5 or above were classified as upper-intermediate L2 users. Those who scored five were considered to be the intermediate users of English. And finally, those who scored 4.5 and below were classified as the low users of English. The levels of L2 reading proficiency of three of the Grade 12 learners - Salar, Iman, and Taha - in the higher proficiency level were further confirmed by their scores of their real IELTS examination. Two of the Grade 12 learners, Salar and Taha, had already received their real IELTS scores a few weeks before the data collection, and another one, Iman, sat for IELTS examination at the beginning of the data collection for this study. Comparing the results of their real IELTS exams with the one these three learners received for their sample test used for the purpose of this study ensured the researcher that their sample placement was on par with real IELTS categorization.

**Grade 9 learners' use of L1.** As Grade 9 learners were working together in their groups or during the whole class interactions, they shared their understanding of the L2 text and tried to resolve their linguistic problems. All Grade 9 learners from

different levels of proficiency, at some point, utilized L1 to construct meaning or find out solutions to the problems faced during the tasks. A qualitative analysis of learners' use of L1 was conducted to investigate how they used L1 and whether it facilitated the comprehension of L2 input, and to further find out if L1 created for them learning opportunities. In other words, data was analysed to understand how learners' use of L1 in classroom interactions mediated their L2 learning during EFL reading. In the following sections, segments of Grade 9 interaction data and excerpts from follow up interviews with the participants are used to represent the findings and to demonstrate the ways they attempted to solve their problem in the process of L2 learning.

***L1 as a tool to provide scaffolded help and to create a comfortable social context.*** One important use of L1 by Grade 9 learners was to provide each other with scaffolded help, and to create a comfortable social learning context while performing the tasks. In many instances, it was found that use of L1 enhanced the learners' patterns of interaction. Learners used L1, and it was observed that it assisted them in creating collaboration. They utilised L1 as a psychological tool in their classroom interactions in order to overcome linguistic problems. In this way, they were able to assist their partners to accomplish tasks. Examples of this are illustrated in the following excerpts, in which use of L1 in the process of obtaining and providing assistance during reading lessons is evident.

The following excerpt is a segment of pair work interactions involving Ali, an upper-intermediate learner, and Hamid, a low proficient learner engaged in the 'New Words' section of the lesson. Intermental and intramental uses of L1 by both learners are evident in this example. At this point of interaction, the learners had already read the sentence in the textbook, which included the new word 'push', and had answered the questions related to it. Then, learners attempted to make their own sentence using

the new L2 word in their textbook. This excerpt is an example in which the low proficient learner utilized L1 intermentally to communicate with his more proficient peer a few times, and intramentally to scaffold his learning of L2. He utilized L1 in different ways in an attempt to organize his own thinking. As for the more proficient learner, he used L1 intermentally as a tool to create a positive affective climate, as well as to communicate with his peer in order to provide Hamid with learning opportunities. Besides, he once used L1 intramentally to self-correct.

### Excerpt 80

1. Hamid: or we can say my father, um, *ya mitoonim begim++*, *masalan*
2. *begim ke*, + *aval be iranish migam ba'ad*
3. [or we can say my father, um, or we can say++, for example
4. we can say that, + I'll say it in Persian first, then]
5. Ali: You can use it in sentence. Put it in a sentence.
6. Hamid: *vaghti mashine pedar e man kharab mishe ma holesh midim ta rah*
7. *biofte.*
8. [when my father's car breaks down we push it until it starts
9. working.]
10. Ali: in English.
11. Hamid: *in Iranish, hala english.* +++ when our father car gets problem
12. [that was the Persian, now the English. +++ when our father car
13. gets problem]
14. Ali: *mitoonim begim broke*
15. [We can say **broke**]
16. Hamid: broke down
17. Ali: brokes
18. Hamid: **broke down** *ham mishe ha*
19. [**broke down** is correct too]
20. Ali: **broke down** *ham mishe vali brokes doroste*
21. [We can say **broke down** but **brokes** is correct.]
22. Hamid: brokes we will push it, um, to (not finished)
23. Ali: *mikhay man ye kam dobare chiz konam?*
24. [If you want, let me help you with this as well?]
25. Hamid: *man goftam hala to tartib bandisho dorost kon.*
26. [I said the sentence, you rearrange it.]
27. Ali: When our car brokes, *na*, when our car doesn't start, we push it.
28. [when our car brokes, no, when our car doesn't start, we push it.]
29. Hamid: push it until gets start.
30. Ali: push it until it starts.
31. Hamid: It starts, *khob*. Until it starts.
32. [It starts, Ok. Until it starts.]

(Grade 9, Pair work, December 2013)

As it is evident, from the start, Hamid attempted to make his sentence in L2. However, he was not able to do this without any L1 mediation, and used L1 intramentally twice. The first time he did this was when he translated his own L2 utterance “or we can say” into Persian (line 1). The second time was when he used L1 utterance, “*masalan begim ke* [for example we can say that]”, in an attempt to organize his thinking process and to come up with the L2 sentence (lines 2 - 4). At this point, his private speech either in L2 or L1 was not beneficial to him. According to Vygotsky, the important feature of private speech is in its meaning, and not merely in its operation. Therefore, as Lantolf and Thorne (2006) state, it should not be assumed that production of private speech will be necessarily useful for solving a given task, and does not guarantee that a learner will be able to solve a problem. After a short pause, Hamid utilized L1 intermentally to talk to his partner. His utterance “*aval be iranish migam ba’ad* [I’ll say it in Persian first, then]” indicates that he was hopeful that it would be easier for him to put his ideas in L2 if he came up with the idea and content of the sentence in Persian (L1) first.

Hamid’s L1 utterance “*in Iranish, hala english* [that was the Persian, now the English]” was of dual function, both social and private. The utterance was followed by a long pause which indicates that it was challenging for him to make the L2 sentence and that he needed time to organize his thinking process. Producing this utterance would allow him to maintain his focus of attention and think. At the same time, it might be an indication that he was requesting his more proficient partner, Ali, to be patient and give him more time to do so. Hamid’s few intramental uses of L1 in this segment of interaction were not beneficial in helping him produce the correct L2 sentence by himself. However, vocalizing his thinking process during pair work interactions guided his partner, Ali, to discover Hamid’s zone of proximal

development (ZPD) and realize how much and what kind of assistance to provide. In other words, Hamid's use of L1 enabled Ali to provide the required assistance to mediate the partner's L2 learning. Moreover, Ali used L1 intermentally to provide affective assistance and in this way created a comfortable social context, in order to encourage further engagement from Hamid in the task. By producing the L1 utterance in lines 20-21, Ali corrects Hamid, albeit wrongly, without completely rejecting Hamid's contribution.

Excerpt 81 is another segment of Ali and Hamid's interaction data while working on the 'New Words' section of the lesson. They are trying to define the word 'snowplow'. It is an example of expert and novice interaction during which the proficient learner utilized L1 intermentally to mediate his peer's L2 learning process in different ways.

### Excerpt 81

1. Hamid: snowplow, snowplow is a machine or
2. Ali: vehicle
3. Hamid: machine
4. Ali: *mishe vali* **vehicle** *behtare*.
5. [We can say that but **vehicle** is better]
6. Hamid: is a machine use for, um, +++
7. Ali: *alan bayad berim oonja*
8. [Soon we have to go to the front (of the class to present)]
9. Hamid: use for cleaning or, um, cleaning or
10. Ali: *mikhay man ye bar*
11. [If you want let me (incomplete offer of help)]
12. (later)
13. Ali: snowplow is a vehicle used to push the snow away (interrupted by
14. Hamid)
15. Hamid: vehicle?
16. Ali: *are*, **vehicle**.
17. [*Yes*, **vehicle**]
18. Hamid: What's the meaning of vehicle?
19. Ali: vehicle, the car, bus, a train, they are all vehicles
20. Hamid: vehicles?
21. Ali: Yes. Vehicle is a, um, +++**vehicle**, *chiz e dige vasile, vasileye*
22. *naghliye*.
23. [Yes. **vehicle** is a, um, +++ **vehicle**, *it's the, vehicle is a vehicle*]
24. Hamid: Oh, I understand.

25. Ali: snowplow is a vehicle we use to open up the road. *gerefti chi shod?*  
26. [snowplow is a vehicle we use to open up the road. Do you get it?]  
27. Hamid: Yes.

(Grade 9, Pair work, December 2013)

The first instance of use of L1 occurred in line 4, after Hamid is trying to make his L2 definition for the word ‘snowplow’. When Hamid could not finish his sentence in L2 and was looking for an alternative word, as is indicated by the word “or” in line 1, Ali offers help by providing the alternative word ‘vehicle’. However, the word ‘vehicle’ was not comprehended by Hamid, and so he chose not to use it, and continued to use the word ‘machine’, as seen in line 3. From Ali’s L1 utterance (lines 4-5) “*mishe [We can say that]*”, as well as the tone of voice he used to utter it, his affective support for the less proficient partner was evident. Ali did not completely reject Hamid’s suggestion, but offered him a better alternative. However, since the L2 word ‘vehicle’ was not yet within Hamid’s ZPD, he did not use it (line 6).

Hamid’s lack of understanding of the word ‘vehicle’ is evident on several instances. Ali produced a correct definition for ‘snowplow’; however, he was immediately interrupted by Hamid repeating the word ‘vehicle’ using a rising intonation (line 15). Ali tried to both provide assistance through providing examples of different vehicles and defining ‘vehicle’ in L2, but Hamid still failed to understand.

Learners repeat what is in their ZPD, and the fact that Hamid did not use the word ‘vehicle’ indicates that this word wasn’t a part of his ZPD, and hence, Ali’s L2 use of it was not helpful to him at this point. At this point, Ali had to resort to offer the L1 equivalent “*vasileye naghlie*” (line 22), which proved effective, evident from Hamid producing the L2 utterance “Oh, I understand.” (line 24). Providing the L1 equivalent by Ali served as a mediation which was ‘tuned to’ (Lantolf & Thorne, 2006) Hamid’s ZPD.

The second instance of L1 use in order to bring about a comfortable social atmosphere happened in line 7, where Ali utilized L1 to gently remind Hamid that they were running out of time before they had to go and present in front of the class. Again, in line 10-11, Ali, with a soft tone of voice, utilized L1, to offer help to Hamid. However, he was interrupted by Hamid. From the analysis, it was evident that Hamid's participation when paired with Ali was much higher than his participation when he was grouped with other peers. This can be attributed to Ali's more encouraging attitude and tone, mostly carried out through L1. While other peers Hamid had been paired with before were dismissive of his participation, Ali's utilizing L1 to encourage or offer help to Hamid seemed to provide a social context in which Hamid felt more relaxed and inclined to participate.

Excerpt 82 further illustrates an instance where a more proficient learner discovered his peer's ZPD, and tuned his assistance to the low proficient learner's ZPD. The new L2 phrase they were working on defining was 'loud voice'. This excerpt exemplifies two instances in which Ali, the more proficient learner, utilized L1, once to check his low proficient partner's comprehension of L2 and the second time to provide further assistance to him. Ali recognized Hamid was not ready to move to the next word yet. His utterance in line 6 "*na, na bezar man ye done ham bara in begam* [No, no, let me tell you another one for this]" indicates that he has discovered the peer's ZPD and was aware that the provided help so far was inadequate and he was ready to provide the required assistance. This continued use of L1 as a social tool by Ali is evidence that he had been monitoring his partner's speech throughout the task. It was seen that in many instances where Hamid indicated a need for help, Ali tried to assist him using L1. In this way he corrected Hamid, but switched back to L2 when L1



was no longer necessary. And, later provided further assistance using L2 and explained the difference between voice and noise before they move to the next word.

### **Excerpt 82**

1. Hamid: My classmate when he talk he make a lot of voice
2. Ali: Or you can say my classmate has a loud voice or you can say, or
3. +++or you can say the radio (interrupted by Hamid)
4. Hamid: What about next one, yard, yard
5. Ali: *na, na bezar man ye done ham bara in begam.*
6. [No, no, let me give you another example for that.]

(Grade 9, Pair work, December 2013)

In excerpts 80, 81 and 82, it can be seen that within their interactions, Ali acted as an expert to Hamid and encouraged his active involvement in the task. He listened attentively and provided Hamid assistance when it was required. This encouraged Hamid to participate more. In many instances, Hamid showed a willingness to participate and attempt the task requirements, despite being unable to complete it accurately. He often required Ali's assistance to enhance his L2 production, and Ali was keen to provide assistance in a kind manner. However, it was also seen that Ali intervened only when Hamid struggled enough with the task. Often, he wanted Hamid to read first, saying "*aval to bekhoon ba'ad man mikhoonam.* [You read first, I'll read after you]". Or he would let Hamid speak out the idea and content and try to make the sentence himself first. For example, only when Hamid was unable to finish the L2 sentence, he would ask Ali to put it in L2, and only then would Ali provide his assistance. This happened a few times during their pair work. Sometimes, Ali, who had recognized Hamid's ZPD, corrected Hamid's errors or provided a better L2 sentence for what Hamid intended to say. Often, Hamid repeated the constructed sentences or newly encountered L2 words and meanings. It seems that repeating after Ali played an important role in moving from being other-regulated to self-regulated.

In groups such as the one mentioned above, L1 acted as a tool to assist learners to maintain flow of interaction, share ideas, or argue. This resulted in creating a social environment and an 'intermental development zone' (Guk & Kellogg, 2007) which brought in their increased participation and motivation to perform the task, and enhanced their learning of L2.

A question that arises is: would it be possible to produce this much speech if they were asked to use just L2? Would the learners' engagement and their interactions be the same if the context was an L2 only classroom? Close analysis of interaction data involving learners who mostly used L2 in their speech and the data from follow up interviews with the learners of different proficiency levels shed some light into the analysis and helped to answer this question.

In the interview data, the learners were asked whether it was beneficial to use Persian in any way during their English lessons. Many of the learners expressed wanting to use mostly L2 when in the classroom; however, they commented that some students would not have participated as much if they had been asked to use L2 only. They all shared the sentiment that using only L2 for the duration of their lessons would not be practical. This confirms that use of L1 allows the learners to create the kind of social environment in which they could participate actively and learn from each other.

Excerpts from the follow up interviews with the learners are presented to highlight some reasons why the learners would not be engaged fully in the classroom interactions if they were asked to use the target language only. In a follow up question, they stated a few of their reasons for not using L2 all the time. Being shy, and being scared that learners might tease them, as well as lack of L2 proficiency were among the reasons the learners stated.

The main reason reported by many of them was lack of L2 proficiency. Both the more and the less proficient learners mentioned L2 proficiency as a reason to use L1 in the L2 classroom. The less proficient learners pointed to their own lack of proficiency as the reason, and commented that “they would have to remain silent for most of the class.”. The learners of a higher-proficiency stated the other learners’ low proficiency as a reason affecting their choice of language to use L1 in the classroom. They highlighted that there is no point in ones speech if the other person in the conversation won’t understand it “*khob che faideh, age nafahman?*”. Excerpt 83 is from a Grade 9 less proficient learner and Excerpts 84 and 85 are from Ali and Kian’s, two more proficient learners’ interview data.

### **Excerpt 83**

*Malooome dige, kheili khoob mishe age hamash englisi sohbat konim, vali nemishe ke, yani hame ke nemitoonan.*

[Obviously, it would be really good if we could speak English all the time, but we can’t, I mean, not every one can do it.]

(Interview with Dara, October 2013)

### **Excerpt 84**

*man mitoonam begam oona nemifahman, bebakhshid, motevajeh nemishan.*

[I can say it (in English), but they won’t get it, sorry, I mean, they wouldn’t understand.]

(Interview with Ali, October 2013)

### **Excerpt 85**

*khob che faideh, age nafahman? Migim ke oona befahman.*

[What’s the point if they don’t understand? We’re saying it so they understand.]

(Interview with Kian, October 2013)

Another reason influencing learners choice to whether use L1 or TL mentioned by some learners was that some learners might tease others for their mistakes; or in the case of the higher proficient learners, for showing off their English. For example Parsa, a proficient learner, during a whole-class teacher-learner interaction, commented that some peers from other groups made fun of him.

#### **Excerpt 86**

1. Parsa: *man mitoonam kholase ro begam vali ina maskhare mikonan.*
2. [I can tell the summary (in L2), but they will make fun of me.]”
3. Teacher: I don't think they will.
4. Parsa: *Chera khanom. Ghablan ham in kar ro kardan.*
5. [Yes they will. They've done it before.]

(Grade 9, Whole class, October 2013)

A notable finding emerged when the interaction data which involved some more proficient learners who mostly used L2 in their speech was analyzed. In some groups, a high percentage of the interactions occurred in L2. In groups like this; however, the high use of L2 seemed to be counter-productive to the learning of L2. It seemed to inhibit participation from the less proficient learners.

It should be mentioned that Hamid, a low proficient learner, was grouped with a few different peers during the semester, most of whom were of a higher proficiency than he was. It was seen that Hamid had a much higher participation rate when he was grouped with peers who utilized L1 comparatively more than others, while he was mostly passive when grouped with peers who insisted on mostly speaking in L2. For example once he was grouped with Parsa and Vahid, two more proficient peers. Parsa mostly used L2, to the point where 10.36% of his interactions during the whole semester was carried out in L1. When data involving all 3 of them was analysed closely, it was found that Hamid was not given much chance to participate nor did he have much contribution to the group. In fact, his rate of participation was only 34% when grouped with Parsa and Vahid. This is a big difference from his rate of

participation of 45.45%, from when he was grouped with Ali, and 40.57% and 38.8% from when he was grouped with Kian.

The qualitative analysis of their interaction also supports this finding. It was seen that an occurrence which sometimes happened when Hamid was grouped with Parsa and Vahid, was that Hamid would attempt to participate in group interactions; but would not receive supported guidance from the two high proficient peers. His peers actually dismissed his input, and insisted that he only speak in English, which discouraged Hamid from further participation.

A similar finding was reached when data involving another high-proficient learner, Reza, was analysed. Reza used English 96.46% in his speech and rarely used L1. Reza also insisted on using L2 most of the time, and tended to dismiss his peers' L1 contributions. When the data was analyzed closely, this interesting finding emerged. There were few instances in which Reza got involved in collaborative speech with the peers. He made little attempt to get peers involved in the task. For example, once Reza was doing the "New words" section, he was just continuing with his own reading and answering the questions while other two partners in the group were engaged in off task speech. None of them looked up the meaning in a dictionary, despite the teacher's suggestion. He was seen talking throughout the whole section all the time. In another instance while he was reading the text, Dara, the least proficient learner, was heard whispering and asking the third peer in the group, Hiran, for the L1 equivalents of unknown words using L1.

A notable finding emerged from analysis of Grade 9 learners' interaction data and analysis of learners' comments in follow up interviews supported it as well. It was seen that in group or pair work whose interactions occurred mostly in L2, one of the learners was often dominant and produced most of the speech. However, through use

of L1, some other learners fostered the construction of a collaborative learning context and promoted language learning among themselves. In other words, utilizing L1 in learners' speech might have influenced learners' patterns of interaction.

For example, as illustrated in Excerpts 80, 81, and 82, Ali and Hamid's pattern of interaction represented a collaborative one in which an expert, Ali, took control of those parts of the task that were beyond Hamid's level of competence, allowing him to focus on the elements within his range of ability. Ali's use of L1 as a social tool indicates that he actively monitored the content of his partner's speech and tuned down his level of English to match that of his peer's. Ali acknowledged Hamid's contributions and then offered his own corrections.

Similar to Ali, Kian, Hamid's other more proficient partner created, by means of L1, supportive conditions in which Hamid can participate and extend his L2 knowledge and skill to higher levels. He incorporated Hamid's contributions into the sentence definitions. Their pattern of interactions represented either a collaborative or an expert-novice one in different instances.

Analysis of Grade 9 data showed that the more proficient learners who incorporated L1 in their speech affirmed less proficient peer's participation in the process of doing the tasks and challenged the less proficient learner to extend his thinking and engagement with the task. It was seen that in these cases peers valued each other's participation more.

Overall, it was seen that when learners utilized L1 in their group interactions they created a different language learning environment and provided more opportunities for learning. It was found that learners who utilized L1 in their group interactions were more engaged with tasks compared to the learners who mostly used

L2 during group or pair work. This lead to co-construction of knowledge of L2 utilizing both L1 and L2.

On the other hand; however, it should be noted that L1 use in a task or an interaction was not necessarily always beneficial. An example of this is visible below in Excerpt 87. In this excerpt, Ali, Reza, and Amin were doing the New Words task. Ali was reading and asking Amin the questions from the textbook. Amin reread a question, and did not know the meaning of ‘foreign’ which was used in it, and so was unable to answer it.

### Excerpt 87

1. Ali: Ali’s father travel a lot. He visits many foreign countries. He knows
2. two languages. Does Ali’s father visit foreign countries? +++
3. Reza: Amin, he is asking from you.
4. Amin: Does Ali’s father visit foreign countries? (rereads)
5. Reza: Do you know the meaning of foreign? (wrong pronunciation)
6. Amin: No.
7. Reza: Foreign means out, +outside, outdoor. You know, It’s not in,
8. um, + another country, *kharej*
9. [Foreign means out, +outside, outdoor. You know, It’s not in,
10. um, + another country, out]
11. Ali: like English is our foreign language. Farsi is not foreign
12. language. We are living in a foreign country.
13. Reza: OK.
14. Ali: It doesn’t mean outside. You can’t like say this is outside, you
15. can’t say foreign instead.
16. Reza: hmm. I tell you the Persian meaning for it. It means, hmm, +
17. Ali: *khareji* [foreign]
18. Reza: Foreign means *khareji*, *khareji*.
19. [Foreign means foreign, foreign]
20. Ali: It doesn’t exactly fit as that, you can’t replace them
21. Reza: Next one.

(Grade 9, Group work, December 2013)

As it is seen, most of the interaction occurred in L2 and L1 is only used by the two more proficient learners (lines 8, 17, and 18) to provide the equivalent for the L2 word ‘foreign’. This excerpt is an instance that Reza’s unsuccessful intramental L1 mediation, resulted in him using an improper L2 equivalent, “outside” (line 8-9) for an unknown L2 word in the context of the L2 sentence in their textbook ‘foreign’. Use

of L1 was misleading. In informal Persian conversation people use the word ‘karej’ for foreign countries or overseas. Another English equivalent for ‘kharej’ is ‘outside’. The wrong L2 synonyms “out, outside, and outdoor” provided by Reza in line 7 indicates that the intramental use of L1, i.e. the improper L1 equivalent, was the cause for this performance. Ali noticed this and used L2 (line 14) to correct it and finally he used L1 to provide the proper L1 equivalent (line 17). And in line 18 Reza’s L1 utterance “khareji, khareji” indicates that he had already problem to remember proper L1 equivalent.

This example reveals how readers’ misuse of L1 in own ‘intrapersonal communication as a psychological tool’ (Negueruela & Lantolf, 2006) has a potential to result in a low proficient peer’s miscomprehension. Overall, even though TL was mostly being used in this group , it doesn’t seem that learning opportunities is created for the less proficient learner in the group if we look at what was being accomplished by the less proficient learner. The interaction looks like a dialogue between the two more proficient learners and Amin was not fairly engaged in the task.

***L1 as a tool to construct L2 definitions of new words.*** According to data lack of sufficient vocabulary knowledge was among the reasons for Grade 9 learners’ use of L1. Data from the Background Information Questionnaire (see Appendix B) showed that from the 11 Grade 9 participants, nine learners stated lack of vocabulary meanings as their problem in reading an L2 book or an L2 text. For some of them this was the only reason mentioned, while others added grammar as a reason (n=4), and one mentioned spelling, too, as a problem.

There were a few monolingual Elementary Learner’s Dictionaries available to the learners during the sessions. However, some learners preferred to use electronic dictionaries, and used their mobile phones when they encountered an L2 word whose



definition they did not know. Since their mobile phones' dictionaries were not student dictionaries or at a proper level of their knowledge of L2, the definition of the word itself was an added new L2 text for them to comprehend. This was misleading to them, and resulted in learners using of L1 to try and resolve the problem. Excerpts 88 and 89 illustrate this finding and how the learners attempted to solve their problem. The data for the following interaction is from a group interaction of Grade 9 learners involving Hamid, Kian , and Ata. The participants were asked to discuss the 'New Words' of Lesson 3 of the textbook and to get ready to present it in front of the class. They were required to read this section of the textbook, discuss the meanings, and answer the questions in the textbook. In addition to this, they needed to be able to define and use the new words in example sentences of their own.

### Excerpt 88

1. Hamid: *Aval be iranisho darbiarim, bebinim chie, befahmimesh. Ba'ad.*
2. [First, let's translate it to Persian, and see what it means,
3. understand it. Then we'll do it in English.]
4. Kian: *Iranisho ke baladim, 'tabeh'.*
5. [We already know the Persian word for it, 'tabeh']
6. Hamid: *mahitabe, pan ya'ni mahitabe.*
7. [pan, **pan** means pan.]

(Grade 9, Group work, November 2013)

At the initiative point of the task, Hamid used L1 to express his opinion on how to do the task. He suggested to the two other group members that in order to understand the vocabulary very well, it is good to look up the Persian equivalent or to define it in Persian first. To him, this would allow them to better perform the requirements of the task: being able to define the new words in L2 and to use them in sentences while presenting in front of class. At this point, it is clear that Hamid was not just talking about the word 'pan' in particular, since there was a picture of a pan displayed in the book where the word was introduced to them. And as we can see in line 6, he suggested the word '*mahitabe*' which is the more common Persian equivalent for 'pan' compared

to his peer's suggested equivalent (lines 4-5). Thus, it is evident that having the definition or sentence example in Persian first was a general preferred strategy for Hamid. In other words, to Hamid, in order to be able to define a vocabulary, make example sentence with it, and learn the said vocabulary, one should know its L1 equivalent and definition in L1. This was evident from this excerpt as well as other interaction data Hamid was involved in.

However, the other two peers in the group suggested to look the word up in an English monolingual dictionary on a cell phone when they were unable to provide an L2 definition for 'pan' themselves. In excerpt 89, it can be seen that the definition they found for 'pan' was the one used in the context of construction, and not to the utensils in the kitchen. This definition they encountered, aside from being foreign to them, was difficult to understand. This is evident from Kian's utterance (line 1-6), "*loghat hayi ro ham neveshte ke ma hich kodoom ro nemidoonim*. [None of us know what the terms used in this mean]". Even Kian, despite being one of the more proficient learners, felt the need for bilingual dictionary at this point (line 9-12). This is an indication that the L2 definition was beyond the group's ZPD, and so was not beneficial in mediating their learning process. Therefore, it was not easy for them to use it or even to realize that it was not the intended meaning in their textbook. This caused confusion for both the more and the less proficient in the group, though they did not realize it at the time, and continued to use part of the dictionary definition in their own definition of 'pan'.

### **Excerpt 89**

1. Kian: (while reading the dictionary) *loghat hayi ro ham neveshte ke*
2. *ma hich kodoom ro nemidoonim*. The bottom flat part of a
3. roofing panel which is between
4. [(While reading the dictionary) None of us know what the terms
5. used in this mean. The bottom flat part of a roofing panel which
6. is between]

- (...)
7. Hamid: **Pan.** *Mahitabe dige. Hamino migim dige.*
8. [Pan. Pan then. We'll just say that.]
9. Kian: *Ye mobile dige ham biyarid. Englisi be farsi. Chon hardafe*
10. *nemitoonim hey berim oonyeki. +++ (dictionary)*
11. [Bring another mobile. English to Persian. Because I can't keep
12. switching between the two (dictionaries) +++]
13. Hamid: *Aha, man fahmidam. mishe 'is a iron that we cook or boil or fry*
14. *something on it'.*
15. [Oh, I got it. It's 'Is a iron that we cook or boil or fry something
16. on it'.]
17. Kian: *In ham doroste. Afarin.*
18. [That's right. Well done.]
19. Hamid: *Dorost goftam?*
20. [Did I say it right?]
21. Kian: *Are. ++Chi gofti to? Jomlat chi bood, oon avalesh?*
22. [Yeah. ++What did you say? What was your sentence in the
23. beginning?]
24. Hamid: *goftam is a iron.*
25. [I said 'is a iron'.]
26. Kian: **Iron** *nemishe.*
27. [**iron** isn't right.]
28. Hamid: *Khob ye chizi bayad begim.*
29. [Well we have to say *something*.]
30. Kian: Is a flat form of
31. Hamid: is a part of flat form that we usually cook
32. Kian: **A part of flat form of chi?**
33. [**A part of flat form of what?**]
34. Hamid: Pan.
35. [Pan.]
36. Kian: *Khob **pan** ro ke dari migi. Nemitooni khode **pan** ro begi ke.*
37. [*Well you're already saying **pan**. You can't use the word **pan***
38. *itself.*]
39. Hamid: Is a part of a panel that we usually cook, boil, fry; for example,
40. like chicken, nuggets, sausage, beef, egg.
41. Kian: The bottom flat of a panel that we cook, boil, and fry something
42. in it.

(Grade 9, Group work, November 2013)

While the other peers in the group were discussing which dictionary to use, Hamid had been trying to come up with a definition for 'pan'. This is evident from his utterances in lines 13-16. The L1 utterance "Aha" [Oh] (line 15) was the externalization of Hamid's internally generated discovery of a solution (Antón & DiCamilla, 1999) to this problem. This is made further evident by the definition he gave following his "Aha [Oh]".

This excerpt illustrates an instance of unsuccessful L2 mediation caused by the monolingual dictionary; however, learners' use of L1 enabled them to overcome the problem at least partially, if not fully. It is clear to see from the excerpt that the use of L1 by the learners had an important role in driving and encouraging the flow of conversation which lead to their partial solution. It can be said that discussing unknown definitions in L1 helped them focus and assisted them in co-construction of an L2 definition to the word. The learners were actively engaging in the task and trying to understand the definition provided in monolingual dictionary. However, they could not do it fully or properly. They worked collaboratively, shared ideas in L1, and modified part of the dictionary L2 definition to serve their purpose. It is true that their final definition was not fully correct; however, this was more due to the fact that a word can have more than one meaning, and since the words they encountered in the definition were not in their ZPD, the learners did not think to doubt the answer provided to them in the dictionary. It could even be that had they been provided with an L1 meanings of the unknown words in the L2 definition of the dictionary, a lot of the misunderstanding that lead them to the wrong answer might have been avoided.

***L1 as a tool for metatalk.*** It was found that learners utilized L1 in metatalk. This was helpful in a way that they could grasp points faster. They did not have to go through a long L2 conversation to communicate the point. Excerpt 90, taken from a group work interaction, illustrates learners' use of L1 in metatalk. It should be noted that this use of L1 occurred after a long speech in L2.

### **Excerpt 90**

1. Parsa: What can we say?
2. Hamid: Drawing, painting
3. Parsa: It's not painting.
4. Hamid: *ya masalan +ye chizi* (interrupted by Vahid)

5. [or for example + something (interrupted by Vahid)]
6. Vahid: *bia bia bia peida kardam*, make pictures or images with a pencil.
7. pencil.
8. [See, see, see, I found it, make pictures or images with a pencil]
9. pencil
- (later)
10. Vahid: no, this isn't a verb. Meaning is different.
11. Hamid: L1 (XX)
12. Parsa: first of all talk English.
13. Hamid: still that one?
14. Parsa: There are two drawings, but two of them have the same XX but different (not finished)
15. different (not finished)
16. Vahid: meaning.
17. Hamid: meaning
18. Parsa: She is drawing a cat. Her drawing is not good. (reread) at the first sentence. I think it's the same!
19. sentence. I think it's the same!
20. Vahid: the picture
21. Parsa: not the same
22. Vahid: the picture that was, that was a verb this was a noun
23. Parsa: yes.
24. Hamid: tell me the second
25. Parsa: this is the second
26. Hamid: no,
27. Vahid: that's a verb, that's a noun
28. Parsa: exactly
29. Vahid: He thinks this one is a verb too.
30. Parsa: No, no this is a noun. *Esme*.
31. [No, no this is a noun. It's a noun.]
32. Hamid: *aha, esme*.
33. [Oh, it's a noun]

(Grade 9, Group work, December 2013)

The learners in the above segment of interaction are trying to carry out a task involving defining new words. The word in particular is 'drawing'. In their text, this word is used twice, once as a verb in present continuous tense, and another time as a noun (line 18). In their interaction, Parsa and Vahid, the more proficient learners, use L2 for metatalk, and are mostly seen trying to define the word and discussing it among themselves. Hamid, meanwhile, appears to be confused, at least until line 13, where he utters "still that one?". This shows that he did not realise that the word drawing had been used as two different parts of speech in the text. His confusion goes on, until Parsa decides to utilize L1 to tell Hamid that the word is a noun in one of the sentences

(line 30). At this point, Hamid's confusion finally ends, obvious by his utterance of "[Oh, it's a noun.]" (line 32-33).

Hamid was also seen to use L1 in parts of the conversation, such as in lines 4 and 11. In the follow up interview about this excerpt, Hamid was asked why he used L1 in their group interaction, to which he replied that "*mikhastam ma'ni ye drawing ro begam*. [I wanted to define 'drawing' in Persian.] To understand his response better, he was further asked in a follow up question if use of L1 was beneficial for him. Hamid commented that "*be Irani ke amade mikonam mitoonam ba'desh englisish o begam* [If I prepare it in Persian first, I can say the English after.]" This indicates that he was not able to organize his thoughts, come up with ideas and have them in L2 simultaneously. L1 acted as a scaffold and enabled him to make the L2. Vahid and Parsa, being more proficient, were able to use L2 for metatalk, but Hamid did not get the difference between 'drawing' in the first sentence and 'drawing' in the second sentence of the text. He only understood when it was explained to him in L1 that 'drawing' was a noun in one of the sentences.

Excerpt 91 is another example of learners' use of L1 in metatalk in which the low proficient learner utilized L1 a few times to ask about the past tense and the spelling of the L2 word 'bring'. This segment of interaction occurred during the Question and Answer task. One of the questions based on the reading passage was "What did the waiter bring him?". To answer this question, the learners needed to know the past tense for the word 'bring'. The low proficient learner, Amin, thought the past tense would be "brang", and sought confirmation from his more proficient peers.

#### **Excerpt 91**

1. Amin: **brang mishe?**
2. **[Brang is?]**

3. Reza: bring.
4. Amin: **Brang** *gozashtash mishe?*
5. [Is **brang** its past tense?]
6. Ali: brought.
7. Amin: Brang.
8. Reza: bring, brought
9. Ali: brought.
10. Amin: *che joori minevisan?*
11. [How do you spell it?]
12. Reza: brought (pronounces in a way to give hint for spelling)
13. Amin: *che joori minevisan?!*
14. [How do you spell it?!]
15. Ali: b-r- o -u -g-h -t
16. Amin: b -r?
17. Ali: o- u -g- h- t
18. Reza: brought

(Grade 9, Group work, December 2013)

As it is displayed in the excerpt, Reza and Ali, the two proficient learners in the group, try to avoid the use of L1. However, this lead to some unnecessary exchanges from which it is not clear whether Amin, the low proficient learner, benefited or not. The interaction started with Amin, the low proficient learner, utilizing L1 and asking the other two for the past tense of the word “bring”. However, the other two refused to use L1 in responding to him, which then lead to many back and forth questions between Amin and them. There were many instances in interaction data of other groups where learners used L1 in metatalk and asked for help or provided help. In those examples, the questions and the answers exchanged between the learners were less than in this exchange, and were more straight forward. When they used L1, the learners were more engaged and the speech was more beneficial for the less proficient learners.

***L1 as a tool to aid memory.*** Analysis revealed that in many instances L1 served as cognitive scaffold and assisted learners to hold new information in their working memory. One instance of such assistance provided by L1 is illustrated in Excerpt 92.

## Excerpt 92

1. Ata: *begoo benevisim*
2. [Say it so we can write it down.]
3. Kian: *bebin mishe, benevis. mige the part of the earth that is not the*
4. *sea.*
5. [Ok look, write it. It means the part of the earth that is not the
6. *sea.*]
7. Hamid: the part of the Earth
8. Kian: the part of the earth, *bakhshi az zamin e* =
9. [the part of the earth, a part of earth] =
10. Hamid: = *zamin e*,
11. = [of earth]
12. Kian: part of the earth that is, um, that is not the sea
13. Hamid: *ke + that is not the sea, darya nist, that is not the sea. Doroste,*
14. *ab nist, zamine, Khoshke.* The part of the earth that is not sea.
15. [The earth that is not the sea, not sea, that is not the sea. That's
16. correct, there is no water, it's earth, it's dry. The part of the earth
17. that is not sea.]
18. Ata: the part of the earth, *ba 'ad?*
19. [the part of the earth, then?]
20. Kian: that is not the sea
21. Ata: that is not the sea (repeats quietly and writes down)
22. Kian: *yadetoon moond?*
23. [Did you get that?]
24. Ata: Sea? *Be ma 'ni ye darya?*
25. [Sea meaning the sea?]
26. Kian: *darya.*
27. [the sea]

(Grade 9, Group work, October 2013)

Excerpt 92 involved Kian, Ata, and Hamid doing the New Words task. Kian looked up the L2 word 'land' in a monolingual dictionary. This segment of interaction happened after Kian read the L2 definition in the dictionary for his peers. Ata could not memorize the definition and was not able to take notes while Kian was reading the definition. He used L1 to tell Kian "[Say it so we can write it down]". This is an indication that he could not process L2 fast enough to remember on hearing the definition for the first time. Kian repeated the definition again; however, Hamid's utterance in line 7, which was only part of the definition, made Kian realized that they needed more assistance. This is evident in line 8, where he repeated part of the L2 definition followed by its L1 translation. This translation provided a scaffold for the



less proficient learners, Ata and Hamid. Hamid further repeats part of the L2 definition to himself.

However, the use of L1 was more beneficial for Hamid. This could be because he was more engaged in the interaction. It is seen that in line 11 he repeated a part of Kian's translation at the same time as also writing it. It is also seen that in line 13 to 17, he himself translated the second part of the dictionary definition while doing a sandwich technique. Hamid's utterance "*doroste* [It's correct]" indicates that he was actively participating in the task and was mentally engaged with the L2 text comprehension. From Vygotsky SCT perspective, social interaction is the source of development. According to Vygotsky (1978, p. 90), variety of internal developmental processes are able to operate only when the child is interacting socially with people in his environment and in his cooperation with peers. Thus, social speech becomes a source of thought. In the example displayed in Excerpt 92, the social interaction between Kian and Hamid became a source of thought for Hamid and had an impact on his thinking. Following their social speech, Hamid evaluated what his more proficient peer was saying. He even added two more translations then, "[there is no water, it's earth, it's dry]", and all of these provided the cognitive scaffold which enabled him to produce the L2 definition without any more assistance from the more proficient learner of the group. The use of L1 in this way, and his repeating the definition to himself in L1, were tools that aided him to remember this new L2 word. What occurred here is an example of what Vygotsky argues i.e., speech plays an important role in the organization of higher psychological functions.

Excerpt 93 is a part of an interaction which appeared in group work. Prior to the part of interaction presented below, the definition for the L2 word 'wise' had been read out to Amin a few times by his more proficient peers. However, Amin still could

not recall it and was not able to write it down, as can be seen in line 6, where he asked for the definition to be read out to him again. At this point Zia gets frustrated, as evident from his L1 utterance “*baba* [Geez]” and his tone of voice and translates the definition to Persian.

### Excerpt 93

1. Ali: As we get older, we get wiser. We get wiser as we get older.
2. Amin: *Ha?*
3. Ali: **wise** *ya 'ni dana.*
4. Zia: A person who is wise knows or understands a lot about anything
5. Amin: A person who is wise knows or understands a lot about anything
6. Amin: A person knows, a person wise, **a person** *chi?*
7. [A person knows, a person wise, **a person**, what?]
8. Zia: Baba **a person who is wise**..., *ye nafar ke dar morede chizi*
9. *kheyli etelaat dare.*
10. [Geez, **a person who is wise**, ... someone who knows a lot about
11. a topic.
12. Amin: (says word by word) A person who is wise and knows and
13. understands something

(Grade 9, Group work, November 2013)

From this interaction, it is revealed that Zia’s translation of the L2 sentence to L1 enabled Amin to remember the sentence long enough to process and comprehend. This may be because L1 acted in such a way to increase concentration of the learner, and allowed Amin to focus in the sentence as a whole long enough to grasp its overall meaning. However, when a less proficient learner, such as Amin, is given only a sentence in L2 containing unknown words, he may focus only on one word at a time, and hence his working memory might function less efficiently. In this way, L1 served as a cognitive scaffold which allowed for easier processing of L2, and assisted Amin in optimizing his short-term retention of information.

Excerpt 94 is another evidence for L1 serving as cognitive scaffold to aid learners’ memory. There were instances of use of L1 during the reading task when some groups did not have enough time to practice the summary of the text among group members, and so they decided to utilize L1 to summarize the text.

### Excerpt 94

1. Amin: *dastan chi shod?*
2. [So what was the story?]
3. Zia: *chi?*
4. [what?]
5. Amin: *dastan?*
6. [The story?]
7. Zia: *Aha. Tom mikhaste bere madrese, barf miomade. Ba'd shak*
8. *dashte otooboos miad ya nemiad. Shak dashte. Fardash*
9. *mikhaste bere, ye nafar ,ooni ke barf haro pak mikone ... tom*
10. *raft madrese vo .... goft **thank you**.*
11. [Oh. Tom wanted to go to school, it was snowing. He wondered
12. whether the bus would come. He was doubtful. The next day
13. when he wanted to go, someone, the person who plows the
14. snow... Tom went to school...he said **thank you**.]

(Grade 9, Pair work, December 2013)

In Excerpt 94, we see Amin asking for the summary in L1, and Zia summarizing the L2 text in L1, because he thought it would be faster this way. There were other instances of this in the data which support the fact that learners think L1 aids memory retention. One such instance is an utterance by Kian, where he says to his peers in the group, “*mozoo ro bedoonim ba'dan mitoonim begim*” [If we know what it's about, we can say it (in English) later.]. He said this at the end of one of the lessons where they had to summarise the task later. His group was running out of practice time. His utterance shows that he believed that knowing the overall story in L1 would assist them to remember it, in order to produce it in L2 later in the summary task. The learners use of L1 in this way indicates that L1 could act as a ‘semantic buffer’ (Kern, 1994), where meanings can be represented and organized in L1.

Overall, it can be said that L1 helps memory retention in a few ways. One reason for this could be that more familiar sounding L1 words, as opposed to unknown L2 words, are easier for the learner to remember the meaning of. Also, utilizing L1 might enable the learner to retrieve related information from memory. Another reason

could be that L1 provides a medium through which L2 sentences can be represented and organized for better remembering.

**L1 Use to self-monitor and confirm comprehension.** Analysis revealed that some learners utilised L1 to self-monitor their comprehension of L2 text. This was mostly observed in low proficient learners' data and can be considered to be of dual intra and intermental functions. They utilized L1 to ensure that they had comprehended the L2 text accurately. In other words, they used L1 to ensure that they fully understood an L2 text, as well as to ask for external reassurance from their peers. Excerpts 95 and 96 are examples which illustrate this finding.

#### **Excerpt 95**

1. Dara: *be jaye in ke barash mushroom biare umbrella avord?*
2. [instead of bringing **mushrooms** for him, he brought an
3. **umbrella?**]
4. Hirad: Ok, now tell me the story. Do not read it.
5. Dara: *sabr kon.*
6. [Wait]

(Grade 9, Pair work, December 2013)

#### **Excerpt 96**

1. Ali: When he returned he had two tickets for (laughs) for a
2. bullfight.
3. Reza: So funny. Liked it.
4. Amin: *vaista, vaista*
5. [Wait, wait]
6. Reza: Ok.
7. Amin: *vaisa, ye daghe vaisa, vaisa . naghashi keshid ke man gav*
8. *mikham, tsk, shir mikham, ba'd oon fekr kard oon bilit vase az*
9. *ina mikhad, (pointing to the picture in the textbook) chie*
10. *esmesh? Ba'd bilit ovord?*
11. [wait, wait a moment, wait. He drew to show he wanted cow,
12. tsk, wanted milk, then he (the waiter) thought he wants a ticket
13. for this thing, (pointing to the picture in the textbook) what is it
14. called? Then he brought a ticket?]
15. Ali: =bullfight
16. Reza: =Yes.

(Grade 9, Group work, December 2013)

These examples are taken from interaction data during one of the reading tasks. The reading lesson consisted of two short stories about misunderstandings which happened when trying to communicate, through drawing pictures, with someone who speaks a different language. Excerpt 95 involved Dara, a low proficient learner, and Hiran, a higher proficient learner. After reading the first story, which involved someone at a restaurant ordering mushrooms by drawing one, and the waiter mistaking it for an umbrella, Dara immediately uses L1. He confirms his understanding of the text using L1 and seeks reassurance from his partner (lines 1-3). This finding is further supported by his utterance “Sabr kon [wait]” in lines 5-6, showing that he is trying to make sense of the text.

Dara’s L1 use functioned both intra and intermentally, to ask a question about the story. His question seems to both seek reassurance from his partner, and to check that he himself has understood it well.

Excerpt 96 involved Amin and his two more proficient learners Ali and Reza. The story they are discussing is about a man who tries to order milk by drawing a cow, but the waiter misunderstands and brings him a ticket to a bull-fighting match. Amin’s use of L1 functions as both a self-directed explanation to confirm his own understanding of L2 text, as well as an interpersonal utterance seeking for confirmation. His utterance of “*vaista, vaista* [wait, wait]” is an indication of his thinking process, and his attempt to make sense of the L2 story. He makes this utterance twice, once in lines 4-5, and another time in lines 7–14, which shows it might assist him in monitoring his own comprehension and understanding of the L2 text.

***L1 as a tool to link known to unknown L2 word.*** It was found that L1 was used in some cases as a tool to link known L2 words to unknown L2 words. In excerpt

97, there is an instance where a learner uses L1 to link an unknown word to a known concept and word, the word ‘seatbelt’ to ‘seat’.

### Excerpt 97

1. Amin: A car has chair. *Inam true e?* A car has chairs, *in doroste dige*
2. *Hamash doroste khob.*
3. [A car has chair. Is this **true** too? A car has chairs, this is true,
4. right. They’re all true.]
5. Zia: *Na. Koja car chairs dare?*
6. [No. Which **car** has **chairs**?]
7. Amin: *Mashin sandali nadare?*
8. [A car doesn’t have seats?]
9. Zia: **Chair** *in sandali hayi ke too khoone mizaran. Sandali e mashin*
10. *ke behesh chairs nemigan.*
11. [A **chair** is those chairs people have at home. A car seat is not
12. called a **chair**]
13. Amin: *Pas chi migan?*
14. [What do they call it then?]
15. Zia: *Didi to havapeima migan seat belt kamarband eemeni? SEAT*
16. [Have you seen in planes, they say seat belt, safety belt? SEAT

(Grade 9, Pair work, December 2013)

In the above excerpt, which took place during a True/False task, Amin and Zia are trying to figure out if a car has chairs. The statement in the textbook that they were working on was : ‘A car has chairs’. Since the word for ‘seat’ and ‘chair’ is the same in Persian, Amin thinks that a car does have chairs. However, Zia disagrees with him, and in order to prove his point, he uses the general warning in airplanes ‘fasten your seatbelts’, to point out that for vehicles, the word to use is ‘seat’, as opposed to ‘chair’. Zia used his prior knowledge, translates ‘seatbelt’ into L1, and uses an example he knows his peer, too, is aware of, in order to come up with the correct L2 equivalent for a word.

To summarize, analysis of Grade 9 learners’ data showed that utilizing L1 in classroom interaction provided the opportunity for the learners to further language development. Learners’ use of L1 influenced their pattern of interactions. It was seen that learners’ involvement and active participation could not be this much if they were

not allowed to utilize their L1. By using L1, learners were afforded opportunities to assist each other and mediate own and peers' L2 learning. They utilized L1 to argue and express own agreements or disagreements and this created an intermental-development zone and fostered their learning of L2, which created more learning opportunity.

**Grade 12 learners' use of L1.** Language proficiency, background knowledge, and effective reading skills contribute to successful reading of a foreign language. Analysis of data revealed that reading problems faced by the Grade 12 learners were more apparent when they lacked both the necessary language knowledge and the background knowledge needed for comprehension of particular segment of L2 text. Translation, the unique language activity of L2 learners, was frequently used during L2 text processing to try and overcome reading problems. Sometimes translation or learners' other uses of L1 during reading lessons assisted them to resolve their problems. In the following sections, segments of interaction data are displayed in order to analyze the different ways in which Grade 12 learners used L1 in their L2 problem solving. Evidence for this was observed in learners' interaction data where a learner in the group had the language knowledge or the world knowledge to share it with other peers, as is displayed in the following sections.

***L1 as a tool for comprehension: L1 use vs. use of textual glossaries.*** Analysis of interaction data revealed that many Grade 12 learners, either more proficient or less proficient ones, faced comprehension problems at points at which they encountered an unknown word. Data from questionnaire (see Appendix B) supports this finding. When the learners were asked to mention some difficulties that they might face while reading English texts, from the Grade 12 participants, eight of the 15 learners mentioned vocabulary meanings problematic and one mentioned reading pace as his problem. Six

other learners did not answer this question or said they did not have problems. It was also evident from interview data that for some learners the unknown words were their main obstacle in comprehension of the texts. Learners used L1 to overcome this problem in different ways. In the following sections, segments of interaction data and excerpts from follow up interviews with the participants are used to demonstrate this finding and the ways in which learners attempted to solve their problem.

For Grade 12 learners, some of the newly introduced words were included in the textual glossary provided at the side of the reading text. Marginal glossary in text seems to improve comprehension. It is assumed that the definitions serve as a comprehension aid for the learners and help them grasp the meanings. Analysis of data from the reading task showed that when the glossary definition was within the learners' ZPD, it was beneficial for all, including the low proficient learners. An example of this is illustrated in Excerpt 98, in which a low proficiency learner, Mahdi, substitutes the new word 'efficiently' with its meaning given in the glossary, i.e. 'better' when he reads the text.

### Excerpt 98

1. Mahdi: All these things mean that your body works 'better' to keep
2. you healthy. *Baraye salamatiye shoma behtar mishavad.*
3. [All these things mean that your body works 'better' to keep
4. you healthy. It's better for your health.]
5. Hadi: **Efficiently** *midooni yani chi?*
6. [Do you know what **efficiently** means?]
7. Mahdi: Better. *Neveshte inja.*
8. [Better. It's written here.]

(Grade 12, Group work, October 2013)

The interaction in Excerpt 98 occurred during a reading task. The reading text was on the topic of exercising and its importance. The text included the word 'efficiently', which in the marginal glossary was defined as 'better'. While reading the passage out loud, Mahdi, a low proficiency learner, substitutes 'efficiently' with it's



glossary meaning. He did this in order to process the L2 text easily. This is evident from the lines 5 to 8, where Mahdi's peer asks him whether he understands the new word, and Mahdi confirms that he does, as it's written in the margins. This excerpt is an example where the marginal glossary was useful to the learner. However, this is because the glossary term provided was in the ZPD of the low proficient learner. Another example of a successful glossary definition is displayed in Excerpt 99.

### Excerpt 99

1. Hasan: they do so by trapping
2. Matin: they do so by trapping heat in the atmosphere.
3. Hasan: **trapping** *chi mishe*
4. [What does **trapping** mean?]
5. Matin: **trapping**, *inja neveshte*. **Keep**.
6. [**Trapping**, it's written here. 'Keep']
7. Hasan: *Koja neveshte? Aha, keep*.
8. [Where is it written? Oh, right, 'keep']

(Grade 12, Pair work, November 2013)

Similar to Excerpt 98, the Excerpt 99 is another example of successful marginal glossary definition. They are reading a text on global warming and its effects. There was a sentence in the text which read “ They [greenhouse gasses] do so by trapping heat in the atmosphere”. In this part of learners' interaction, Hasan, who did not know the meaning of 'trapping', used L1 to ask for its meaning. The other partner, however, did not provide the L1 equivalent; instead, as seen in line 5, he used L1 to refer to the glossary definition beside the text. The word 'keep' was already in their ZPD, and so it did not seem necessary to Matin to use L1 for this function and provide the L1 equivalent. Since the meaning provided, 'keep', was within the learners' ZPDs, it mediated their L2 reading comprehension, and aided with their understanding of the L2 text.

The L2 definitions of difficult or new vocabularies were looked up in the glossary provided and referred to by the learners of all levels many times; however,

there were many instances in which referring to the glossary was not useful and the learners did not understand the meaning. Sometimes, the L2 definitions provided made them more confused. This problem was more apparent for less proficient learners. As evident in one of the reading lesson sessions, Mani, a low proficient Grade 12 learner, commented on the L2 definitions in textual glossaries and said: “*Masalan ma’ani karde!* [This is supposedly a definition!]”. And Mahdi, another low proficient learner, used a little bit of humor and stated “*in alan ma’ani karde? Yeki mikhad ino ma’ani kone!* [Is this supposed to be a definition? Someone has to define this itself!]”.

Excerpts of learners’ use of L1 while they referred to textual marginal glosses to understand the meaning of problematic vocabularies are reported. It is evident that some of the L2 definitions were extra difficult L2 texts which not only did not assist learners’ comprehension, but also needed to be processed with difficulty.

Analysis showed that at some points, when the glossary definition was not beneficial, L1 provided the familiar context needed for the learners to guess the meanings of unknown L2 words. Excerpt 100 is taken from a learner-teacher interaction during the Reading task while the teacher was attending the group.

### Excerpt 100

1. Mani: Plan e-mer-gen-cy procedures (wrong pronunciation)
2. *yani chi?*
3. [Plan e-mer-gen-cy procedures (wrong pronunciation)
4. What does that mean?]
5. Teacher: a way of doing something. For example first do this, then do that
6. Mani: **emergency** *ke mishe enerji*
7. [well **emergency** means energy]
8. Teacher: *oorjans , ezterary*
9. [emergency, urgent,]
10. Mani: *aha pas mishe eghdamat e ezterari, eghdamat e oorjansi*
11. ( then re-reads the whole sentence again)
12. [Oh, then this means emergency procedures] ( then re-reads
13. the whole sentence again)

(Grade 12, Pair work, December 2013)

It can be seen that a familiar context provided by L1, “*ezterari* [emergency]”, enabled Mani to guess the meaning of the phrase, ‘emergency procedures’. (lines 10-12). At the beginning, he did not know both the words ‘procedures’ and ‘emergency’, and as long as he did not know the meaning of ‘emergency’, he was unable to guess and say the equivalent for ‘procedure’. Even though they had already referred to the L2 definition provided in the textbook glossary, Mani was unable to grasp the proper meaning of the words, or to make any sense of the phrase ‘emergency procedures’ at all. This is because neither of the words were in his actual developmental level of L2. However, assistance provided through L1 extended his grasp on the meaning of one word, and hence enabled him to guess the meaning of the second. This event may allow room for criticism of the glossary of the book. Had the book given a better definition for the whole phrase ‘emergency procedure’, such as ‘what to do when an accident happens’, as well as defining the word emergency earlier separately, the confusion the student faced may not have taken place.

The glossaries in the margins were supposed to facilitate learners’ comprehension of the text and thus, it was expected that the need to rely on L1 should not have arisen. Ironically, it was revealed that in some instances, not only was the glossary not helpful, but it also led the learners to using L1 in order to make sense of the definitions. This finding was further supported by the artifacts produced by learners in their textbooks. It was revealed that some less proficient learners had written L1 equivalents of unknown words which appeared in the glossaries as well as the ones used in the definitions part in their books. According to Lantolf and Thorne (2006, p. 295) for L2 learners who have a well-developed first language system, the first language is the ‘primary symbolic artifact’ to regulate own cognitive activity. The

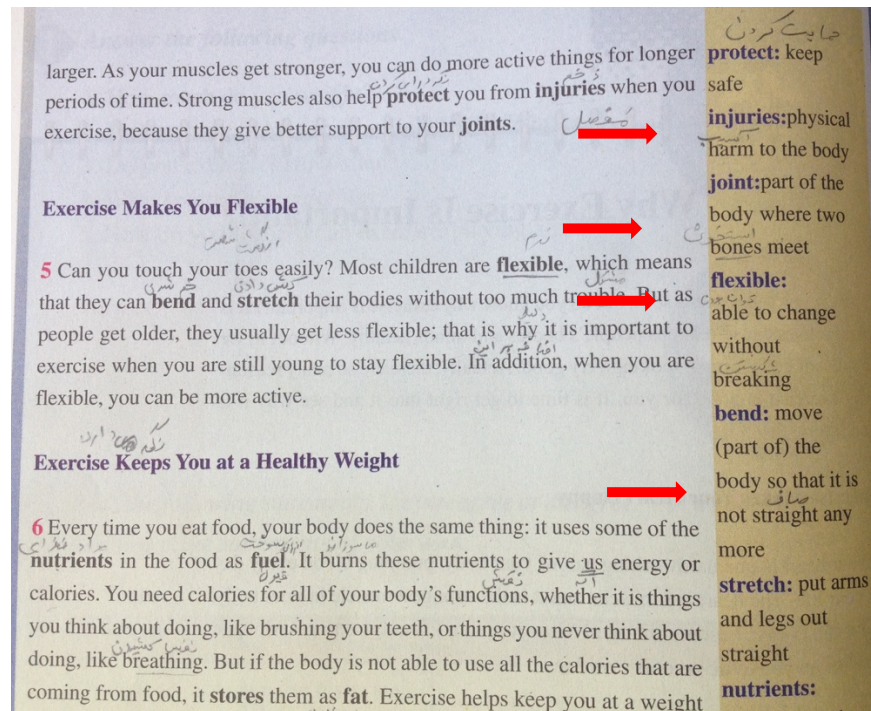


Figure 4.1 Grade 12 learner's use of L1 to make sense of glossary definitions

process of learning a foreign language is mediated by the native language (Vygotsky, 1987). Grade 12 interaction data and artifacts produced by learners in their textbooks affirms Vygotsky's argument and shows that they relied on L1 use when trying to make sense of the text or the glossary definition. This allowed them an 'opportunity consciously to represent the meanings of L2'. However, as evident from interaction and follow up interview data, learners would have had less of a need for L1 mediation if better L2 definitions for difficult words had been incorporated in their textbook.

One notable finding of the study is about how differently more and less proficient learners used L1 while trying to make sense of the L2 text, or when trying to get the meaning of L2 words when referring to the glossaries. Learners of different proficiency levels all referred to the definitions in the textual glossaries to solve their vocabulary and meaning problems at some point. Interestingly, analysis showed that the marginal glossaries were not as beneficial for low proficient learners as they were

for high proficient learners. In order to get a more comprehensive understanding of learners' use of L1 to comprehend the meanings of unknown words, a closer analysis of data was done. Excerpt 101 is a segment of interaction data involving Arash, a more proficient English learner, and Matin, a less proficient learner, while engaging in the reading task. The reading text they are discussing was about earthquakes and methods of surviving them. In the interaction, both the low proficient learner and the high proficient learner used L1 to understand the meanings; however, in general, when the more-proficient learner referred to the marginal glossaries, use of L1 was more beneficial for him.

### Excerpt 101

1. Arash: Saying that an earthquake is going to happen ... occur each year
2. Matin: *Baba bargard kam kam begoo*
3. [Hey, go back and say it bit by bit ]
4. Arash: *aha khob. Saying that an earthquake is going to happen* (reads a few words then silence) +++ saying that, *khob in gofte, yani gofte shode*
5. [Oh ok. Saying that an earthquake is going to happen (reads a few words then silence and thinks) +++ saying that, so, this says that, it is said ]
6. [Oh ok. Saying that an earthquake is going to happen (reads a few words then silence and thinks) +++ saying that, so, this says that, it is said ]
7. Matin: *na. midoonam. Inke begi masalan earthquake*
8. [No, I know. Saying that an, for example, **earthquake**
9. Arash: *har rooz etefagh miofte*
10. [happens everyday ]
11. Matin: *are har rooz etefagh miofteh, VAGHEAN +++*
12. [yeah, happens every day, REALLY+++ ]
13. Arash: *ye chiz e, engar, chi behesh migan?*
14. [is a, like, what do they call it? ]
15. Matin: is not really predicting earthquake, +++ *nemifahmam.*
16. [is not really predicting earthquake, +++, I don't understand it. ]
17. Arash: *yani inke migim har rooz etefagh miofte in nist ke predict* (he refers to the glossary definition of 'predict' and reads it very quickly under his breath) say that something will happen, *ye chiziye ke faghat migan +++ ye chizi ke migim ke etefagh miofte* (tries to translate the glossary definition). **Predict** *yani ye chiz ke migim etefagh miofte.* (reads the definition again) Say that something will happen . in ke migim har rooz etefagh miofte
18. [It means that saying it happens everyday is not **predict** (he refers to the glossary definition of 'predict' and reads it very quickly under his breath) say that something will happen, it's
19. [It means that saying it happens everyday is not **predict** (he refers to the glossary definition of 'predict' and reads it very quickly under his breath) say that something will happen, it's
20. [It means that saying it happens everyday is not **predict** (he refers to the glossary definition of 'predict' and reads it very quickly under his breath) say that something will happen, it's
21. [It means that saying it happens everyday is not **predict** (he refers to the glossary definition of 'predict' and reads it very quickly under his breath) say that something will happen, it's
22. [It means that saying it happens everyday is not **predict** (he refers to the glossary definition of 'predict' and reads it very quickly under his breath) say that something will happen, it's
23. [It means that saying it happens everyday is not **predict** (he refers to the glossary definition of 'predict' and reads it very quickly under his breath) say that something will happen, it's
24. [It means that saying it happens everyday is not **predict** (he refers to the glossary definition of 'predict' and reads it very quickly under his breath) say that something will happen, it's
25. [It means that saying it happens everyday is not **predict** (he refers to the glossary definition of 'predict' and reads it very quickly under his breath) say that something will happen, it's
26. [It means that saying it happens everyday is not **predict** (he refers to the glossary definition of 'predict' and reads it very quickly under his breath) say that something will happen, it's
27. [It means that saying it happens everyday is not **predict** (he refers to the glossary definition of 'predict' and reads it very quickly under his breath) say that something will happen, it's
28. [It means that saying it happens everyday is not **predict** (he refers to the glossary definition of 'predict' and reads it very quickly under his breath) say that something will happen, it's
29. [It means that saying it happens everyday is not **predict** (he refers to the glossary definition of 'predict' and reads it very quickly under his breath) say that something will happen, it's
30. [It means that saying it happens everyday is not **predict** (he refers to the glossary definition of 'predict' and reads it very quickly under his breath) say that something will happen, it's

31. just something that they say +++ Saying something will happen  
 32. (tries to translate the glossary definition). **Predict** means  
 33. something that we say will happen, happens. (reads the  
 34. definition again) Say that something will happen. When we say  
 35. it happens everyday-]  
 36. Matin: *mifahmam mafhoomesh ro ha vali maani khat be khatesh ro*  
 37. *mikham*.  
 38. [I understand the overall meaning, but I want the meanings line  
 39. by line.]  
 40. Arash: *khanom, khanom!*  
 41. [Miss, miss! ]  
 42. Matin: *angoshtat ro mikhori?*  
 43. [Do you bite your fingers?]  
 44. Arash: *are*.  
 45. [Yeah ]  
 46. Arash: *khanom inke gofte* (did not finish the sentence ) +++ *aha*  
 47. *fahmidam, fahmidam. Mige inke, migim har rooz earthquake*  
 48. *etefagh miofte in nist ke pishbini mikonim ke earthquake*  
 49. *etefagh miofte. Predict yani pishbini kardan. Pishbini kardan.*  
 50. *Inke ma migim PISHBINI KARDAN NIST!* (In a triumphant  
 51. and happy tone)  
 52. [Miss, it says (did not finish the sentence ) +++. Oh, I get it, I  
 53. get it! It says, saying that an **earthquake** happens every day isn't  
 54. predicting an **earthquake**. **Predict** means to predict something.  
 55. To predict something. What we say ISN'T PREDICTING! (In  
 56. a triumphant and happy tone)  
 57. Matin: So far they cannot be predicted.

(Grade 12, Pair work, December 2013)

One difference between Arash and Matin's approach to the Reading task is observed at a point where Arash read a few lines of the text and still wanted to continue on to the end of the paragraph. This is despite the fact that, as evident from the interaction, there were words in the text whose meanings Arash did not know at that point. He continued reading. Matin, however, was not satisfied with this and used L1 to express his opinion by uttering "*Baba, bargard kam kam begoo* [Hey, go back and say it bit by bit]" ( line 2-3). Arash, being a more proficient learner, had been trying to read a bigger segment of the L2 text in an attempt to have more L2 information for processing. This approach might have provided him a context which would have helped get more meaning out of the text. Prior to Matin's interruption, he was aiming to read the whole paragraph and then try to do the translation, as this could have helped

him find out the main idea of the paragraph. His approach is an indication of his reading skill and his awareness of the fact that by processing more information, he could achieve an overall impression of the L2 text, which would in turn help him guess the meaning of some unknown L2 words. However, because of Matin's request, he stopped reading the paragraph. This shows that a more proficient learner is able to gain context of an L2 text by just accessing L2. However, a less proficient learner, requires L1 cognitive resources in order to grasp the context of a text, and deal with unknown words encountered.

Another finding resulting from close analysis of this segment of interaction indicated that Matin, who was an intermediate English learner, was not able to process more lengthy L2 sentences or texts. Matin's utterance "*baba bargard kam kam begoo* [Hey, go back and say it bit by bit]", indicates that he was not able to process a long L2 text without it being translated into L1. His word choice of "say" in that sentence was a way for him to ask for an L1 translation. This may be because a longer L2 sentence could place a burden on his memory capacity (Kern, 1994). As Kern discusses, "In terms of temporary storage in working memory, L2 words are rehearsed less efficiently than L1 words". Matin expected the more proficient peer to read the L2 text bit by bit and translate it to L1 for him. Translation might serve him in maintaining his focus long enough for integration of meanings.

Another instance in which Arash and Matin behaved differently in their approach to the reading task was at a point when they came across an unknown word and referred to the L2 glossary definition. While doing the reading task, Matin and Arash came across the word 'predict' (line 18), the meaning of which they both did not know. Up until that point, Matin and Arash had been reading the text more or less smoothly, and Arash, the more proficient of the two, provided translation whenever

Matin needed it. However, when they reached the word ‘predict’, and neither was able to provide an L1 equivalent for it, Matin stated that “*nemifahmam*” [I don’t get it], and put no more effort into understanding the word. This indicates that L1 meanings motivated Matin to go on reading. Without L1 mediation, he lost his motivation. Arash, however, behaves differently, and continues to try and find the meaning of the word. This could be attributed to the fact that, Arash, being more proficient than Matin, relied less on L1 for problem solving. He does not give up and reads the definition a few times. He thinks out loud and tries to solve the problem. He kept reading the sentence out, and referring to the glossary meaning. He eventually asked for the teacher’s help; however, while waiting for the teacher to attend to them, he finally understood the meaning of the word, and went on to translate and explain it to Matin. He became excited by the fact that he had been able to find the meaning of the word on his own. From this interaction, it is evident that a more proficient learner has less of a need for L1 while reading a text. He may even be motivated by independently finding the meaning using his own L2 knowledge. However, for a less proficient learner, the lack of an equivalent could result in loss of motivation. In other words, it can be concluded that, for less proficient learners at least, L1 maintains motivation and acts as a vehicle to continue the task. Matin’s utterance in line 38, “I understand the overall meaning, but I want the meanings line by line”, further supports this finding and it is revealed that he is not motivated to continue reading.

At times when the L2 definition of a word itself was difficult for learners, they used L1 in order to understand the meaning. In some instances, this use of L1 benefited them; while in other cases the use of L1 ended up making things more confusing or misleading. A few segments of interactions involving Mani and Taha are reported to illustrate how they used L1 while referring to the glossary. These two learners were



selected for a couple of reasons. First, because it was a pair work involving a low proficient and a high proficient learner. Secondly, it was expected that the more proficient learner would use glosses more beneficially compared to his less proficient partner. However, analysis proved this wrong for this pair of learners. It was seen that there was not much difference in the way either Mani or Taha used glossary definitions.

Excerpt 102 is an example which illustrates Grade 12 learners' use of L1 while utilizing the textual glossary to find the meaning of 'calm'. In this particular instance, however, L1 mediation was not fully beneficial to the learner.

### Excerpt 102

1. Mani: Stay calm. (reads text) Calm, not excited. *Yani hayejan zade nist?*
2. *Yani chi?+++ khanom **excited** mishe?*
3. [Stay calm. (reads text) calm, not excited (reads the glossary) it
4. means it's not excited? What does that mean? +++
5. Miss, **excited** means?]
6. Teacher: *hayejan zade, kasi ke hayejan zade shode.*
7. [excited. Someone who is excited.]
8. Mani: *khob in mishe kasi ke hayejan zade nashode.*
9. [Then, this means someone who is not excited.]
10. Teacher: Don't get excited. Stay calm.
11. Mani: *yani aroom?*
12. [Does it mean calm?]
13. Teacher: *aroom bashid. Aramesh e khodetoon ro hefz konid.*
14. [Stay calm. Keep calm.]
15. Mani: *ziad hayejan zade nashid.*
16. [Don't get too excited.]

(Grade 12, Pair work, December 2013)

A section of the text Mani was reading talked about the different things to do during an earthquake. Mani, a less proficient learner, while reading the text, came across the phrase 'stay calm' and to make sense of it, immediately referred to the glossary definition for 'calm'. He read the definition out loud, 'not excited', but still could not make sense of the whole phrase. At this point, he used L1 to translate 'not excited' into Persian '*hayejan zade nist*'. His tone of voice showed that this was a

question rather than a statement. Up until this point, Mani was using L1 intramentally in self-talk, producing L1 as a tool in his self-directed questions to regulate his thinking and to try to solve the problem. Still confused, he then called the teacher for help and asked the L1 equivalent for 'excited', a word mentioned in the definition for 'calm' in the glossary. It is perfectly clear from the data that Mani himself knew the meaning of 'excited' (line 1-4) ; yet he doubts himself and shows signs of hesitation.

Even after being provided the L1 equivalent for 'excited' by the teacher, Mani still seemed confused. His utterance in line 4 shows that he still could not make sense of the phrase. The confusion he faced was probably because he failed to substitute the L2 definition in the original phrase, 'Stay calm', as opposed to looking at it individually in the glossary. The word "this" in line 9 shows that he is still trying to make sense of the glossary definition. At this point, the teacher ventures to help him some more (line 10), by providing him an L2 synonym for the whole phrase. Despite of this, Mani is still struggling with the definition of "calm", and seeks confirmation from the teacher by saying "*Yani aroom?* [Does it mean calm?]." At this point, the teacher finally provides an L1 equivalent for the phrase, and Mani finally seems to understand what the phrase means.

This whole interaction is an example of an instance where use of neither L1 nor L2 was helpful to the student in comprehending an L2 sentence. There are a few possible reasons for this. It could be assumed that if the book itself had provided a glossary definition for the whole sentence, 'stay calm', such as 'Don't get excited', Mani would not have faced the comprehension difficulty that he did, as he himself already knew what excited meant. Because he could not utilize the L2 definition properly in the original text he got more confused and even doubted his own knowledge of L2. This lead to comprehension problems. In many instances, it was

observed that when less proficient learners faced comprehension problems they lost interest and did not take the challenge any more. In many of those, this in turn led to a lack of confidence which caused even more confusion. Mani, too, had this problem. He could not even build on the knowledge he already had. This finding was also evident in learners' comments during follow up interviews. For example, Mani commented that "*vaghti motmaen misham kam tar eshtebah mikonam*" [When I'm sure of something, I make less mistakes]. It can be inferred that learner's confidence has an important role in removing their confusion.

Excerpt 103 is an interaction which occurred while Mani and Taha were reading a text about earthquakes; the paragraph they were reading provided information about the different layers of the Earth. Mani and Taha both did not know the meaning of the word 'float'. They refer to the glossary provided by the book, and read it a couple of times. Then Taha, the more proficient learner, wrongly assumes 'float' to mean something liquid which is similar to water. However, Mani does not agree, and so they ask the teacher for the meaning of the word. The teacher then helps them out by providing a hint.

### Excerpt 103

1. Taha: These plates float on the soft ( did not finish the sentence) *vase*
2. **float** *negah kon, float, float*
3. [These plates float on the soft ( did not finish the sentence) look
4. up **float, float, float**]
5. Mani: (Reads the glossary) Stay on the surface of liquids such as water
6. Taha: **float** *nemidoonam yani chi. Man nafahmidam.*
7. [I don't know what **float** means. I didn't get it.]
8. Mani: **float** *mige yani ke, stay on the* (first reads aloud then continues
9. quietly) surface of liquids such as water
10. Taha: *aha, ye chizi ke mesle ab bashe, mesle ab bemoone*
11. [Right, something like water, that is like water]
12. Mani: *na baba.*
13. [No!]
14. Taha: *chera. Maye'e bashe. Azizam liquid mishe maye'e. khanom,*
15. *float chi mishe ma'nish?*
16. [Yeah. That is liquid. My dear, **liquid** means liquid. Miss,

17. what does **float** mean?]  
18. Teacher: Float is the opposite of sink. Do you know what sink means?

(Grade 12, Pair work, December 2013)

In the follow up interview with Mani, when asked the question: “Why didn’t you understand the meaning after you read the glossary definition?” Mani responded:

#### **Excerpt 104**

*bayad age mikhast, sade tar az in migoft ke adam motevajeh she.  
Man surface ro nemidoonestam chi mishe, liquidam  
nemidoonestam. Taha am ke kamel nemidoonest” age faghat migoft  
stay on water man mifahmidam.*

[It (the glossary) should have defined it (the L2 word ‘float’) more simply, so that we could understand. I didn’t know the meaning of ‘surface’; I didn’t know ‘liquid’ either. Taha didn’t understand it completely either. If it had just defined it as ‘stay on water’, I would have understood.]

(Interview with Mani, December 2013)

We can see from this excerpt of Mani’s interview data that the definition for ‘float’ in L2 was not beneficial for him as it included two extra words unknown to Mani. In such instances, learners approached reading the the glossary definitions in the same way they did the main text itself. In other words, the learners utilized L1 to get more meaning when they referred to the L2 definitions which included unknown words. In some instances, when there were some other unknown words which they could not translate, they gave up and called to the teacher for help. Analysis showed that this could be due to either the learners’ limited knowledge of the world or a shortcoming of the textbook in the way the word was defined. Excerpt 103 is an example in which unsuccessful L1 mediation could be attributed to both reasons. The interaction is evidence that learner’s limited world knowledge could result in a failure to understand the meaning of an L2 word, in this case ‘float’. The interaction is also evidence that the definition could have been less problematic for learners if certain other words had been used in it.

Mani's comment "*age faghat migoft stay on water man mifahmidam*. [ If it had just defined it as 'stay on water', I would have understood.]" is an evidence that in Mani's knowledge of L1 vocabulary, he mostly limited 'float' to water and did not extend it to other liquids. Learners bring their own knowledge of the world, acquired through their L1, to reading the L2 texts. In Mani's case, when this knowledge was limited, he was unable to utilize it to make an informed guess in order to mediate his L2 reading.

Analysis of both interaction and interview data of Grade 12 learners revealed that some glossary L2 definitions were counterproductive and resulted in the learners' confusion and thus in more L1 use in an attempt to resolve the problem. For some vocabularies, different, more helpful L2 definitions could have been used which would cause less confusion. In many cases it was possible to have other definitions. For example, when defining 'float', instead of using 'surface of a liquid', it could have defined as 'top of a liquid'. This small change would have increased the potential benefits of L2 glosses and might have contributed or resulted in less use of L1, especially for less proficient learners.

Excerpt 105, another segment of Mani and Taha's interaction, exemplifies how a wrong choice of L1 equivalent for an L2 word lead to confusion and lack of comprehension. In this example, the unknown word was 'smoothly'; however, Mani's

### **Excerpt 105**

1. Mani: The plates of the crust move along smoothly but sometimes they
2. stick together and create pressure ... an earthquake is the result
3. *Khob*. (rereads in a lower voice) *montaghel, mige oon*
4. *safeha montaghel mishan dar tool e chi?*
5. [The plates of the crust move along smoothly but sometimes
6. they stick together and create pressure ... an earthquake is the
7. result. Ok. (reads again in a lower voice.) transfer, it says
8. those plates are transferred along what?]
9. Taha: *bedoon e hich taghyiri, harekat bedoone hich taghyiri*
10. [without any changes, movement without any changes]

11. (translates the definition for ‘smoothly’)
12. Teacher: *be arami. move without any sudden change or any sudden*
13. *movement*
14. [*smoothly, move without any sudden change or any sudden*
15. *movement*]
16. Mani: *be arami* (repeats)(reads in a quiet voice) ... *stick together. Mige*
17. *ina montaghel mishan aroom be safeha? Are? Ba’zi mogheha*
18. *ham oona ye feshari be vojood miyaran.*
19. [*smoothly* (repeats)(reads in a quiet voice) ... *stick together. It*
20. *says they are transferred smoothly to the plates? Yeah?*
21. *Sometimes they create a pressure.]*
22. Teacher: *aval ba ham chi kar mikonand?*
23. [*What happens first?]*
24. Mani: *montaghel mishan dige.*
25. [*Well, they are transferred.]*
26. Teacher: *Move, harekat mikonand.*
27. [*Move, they move.]*

(Grade 12, Pair work, December 2013)

wrong choice of an L1 equivalent ‘*montaghel mishan* [they are transferred]’ for ‘move’ instead of ‘*harekat mikonand* [they move]’, created more problems. In the context of the text, Mani’s choice of L1 equivalent made less sense, and hence created confusion and resulted in a lack of comprehension. Even after learning the L1 equivalent for ‘smoothly’, Mani was not able to provide a proper translation, and his lack of comprehension continued.

As discussed, unsuccessful L1 mediation could be because of learners’ limited knowledge of the world acquired through L1. When this knowledge was not adequate, learners were not able to utilize it to mediate their L2 reading properly. Learners of intermediate proficiency faced comprehension difficulties too when they could not relate their world knowledge acquired through L1 to the definitions provided in the glossaries. For example, The new word ‘release’ was defined ‘let a chemical come out’ in the glossary. Although there was no vocabulary in the definition whose meaning Omid did not know, he could not understand the meaning until he found out it was about hormones. The Persian equivalent ‘*tarashoh*’ does not come to one’s mind with the definition given in the book. The word ‘hormone’ was not used in the definition.

Intramental use of L1 did not help at first when he read the definition and translated for himself. In Persian, to the general person, the word chemical has a more negative connotation associated to it, bringing to mind things like poison or medication, as opposed to a natural body secretion.

### **Excerpt 106**

1. Omid: *oona ke biroon nemian tarashoh mishan.*
2. [They don't come out, they are secreted]

(Grade 12, Group work, October 2013)

Omid's L1 use and translation in this instant was not productive. It was not beneficial without the word hormone for Omid. An explanation for this is that he is doing a word for word literal translation. Translation proved to be unproductive when it was done in word by word fashion without integration of meaning (Kern, 1994, p. 455). Also, glossary definition was slightly deceiving, because as the learner points out, hormones don't come out in the body, they are secreted. Omid's comment "[They don't come out, they are secreted]" is evidence that even though the L2 glossary definition was composed of very simple words; however, its definition as a whole was problematic.

Low proficient learners faced more problems when they lacked the knowledge to assist their comprehension of L2, or when the intended meaning of a word in the L2 text was not consistent with their knowledge of the world, which they had acquired through L1. For example, in a lesson about global warming, Mani, who did not know what the green house effect was and did a word by word literal translation for 'Green house (effect)'. He seemed to question his understanding and added "[a green house! Maybe it means a jungle]". Another example of when word by word translation was not beneficial for learner's comprehension was when, in a lesson about giving a good speech, Nima was trying to understand 'eye contact'. Even though Nima knew the

individual meanings of the words ‘eye’ and ‘contact’, he could not understand the phrase ‘eye-contact’, and so used L1 and asked the teacher for the meaning “*khanom manzoor az eye contact chie?* [Miss, what does eye contact mean?]”. Excerpt 107 is Nima’s follow up interview data commenting on this.

#### **Excerpt 107**

*khob man ma’ni eye ya contact har do ro midoonestam. Vali ba ham too in jomle motevajeh nemishodam. Contact number balad boodam vali ba eye nashnide boodam.*

[Well I knew the meanings of ‘eye’ and ‘contact’. But I couldn’t understand them used together in a sentence. I knew what a ‘contact number’ was, but I hadn’t heard the word used with ‘eye’. ]

(Interview with Nima, November 2013)

In Persian, many say ‘*ertebat e cheshmi*’ as the equivalent for ‘eye contact’. If we back translate it literally, it will be eye communication. However, in case of Nima, he had never heard even the Persian phrase for this, and hence lacked any knowledge that would help him understand the phrase, as indicated by his utterance “[I hadn’t heard the word used with ‘eye’].”

In follow up interviews, learners were asked on how useful the glossaries were to their reading comprehension. Nima, an intermediate learner, suggested that in order to make up for their problems with the glossaries, it is good to first read the passage and refer the glossary and see how much of it they can understand, and if they still have any problems left, they could look the words up in a bilingual dictionary.

#### **Excerpt 108**

*midoonin chi khoobe khanom, inke aval in ro bekhoonim harchi fahmidim. Ba’d dikshenery negah konim.*

[Miss, you know what’s better, is that first we read these (glossary) and see what we understand, and then we look up in a (bilingual) dictionary.

(Interview with Nima, October 2013)



In instances such as the ones reported in the last few excerpts, it was seen that use of L2-L1 translation was not too helpful in comprehension of a problematic L2 text. When the intended meaning of an L2 word was not consistent with the learners' knowledge of the world, or when they lacked the knowledge needed, translation proved to be unhelpful to them. In instances like this, the learners' use of L1 failed to function as a mediational artifact to control their thinking and learning.

***L1 as a tool to process teacher's L2.*** An interesting use of L1 by learners, although not frequently observed, was at times when they utilized L1 and added to the teacher's L2, or verbalized a translation of the last part of the teacher's speech to L1. There were few such examples in the Grade 12 low proficient and intermediate learners' data that indicated learners' intramental use of L1 in processing the teacher's L2. In other words, this finding suggests that the language some less proficient learners used while mentally interacting with the teacher was their L1, Persian.

First, excerpts which display learner's simultaneous use of L1 with the teachers L2 speech in order to complete her speech are reported. It should be mentioned that in Iranian classroom, regardless of the subject, a strategy used by the teachers to focus the learner's attention is to start a sentence but leave it incomplete, for learners to complete it. In these specific interactions, the teacher's aim was not to do this. However, the learner's completing the teacher's sentences can be taken as an indication that they are focusing on what the teacher is saying. Interestingly, it was seen that this was done in L1 by the students, suggesting that their thought processes, too, were in L1.

Excerpt 109 is an example that reveals L1 being used by Matin, an intermediate learner, as a tool to process teacher's L2.

### Excerpt 109

1. Teacher: in our exam or in a reading comprehension test, a pronoun in the
2. passage might be underlined or printed in bold and then you will
3. be asked =
4. Matin: = *marjaesh kodoome?*
5. [= What it refers to?]
6. Teacher: What it refers to? Yes.

(Grade 12, Whole class, October 2013)

Here, during a reading task, the teacher was trying to explain the importance of recognizing pronouns and the anticipates they refer to in the reading text, and was informing the students that they may have to determine, in some exam questions, what each pronoun refers to. At the end of her explanation, Matin joins in to complete the teacher's L2 sentence using L1, "*marjaesh kodoome?*" [What it refers to?]. This clearly shows that the learner's thought process while listening to the teacher was in L1.

Another example from the data that can be an indication of learners' use of L1 to process teacher's L2 is reported in Excerpt 110. It is a segment from a learner and the teacher's interaction while the teacher was attending a learner's group.

### Excerpt 110

1. Teacher: Do you know what global warming is?
2. Matin: **global** *yani in chiz dige, um,++*
3. [**Global** is something that, um,++]
4. Hasan: *garm shodane koreye zamin*
5. [the heating up of the Earth]
6. Teacher: Global is something related to the whole
7. Matin: *Jahan*
8. [world]
9. Teacher: Yes. To the whole world, to the whole planet

(Grade 12, Pair work, December 2013)

The following interaction, taken from a pair work, occurred between Amir, a low proficient learner, and the teacher during a reading task.

### Excerpt 111

1. Teacher: When we weigh something against something it means we
2. compare two things and then decide which one is = more

3. important
4. Amir: = *Kodoomesh behtare*
5. [= which one is better ]

(Grade 12, Pair work, December 2013)

Excerpts 109, 110 and 111 mentioned earlier were instances of learners' use of L1 to complete the teacher's L2. The next two excerpts, however, demonstrate learners' using L1 to translate the last segment of the teacher's L2 explanation. For example, as reported in Excerpt 112, which is a part of whole class interactions, Matin provides an L1 translation for the last part of his teacher's explanation "we compare"(line 7-8). The teacher was trying to define weighing something against something else, a form of which was used in the reading text.

#### **Excerpt 112**

1. Matin: We have to think of the costs of action and weigh + them
2. against the risks of inaction
3. Teacher: Weigh them against the risks of inaction, weigh them against,
4. this is the new word, weigh something against something,
5. when we say weigh something against something it means
6. that we compare =
7. Matin: =*moghayese mikonim*
8. [= we compare]
9. Teacher: Yes, we compare two things and judge them, which one is
10. worth doing?

(Grade 12, Whole class, December 2013)

Excerpt 113 is another example that further demonstrates how L1 is used as a tool to process L2. It illustrates Mani, a low proficient learner, mentally interacting with the teacher's L2 words. In this segment of classroom interaction, the teacher is explaining global warming while using L2. As soon as she is done, the low proficient learner repeats the last part of the teacher's explanation in L1.

#### **Excerpt 113**

1. Teacher: Global warming is the overall increase in the temperature
2. of the earth over a long period of time.
3. Mani: *too ye modat e ziadi*
4. [Over a long period of time]

5. Teacher: Uh huh.

(Grade 12, Group work, December 2013)

Excerpt 113 is a clear indication of how L1 operates in learners' thinking and in their L2 processing. From the fact that Mani repeated the last part of his teacher's L2 speech, but in Persian, it can be inferred that his thinking processes was being carried out through the mediation of Persian.

The L1 utterances in the learners' speech are indications of the learners' thinking processes and provide evidence of learners' internal activities in their minds. They are clear indications as to how L1 operates in learners' thinking and in their L2 processing. It is clear to see that learners' thinking processes were carried out through the mediation of Persian. Their L1 utterances show that as the learner is listening to the teacher's L2 explanation, his comprehension process is taking place in L1. It seems that when they use L1 in this way learners focus their attention on what is being said in L2 by the teacher. The above excerpts of interaction data are examples of learners' vocalized private speech and provide evidence for learners internal processing of L2 and indicate the mediating role of L1 in this process. This indicates learners' intramental use of L1 to process L2. It suggests that the learner may have also been translating mentally other parts of the teacher's explanation.

***L1 as a tool for explicit L2 instruction.*** At many points the high proficient learners used L1 in classroom interactions and provided the mediation required by the lower proficiency peers throughout the process of their L2 learning. Their use of L1 at some points was for explicit assistance, such as when it was requested or needed, whereas at other points L1 was used in hints or implicit assistance. In some instances, even though the specific help was not asked for by the low proficient learners, the high proficient learner felt the need to help out. When this happened, the high proficient

learner's interaction with the low proficient learner resembled the teacher-learner interaction.

The Grade 12 learners in the higher proficiency level often had two approaches to their use of L1 in providing assistance to their peers when they faced vocabulary and meaning problems. They either used L1 and explained different meanings of a word followed, by the one intended in the text, for example “[lift can be an elevator but here it's raise up. ]”, or they used L1 in their speech and reminded peers of other L2 words from the same family of problematic vocabulary for example , when one learner encountered the word ‘destructive’ in the text about earthquakes, he reminded his peers that the word ‘destructive’ roots from the word ‘destroy’.

Salar was one of the high proficient learners who used L1 as an instructional tool. He was more advanced than the other high proficient learners, as determined by his score on the IELTS model test used for the purpose of this study and confirmed by his real IELTS examination result. Salar was the most proficient learner among the participants. In many instances of Grade 12 data, it was observed that Salar used L1 to regulate less proficient peer's L2 learning. Excerpt 114 is a segment of group work in which Salar attempted to explain an English word formation rule.

#### **Excerpt 114**

1. Salar: *be ba'zi kalameha 'ing' ezafe konim mishe sefat. Masalan, +*
2. *Mesle chi? **Amazing night.** Mesle chi? Ye done mesal bezan.*
3. *[We add 'ing' to some words to make adjectives. For example, +*
4. *like what? **Amazing night.** Like what? You say an example.]*
5. Mani: *ke sefat beshe?*
6. *[To make it into an adjective?]*
7. Salar: *are, be fe'el 'ing' ezafe konim.*
8. *[Yes, when 'ing' is added to a verb]*
9. Mani: *following, +learning ++na learning na*
10. *[following, +learning ++ no not learning]*
11. Salar: *na, **learning fele.** Inam inja fele ha sefat nist.*
12. *[No, **learning** is a verb. This is a verb too. It's not an adjective.]*

(Grade 12, Group work, December 2013)

While doing a Reading task, in order to help the less proficient peer in the group, Salar, who is knowledgeable of word-formation and affixation, breaks a word into its smaller components. He uses L1 in his explanation to teach about the root and the suffix. He even goes further than explaining the structure of the word, and asks Mani to give another example. Later, in the follow up interview (December 2013), he reported that this is something he himself used to do in order to learn vocabulary and also to comprehend L2 texts. He attempted to teach his peer by applying his knowledge of word-formation rules to get the meaning of an unknown word. As he saw a link between word knowledge and better comprehension of the text, he utilized L1 to share this view with his peers. He has acquired his knowledge in his English classes in and out of school (e.g., IELTS class). In another instance, we see that Salar used L1 and explicitly tried to teach Mani, the less proficient peer, the word ‘renewable’. He used L1 for word consciousness building, and in this way attempted to mediate Mani’s learning. He did not use L1 just to provide him with an L1 meaning for the problematic word. He utilized L1 as a tool and tried to teach the meaning of the affix ‘re’ and the suffix ‘able’ to help Mani infer the meaning of ‘renewable’ by himself.

Salar who has acquired a certain word knowledge- both breadth and depth- in another instance, tried to help peers by providing them information about the usage of some vocabularies such as ‘include’ and ‘comprise’. At this point, to refresh their memory, Salar again used L1 and produced the utterance “*parsal khoondim*” which means [we studied it last year]. Salar’s utterance served as a scaffold and reminded the peer of his L2 knowledge to enhance the peer’s comprehension of the L2 text.

Evidence of use of L1 as an instructional tool is also seen in Excerpt 115 where a more proficient learner, Sina, asked his partner about the referent of a pronoun. The sentence that brought the discussion up is as follows: “ It is possible that a winter day

in a city could be sunny and mild, but the average weather tells us that its winters will mainly be cold and include snow and rain.” In line 1, Sina asks Amir what the pronoun “its” refers to.

### Excerpt 115

1. Sina: Its winter, *mige zemestan*ESH (emphasis) *be chi bar migarde?* +++
2. [Its winter, it says ITS winter, what does it refer to? +++]
3. Sina: *shahr ro mige? Keshvar ro mige?*
4. [Is it referring to the city? Is it referring to the country?]
5. Amir: *inja city gofte dige.*
6. [Right, It says city here.]

(Grade 12, Pair work, December 2013)

The more proficient learner has the knowledge that pronouns in a text have little meanings on their own and that getting more meaning requires knowing the referent of a pronoun. Sina, used L1 to check his peer’s comprehension of the text by asking about the referent of the pronoun ‘it’. When he received no response, he continued to probe more through giving hints (line 3-4) in L1. In this way, he guided Amir to determine the antecedent. We see that at this point, peer mediation in L1 was effective and that the less proficient learner was able to tell the referent of the pronoun.

***L1 as a tool to link old and new information.*** There were many instances in the data where learners used L1 to relate newly introduced L2 information with old one. Sometimes, the more proficient learner used L1 intermentally to explain an unknown word and link it to other words of the same family. However, use of L1 to link old and new information was more frequently found in low and intermediate learners’ data. This mostly occurred when the teacher or a more proficient learner used L1 and translated the L2 text or provided the low proficient learners with the L1 equivalent of an unknown word. Then the less proficient learners themselves could relate what they knew to the new L2 item. In some instances, L1 was intramentally used in learners’ speech to make a link and regulate their own thinking. Reflection on

what they had just read, and linking that with what they already knew, seemed to facilitate their L2 learning. The following excerpt demonstrates an example of how the L1 equivalent for ‘float’ enabled an intermediate Grade 12 learner to realize why the drink is probably called a McFloat. After realizing this, he used L1 and explained this realization for his peer.

### Excerpt 116

1. Teacher: sink and float are opposites. Sink, when you put something
2. heavy in water, it goes down.
3. Matin: Sink
4. Teacher: *mire tah e ab, but float?*
5. [It goes to the bottom of the water, **but float?**]
6. Arash: *shenavar mishe.*
7. [it floats]
8. Teacher: remains on the surface of water. *Shenavar mishe.*
9. [remains on the surface of water. It floats.]
10. Matin: McFloat
11. Teacher: Float
12. Matin: *McFloat hast, +McFloat, nooshabe ke roosh chiz mizaran=*
13. [You know like McFloat, + **Mcfloat**, where on top of soda
14. they put]=
15. Arash: =*Aha, aha*
16. =[right, right ]
17. Matin: *Bastani*
18. [Ice-cream]

(Grade 12, Pair work, December 2013)

The text being discussed in Excerpt 116 was about the plates of the earth, and how they ‘float on the soft, plastic mantle below the crust.’. The learners did not know the meaning of the L2 word ‘float’, and asked the teacher for it. The teacher first defines the opposite word, which is sink. From this hint, Arash was able to determine the L1 equivalent of ‘float’ (line 6-7). The teacher then both translated the word, and gave an explanation in L2 (line 8-9). After having found out the meaning, Matin was able to link the word ‘float’ with the name of the drink ‘McFloat’, which he knew of previously. This, for Matin and his partner, could be the location of learning opportunities which was provided by use of L1.



Less proficient learners were able to relate unknown vocabularies to other words of the same family as a result of the group interaction, and after being provided with a translation by the more proficient peers in the group.

Excerpt 117 demonstrates Matin's intramental and intermental use of L1 which lead him to link the new L2 word to what he already knew. This is a segment of pair-work interaction that occurred during the reading task. When a learner, Matin, got to the word 'destructive', he gave a long pause, indicating that he did not understand the word. His partner, Arash, realized this and provided the L1 equivalent. Matin, after being provided by the L1 equivalent, realized that it must be related to the word 'destroy', the meaning of which he knew previously. The L1 utterance "Aha" indicates Matin's thinking process and that he had managed to resolve his vocabulary difficulty by making this link.

#### **Excerpt 117**

1. Matin: Luckily, (wrong pronunciation) most of this destructive +++
2. Arash: *ya 'ni mokhareb*
3. [it means destructive]
4. Matin: *Aha. + Az **destroy** miad dige?*
5. [Oh! + It stems from the word **destroy**, right?]
6. Arash: *Are, daghighan.*
7. [Yes, exactly]

(Grade 12, Pair work, December 2013)

There were many such examples in data, where, just after the learners were provided by L1 meanings for unknown words, they were able to make the link. In many instances, the L1 equivalent triggered the learners' previous L2 knowledge and enabled them make a conscious link between the newly introduced vocabulary and other words from the same family. By making such links, they seemed to solidify their knowledge of L2. Hence, it can be said that L1 provided them this opportunity.

In another instance, Salar, the most proficient Grade 12 learner, used L1 to tell a personal story of the time he attended his IELTS class. In previous years, the option

of ‘not given’ was not included in the true/false tasks of the learners’ textbook, and this was the first year they came across the phrase. Salar used L1 to share a memory technique which helped him remember what ‘not given’ meant, taught to him by his IELTS teacher. The trick utilizes the similar acronyms for the phrase ‘Not Given’ and an L1 equivalent of it, ‘*NaGofte* [not said]’. Salar saw this as a useful link between the acronym ‘NG’ for ‘Not Given’ and the Persian words ‘*NaGofte*’ [not said] which could mediate between the two and help their memory. The IELTS teacher wanted to help the students remember. Later when he was asked for the reason behind telling his story, he said “*ye dafe yadam oomad. Moalem e IELTS emoon ke ino goft dige yademoon moon* [I remembered it suddenly. When my IELTS teacher told us that, we all learned it well.] .” When probed further on the reason he told the story in Persian and not in English, he replied: “*be farsi khob rahat tar bood. Ba ’dam dars ke nabood khanoom. Be Farsi injoori zood goftam. ba ’zi chiza farsish rahat tare, behtar e.* [ Well it was easier in Persian. Also, it wasn’t part of the lesson, Miss. This way I said it fast in Persian. Some things are easier in Persian, and better.]”

Salar’s comments on why he did not tell the story in L2 indicate that he had not used L2 to tell this story because if he had, his peers would not have gotten the point, and it would have taken a long explanation. It indicates that learners have a preference to use L1 for personal stories, in order to convey the point better and faster.

Another segment of interaction data is shown in Excerpt 118 and exemplifies learners’ L2 processing difficulty at the sentence level where, finally, L1 provided by the teacher helped them link recently learnt L2 to a real life experience.

Excerpt 118 is an example in which the learners could not integrate their L2 word knowledge into the context of the passage in their textbook. This is an instance where learners’ L2 vocabulary knowledge was not deep enough, and thus lead to

misunderstandings and confusion. Nima and Mani both knew one of the meanings of the word ‘fat’, i.e. ‘obese’. However, they could not relate their known definition with the passage in the book, as they realized it would not make sense. The glossary definition for fat was: ‘A white/yellow material under the skin.’ This definition was not helpful to them. The teacher helped them out by providing a translation of the sentence in the book, but used the equivalent of ‘obese’, and asked the student if the sentence made sense. This was not helpful either, and the teacher finally provided the correct L1 equivalent. After finding out the meaning, Nima suddenly realized that he had seen the word before in an almost similar context, on milk packaging for ‘low fat milk’. He reminded Mani of the same thing, “*nadidi roo shir minevise low fat, shir e kam charb* [ Have you never seen that it says low-fat on milk-cartons?]”

### Excerpt 118

1. Mani: *khob, fat ham ke mishe chagh.*
2. [Well, **fat** means obese]
3. Teacher: Only sometimes fat means *chagh*
4. [Only sometimes fat means obese]
5. Mani: *ye maani dige mide inja?+++store ma 'ni chi mide?*
6. [So it has another meaning here? +++ What does **store** mean?]
7. Nima: **store** *mishe anbashtan , negah dashtan.*
8. [**Store** is to store, to keep.]
9. Teacher: Then does it make sense to say that *oonha ro anbashte mikone*
10. *be onvan e chagh?+++* No. it doesn't make sense.
11. [Then does it make sense to say that it stores them as obese?
12. +++ No. It doesn't make sense.]
13. Mani: *ezafi mishe?*
14. [Does it mean extra?]
15. Teacher: No. +++*charbi.*
16. [No.+++ Fat (lipid)]
17. Nima: *Aha, charbi.*
18. [Oh, fat!]
19. Mani: *Are. Charbi mishe. Aha.+++*
20. [Yes. It's fat. Right. +++]
21. Nima: low fat. *Nadidi roo shir minevise?*
22. [Low fat. Have you never seen that it says low fat on milk
23. cartons? ]
24. Mani: *Ha?*
25. [Huh?]
26. Nima: Low fat. *Nadidi roo shir minevise? Shir e kam charb.*

27. [Low fat. Have you never seen that it says low fat milk on the  
28. milk carton? Low fat milk.]  
29. Mani: *aha rast migi.*  
30. [Oh, you're right.]

(Grade 12, Pair work, October 2013)

These learners got the meaning wrongly because they misunderstood a single word in the sentence: 'If the body is not able to use all the calories that are coming from food, it stores them as fat.' When Mani could not comprehend the L2 sentence accurately, he thought he might be getting the meaning of the word 'store' wrong as well, even though the glossary definition for it, 'keep', was pretty simple. Similar to this, in other instances in the data, it was observed that when the learners encountered a part of text which they could not comprehend, they also lost confidence in themselves and hesitated about the vocabulary meanings which they did know.

It should be noted that the learners here had studied the word 'fat' to mean 'obese' a few years previous. But, seeing the word again in their pre-university textbook, bolded in text and defined in the glossary, did not cause them to consider that it might have a different meaning from the one they knew. The idea of 'fat' as meaning something other than 'obese' was so far-fetched to them, that they didn't question their own understanding of it. They did not even realize that 'fat' in this context was a noun, and not an adjective. This instance of interaction could raise the suggestion that perhaps, for frequently used words and phrases, it might be better that learners be taught their different meanings together. They should have been taught along with the different meanings, different parts of speech as well, to extend learners' depth of L2 vocabulary knowledge. Doing this would avoid confusions in the future, as well as wrong assumptions about the word used in different contexts. In the above excerpt, the learners did not realize that 'fat' was a noun and not an adjective, and only

when the teacher provided them with the L1 translation for ‘fat’ in its proper context, they made a link between that and seeing the words “low fat milk” in real life.

Overall, analysis from the last few excerpts revealed that in some instances, L1 translations by more proficient learners or by the teacher enabled less proficient learners to notice the cognate words (e.g., ‘procedure’ & the Persian word ‘*porose*’) or to realize other words from the same root (e.g., *stance* & *stand*). The L1 translations enabled the low proficient learners to notice or take note of grammar points, the structure of the sentence, or a specific vocabulary. For example, as it is illustrated in Excerpt 119, L1 translation provided the context for a learner, Matin, to notice an L2 grammar point – that what follows a modal is a bare infinitive. In this excerpt, Matin only knows one meaning for the word ‘hit’. He is only aware of its use as an adjective, when the word means ‘popular’. However, this meaning does not make sense in the context. The more proficient learner knows the correct meaning, and points out to Matin that in the text ‘hit’ is used as a verb, and not an adjective.

### Excerpt 119

1. Matin: But it could hit, **hit** ya’ni ...**popular**
2. [But it could hit, **hit** means **popular**
3. Arash: *na, hit ya’ni zarbe bezane. Feshar bede. Hit inja chize ha,*
4. **hit, hit** +++ *in hit oon hit nist.*
5. [No, **hit** means hit something. Press something. **Hit**, here,
6. means what’s that word, **hit, hit** +++ this **hit** isn’t that **hit**]
7. Matin: *in hit chie?*
8. [What does this **hit** mean?]
9. Arash: *in hit fe’le. Oon hit ya’ni ma’roof. In fe’le.*
10. [This **hit** is a verb. That **hit** means popular. This is a verb]
11. Matin: *oon che jorie? Spellesh yekie?*
12. [How is that written? Is the **spelling** the same?]
13. Arash: *daghghan yekie. Vali in hit fe’le. Oon hit sefate ke ma’ni ye*
14. *mashhoor mide, khob. Vali in hit fe’le ke ma’ni ye zarbe zadan*
15. *mide.*
16. [It’s exactly the same. But this is a verb. That is an adjective
17. that means popular, well. But this **hit** is a verb and means to hit.]
18. Matin: *Aha + are dige, could oomade ghablesh dige*
19. [Oh, right + there is a **could** before it.]
20. Arash: *Are dige.*

21. [Right]
22. Matin: *pas fe'le*. So, but it could hit any place (continues reading)
23. [Then it's a verb. So, but it could hit any place (continues
24. reading)]

(Grade 12, Pair work, December 2013)

Analysis of Matin's interaction data revealed that during certain instances of Reading tasks, even though the reading material did not include any unknown vocabulary, and even though the learner knew all the words in a sentence, he could not actually comprehend the meaning of the L2 text. However, after L1 translations were provided by more proficient peers in the group, he was able to understand it. In similar cases, use of L1 by the learners was effective in extending a student's thinking about the L2. From his peer's L1 help, he noticed that the word 'could' came before the vocabulary in question, and realized that the word, which followed 'could', must therefore be a verb and not an adjective (line 18-19). In many cases, after being regulated by their peers, learners made utterances indicating their realization of an aspect of L2 or language related points that they had already known. Learner's use of L1 utterances such as ["Oh right, it's a present perfect tense"] or ["Oh right, it's a verb"] indicate that learners are actively linking new found knowledge to knowledge they already had, and are extending their L2 knowledge in this way. And as in the case reported, we see that Matin, when realized that 'hit' was a verb, focused his attention on the grammar point and reminded himself (lines 22-23), then reread the sentence and continued the task. This is an example that being regulated through the language of another peer leads to a learner's being self-regulated, i.e. a movement from intermental functioning to intramental functioning. Matin's utterance, "*pas fe'le* [Then it's a verb]" signals an attempt to regain self-regulation. His L1 use functions to focus his attention on both the previously known L2 grammar and the newly acquired L2 knowledge – the two different parts of speech for the word 'hit'.

*L1 as a tool to provide peers with content knowledge and create/activate schemata.* Grade 12 learners were from three different streams, Maths, Biology, or Humanities. However, English was a compulsory subject (see Chapter 3) for all of them. The topics in the lessons from which data was collected were related to exercise and the body, global warming, and earthquakes, and so were more familiar to the learners who were from the biology stream. In some instances, when learners from the math and humanities stream lacked the background knowledge, the biology students utilized L1 and provided them with the knowledge needed. This is evident in the following segment of group interaction involving Foad, Hadi, and Mahdi. Here, after Hadi was unable to explain clearly the meaning of the word ‘nutrients’ to Mahdi, Foad suggested asking the biology students for help by saying “They know better, you can ask them” (Line 8). In the excerpt, the learners are discussing the meaning of the word ‘nutrient’ in L1. From the L2 glossary definition, they have understood approximately what it means, but cannot come up with its exact equivalent. This is where Foad jumps in and makes his suggestion.

### **Excerpt 120**

1. Hadi: In this food there is something that is energetic. They call it
2. nutrients when it goes to the body, it gives the energy to
3. reinforce the body.
4. Mahdi: **Nutrient** *yani vitamin +++ ya?*
5. [Does **Nutrient** mean vitamins +++ or?
6. Hadi: Not +++ *ye chizi taghriban shabihe oon. Ye esmi shabihe in.*
7. [Not +++something along those lines. A name similar to this.]
8. Foad: They know better, you can ask them.

(Grade 12, Group work, October 2013)

In the examples which will follow, the role of L1 in high proficient learners’ speech to mediate their lower proficiency peers’ comprehension is evident. They do this by providing or activating the required schemata. In some instances, the more proficient learners utilized L1 to provide less proficient learners the schemata required

to understand the text or produced L1 utterances to activate peers schemata. The latter mostly was done through hints so as to activate peers' prior knowledge.

### Excerpt 121

1. Nima: *Man ke nafahmidam. ++The number of blood cells*
2. [Well, I don't get it. ++The number of blood cells
3. Iman: *The number of blood cells, sellol haye khooni afzayesh peida*
4. *mikone*
5. [*The number of blood cells, the number of blood cells increases*]
6. Nima: *sellol e manzoresh?*
7. [Does it mean cells?]
8. Iman: *cell ma'ni ye sellol ro mide. Dar khoone ma afzayesh peida*
9. *mikone. + so, banabar in ++banabar in khoon mitoone oksigen*
10. *e bishtari ro haml kone. Moghe yi ke khoon oksigen e bishtari ro*
11. *haml bekone, hm, khob behtare dige bara badan. And zamani*
12. *ham ke sellol hay e khooni afzayesh peida mikone, rahat tar*
13. *harekat*
14. [*Cell means cell. It increases in our blood. + So, thus ++thus*
15. *this blood can carry more oxygen. When blood is carrying more*
16. *oxygen, it's better for the body. And when blood cells increase,*
17. *it's easier]*
18. Nima: *(interrupts Iman) Khob bezar ye bar e dige man bekhoonam.*
19. *The number of blood cells increase, ya 'ani sellol haye*
20. *khoonitoon ziad mishe, are?*
21. [*(interrupts Iman) Let me read it again. The number of blood*
22. *cells increase, it means blood cells increase, right?]*
23. Iman: *sellol haye khooni manzoor hamoon golbool haye ghermeze.*
24. [Blood cells here means red blood cells.]
25. Nima: *Aha. So, the blood can carry*
26. Iman: *carry ya 'ani haml kardan.*
27. [*Carry means carry.*]
28. Nima: *Can carry even more oxygen.*

(Grade 12, Pair work, October 2013)

Iman is from the biology stream, and hence knows more on this topic. Iman's use of L1 serves as a cognitive scaffold by providing his peer the background knowledge he needs. This background knowledge then was activated when his peer, Nima, read the L2 text again. Nima himself asked to reread the passage. From this, it can be inferred that since he now had the schemata, which was provided in L1, comprehending the L2 text would be much easier. Nima's utterance of "[Let me read it again]" (lines 18-21) suggest that the scaffold provided by L1 was useful to him.



Excerpt 122 involves segments of interaction between two learners, Mani, and Salar. They were reading a passage about climate change and the greenhouse effect, where Salar’s hint in L1 helped Mani remember forgotten information. Salar not only used L1 to provide the meaning for ‘green house’, but also continued further by saying “*Asar e gol khaneyi bood parsal khoondim*” meaning [The green-house effect which we learned about last year]. In this way, he is trying to help Mani activate his own background knowledge, acquired in the previous year, and to pull from that schema in order to better understand the L2 text. Salar used L1 to serve this function for them. Mani’s utterance, “*Aha! Are, are, are*” [Oh, Yes, yes, yes] indicates that it was almost forgotten and Salar’s hint in L1 brought it back to him and made it possible to draw on it.

**Excerpt 122**

1. Mani: *Khob, green house. Khooneye sabz. Jangale manzooresha?*
2. [Ok, green house. House which is green, does it mean a jungle?]
3. Salar: *Na asar e gol khaneyi. Asar e gol khaneyi bood parsal*
4. *khoondim.*
5. [No, the greenhouse effect. The greenhouse effect which we
6. learned last year]
7. Mani: *Asar e gol khaneyi* (repeats L1 quietly and thinking) +*Aha!*
8. *Are, are, are.*
9. [The green house effect (repeats L1 quietly and thinking) +
10. Oh, Yes, yes, yes.

(Grade 12, Group work, December 2013)

***L1 as a tool to organize thinking and retain more information.*** Analysis showed that use of L1 in learners’ classroom interaction helped them organize their thinking and retain more information. It was observed in the data that some high proficient learners used L1 not just to understand the L2 text, but also as a memory aid and to help them to organize their thoughts. This enabled them to remember the content of the text later at the time of summarizing during whole class interactions, or when the teacher would ask them comprehension questions.

The excerpt below is an example of a more proficient learner utilizing L1 to talk about a task, and suggesting that the more important parts of the text should be highlighted.

### Excerpt 123

1. Foad: *Ghesmathaye mohem va kilidi ro khat bekeshim, oonha ro*
2. *roosh sohbat konim.*
3. [Let's highlight the important and key points, we'll discuss
4. those.]

(Grade 12, Group work, October 2013)

Excerpt 124 is another segment of interaction where the same learner, Foad, uses L1 to summarize the important parts of the L2 text. It can be seen that his summary included a clear organization process. Foad uses L1 largely to link the main points of his L2 speech. He attempts to summarize the text, and in order to clearly organize this summary, he uses L1 phrases as a bridge between the important L2 statements. His L1 acts as a link between his L2 utterances.

### Excerpt 124

1. Foad: *Aval mikhaym kholase begim, miyaym javabe soale matn ro*
2. *midim. Ke 'Why exercise is important'. Ba tavajoh be matn*
3. *inja gofte ke It is important because it keeps people's body and*
4. *mind healthy. Baad dalile dovom **without it we would not be***
5. ***feeling or looking very good.***
6. [If we want to summarize, at first, we should answer the
7. question from the lesson, that is 'Why exercise is important'.
8. In the paragraph it says It is important because it keeps people's
9. body and mind healthy. Then, the second reason is that **without**
10. **it, we would not be feeling or looking very good.**]
11. Mahdi: We would not be feeling or looking very good. (Repeats)
12. Foad: *Va sevomisham in ke **is good to be fit.***
13. [And the third is that **it's good to be fit.**]
14. Hadi: *Albate pishnahade man in e ke age jomalate ketab nabashe*
15. *kheili behtare.*
16. [Although I think that it's better if we not use the exact
17. sentences from the paragraph and paraphrase them.]

(Grade 12, Group work, October 2013)

Excerpt 125 is an example of another proficient learner participating in the group work, Hadi, utilizing L1, to list down the main points of a reading text. He has organized the text's main points and themes of each paragraph, and is relaying them to his peers.

### Excerpt 125

1. Hadi: *Chartasham fahmidam chi begim. **Paragraphe** aval darmorede*
2. *tosife arzeshhaye varzeshe.*
3. [I know what to say for all four. The first **paragraph** is about the
4. benefits of exercise.]
5. Mahdi: **Paragraphe** *aval ro fekr konam hame fahmidan. Asoon bood.*
6. [I think everyone understood the first **paragraph**. It was easy.]
7. Hadi: *Dar morede arzeshaye varzeshe ke cheghad*
8. [It's about how beneficial exercise is.]
9. Mahdi: *Mofide o ina*
10. [It's good and all]
11. Hadi: *tosife ghalb be onvane ye mahiche*
12. [Describing the heart as a muscle]
13. Mahdi: *tosife chi?*
14. [Describing what?]
15. Hadi: *ghalb be onvan e ye mahiche.*
16. [The heart as a muscle.]
17. Hadi: *Dar morede aerobic ye tozhayi dade.*
18. [It says some stuff about aerobics.]
19. Mahdi: **Paragraph e do**
20. [**Paragraph 2**]
21. Hadi: *Are **Paragraph e se** =*
22. [Yeah, **paragraph 3**]
23. Foad: *= **Paragraph e se***
24. [**Paragraph 3**]

(Grade 12, Group work, October 2013)

In the examples given, it was evident that learners utilized L1 to talk about tasks, highlight and summarize the main points of a text, and organize their thinking process, so that, later, they would be able to answer the teacher's questions. However, these uses of L1 were not observed in the low proficient learners' data, and were more beneficial for advanced or intermediate learners. What is meant by this is that, low proficient learners could not convert the L1 ideas into acceptable L2 sentences, even if they were able to put the L1 ideas together. During Reading task, the high proficient

L2 learners translated the L2 information to L1, and used L1 to classify the ideas and organize the thoughts of both themselves and the low proficient learners. Then, the higher proficient learners were able to put all the L1 information together and convert them into L2. This step; however, was absent in the low proficient learners' data. Despite them being able to comprehend the text and put together the L1 information, they were unable to come up with the accurate L2 equivalents in the end, hence, making the use of L1 as an organization tool less efficient for them. Nima's utterance during whole class interaction with the teacher, "*Farsish ro midunam ha* [ I know the Persian]" is evidence that he has understood the L2 information and can recall it. However, when it comes to answering the teacher's questions, he doesn't have sufficient L2 proficiency. In a similar case displayed in Excerpt 129, Mahdi's utterance "[I got it. I don't know how to say it in English.]" is further evidence that the less proficient learners could not take advantage of this efficiently.

An interesting finding which shows how L1 scaffolds learners' L2 production is displayed in Excerpt 126. This is a segment of pair work interaction where the learners are trying to summarize a part of the reading text. It can be seen that Taha, a more proficient learner, incorporates L1 into L2 and gradually comes up with an L2 sentence. From the interaction, we can see that Taha slowly starts by using both L1 and L2 to organize his thinking and put sentences together in his speech. Once he is clear on what he wants to say and how, he converts all of it in L2. This showed a gradual move from incorporating both L1 and L2, to just using L2 only.

#### **Excerpt 126**

1. Taha: *pas earthquake che joori etefagh miofte?* **Plates stick together,**
2. *be ham michasban and create pressure, ta chi mishe?* **Until it**
3. **breaks. Pas how earthquakes happen? Plates stick together**
4. **and create pressure until it breaks.**
5. [So how does an **earthquake** happen? **Plates stick together,**
6. they stick together **and create pressure,** to make what happen?

7. **Until it breaks. So how earthquakes happen? Plates stick**
8. **together and create pressure until it breaks.**
9. Mani: This is earthquake.

(Grade 12, Pair work, December 2013)

The use of L1 for a purpose such as the one in the above excerpt was not observed at the low proficiency learners' data and was relatively rare in the intermediate learners' data. However, it was seen more frequently in advanced learners' data. This indicates high proficient learners' ability to retain more L2 information in their memory. However, they still needed to utilize L1 as a bridge between their L2 sentences and phrases. Recounting the main ideas and information of an L2 text in L1 played an important role in helping the learners store information in their memory, and provided them with a cognitive scaffold. Information and main ideas of the L2 text which is stored in L1 served as a cognitive scaffold and assisted them to produce the L2 sentences.

Analysis revealed that it was quite challenging to summarize the text in L2. There were very few instances in the data from both grade levels and in the data from all groups of proficiency levels, where the learners did a summary using L2 exclusively. They either did the summary in L1 first, and then converted into L2, or they utilized L1 while using L2, in order to organize and highlight their information. It was seen frequently in the more proficient learners' speech that they utilized L1 and summarized the L2 text. This was indicative of more proficient Grade 12 learners' ability to recognize the main points in a paragraph and to recount information and classify them. This suggests that less proficient learners did not possess the necessary L2 knowledge to do this alone by themselves. Less proficient ones, on their own, could not decide what part of a sentence or even a paragraph was important. Use of L1 in the group speech in this way helped the less proficient ones to realize which piece of information in the text was more important and required more attention.

For both high and low proficiency learners, it was not easy to hold new information in their working memory in L2. And frequently they used L1 to support their memory function. This indicates that they had more capacity for processing information if it was in L1. Working memory is limited in capacity. It can be concluded that L1 not only allowed the learners to comprehend the text better, but it also served them to better recall it later.

Excerpt 127, taken from Mani's interview data, supports the finding that utilizing L1 while reading assists learners in retaining information better, and in remembering things long term.

### **Excerpt 127**

*ba'zi moghe ha ham mifahmam, ha. vali age zood rad sham o tarjomash ro nagam, tahesh ke miresam avalesh yadam rafte (laughs) yani masalan momkene matn esh kheili sakht ham nabashe, kalame hash o balad basham, khob mikhoonam, vali age haminjoori rad sham azash, kheili yadam nemimoone.*

[Sometimes I do understand it but if I read it fast without translating it, I'll forget the beginning by the time I'm done. (laughs) I mean, for example, the text might not be hard, I will know all the words, I read it well but if I just go on without translating, I won't remember much.]

(Interview with Mani- November 2013)

It was evident in data that learners frequently utilized L1 as a tool for their thinking process. They used L1 utterances such as “*Migeeee* (drawn out) [It says]”, “*masalaaan* (drawn out) [for example]”, “*misheeee* (drawn out) [It means]” in their speech to buy time to think. Such intramental uses of L1 indicates a thinking process in which learners focus their attention and organize their thinking to plan for an answer. For example, as displayed in Excerpt 128, Nima, a low proficient learner, produced the L1 utterance “*be khater e in ke*” [because] at the beginning of his L2 utterance to answer the teacher's question. The L1 utterance was not considered as

social because it was not part of his answer and thus was not directed at the teacher. However, he used it as an scaffold to regulate his thinking which proved to be effective and assisted him to be more focused and to come up with the answer. This would allow him to have more time for thinking and searching his memory. Another reason that indicates the L1 utterance “*be khater e in ke*” functioned intramentally is his short pause which was followed with another L1 utterance “*Aha!* [Ohh!]”, before he actually begin his social speech with the teacher, i.e. the answer to the teacher’s question.

### **Excerpt 128**

1. Teacher: Nima, Why is exercise important?
2. Nima: *be khater e in ke*, + *Aha!*, because it keeps your body and mind
3. healthy.
4. [This is because, + Ohh!, because it keeps your body and mind
5. healthy.]
6. Teacher: OK, repeat it please.
7. Nima: Because it keeps people’s body and mind healthy.

(Grade 12, Whole class, October 2013)

Excerpt 129 ,which is a segment of group interaction during a reading task, further illustrates learner’s intermental and intramental uses of L1 which functioned as a tool to organize learner’s thinking and assist him to retain information. It is explicitly clear that Mahdi, the less proficient learner in the group used L1 as a tool to serve these functions for him. Mahdi, was asked to summarize a paragraph and answer: ‘Why is it important to exercise when you are still young?’ after reading a paragraph. His L1 utterances (lines 1&5) shows that he had the idea for the answer, but he was not able to produce the L2 sentence. His utterance “[I got it]” indicates he did not need his more proficient learners’ L1 translations. Foad, a proficient peer, offered help and suggested him to give an answer in L1 then they would assist him to come up with the L2. Through utilizing L1, Mahdi attempts to monitor his comprehension of the L2 text, organize the given information in his mind, and to be able to construct L2

sentences. Mahdi's utterance leaves no doubt that he is using his L1 for these purposes.

And to him, L1 can provide the required assistance.

### Excerpt 129

1. Mahdi: *Fahmidam chi mige*
2. [I got it.]
3. Hadi: *Khoobe. Kheili khoobe.*
4. [Good. Very good]
5. Mahdi: *Nemidoonam chejoori begam*
6. [I don't know how to say it in English]
7. Foad: *Farsisho begoo ma behet migim*
8. [You say it in Persian, we'll tell you how to say it (in English).]
9. Mahdi: *Mige ke, mige keeee*
10. [It says that, it saaaays]
11. Foad: *Na khob. Farsiye oon soal ro javabesho ke baladi.*
12. [No, the Persian for the question, you know the answer]
13. Mahdi: *khob bezar bebinam dorost fahmidam. Mige ke chera vaghti*
14. *ke ma pir mishim nemitoonim, badanemoon kheili narm nemishe,*
15. *nemitoonim ziad keshesh bedim.*
16. [OK, let me see if I got it right or not, it says that why when we get
17. old , we can't, our bodies aren't very flexible, we can't stretch it]

(Grade 12, Group work, October 2013)

Mahdi's utterance "*khob bezar bebinam dorost fahmidam*" (line13-17) indicates that he required the L1 context to make more sense of the L2 text and monitor his own understanding of it. Available context provided by L2 was not sufficient for a low proficiency learner like Mahdi. It can be inferred that L1 makes it easier for him to process the L2 information and verify the correctness of his comprehension of the L2 text. While Mahdi, was monitoring his comprehension and organizing his thinking using L1, the other two learners in the group, Hadi and Foad, listened and allowed him to continue and express his understanding of the text. Utilizing L1, Mahdi confirmed how accurate his comprehension of the segment of the L2 text was. Kern (1994, p. 455) argues that "L1 facilitates the synthesis of meaning by increasing the functional capacity of working memory". In instances such as this, learners usually move from L1 to L2 gradually. They use L1 to construct a bridge to L2, or to construct the overall idea, which enables them to come up with the required content in L2.



***L1 substitution in L2 as a tool to maintain fluency of speech or enhance comprehension.*** Analysis revealed that during the peer interaction, when learners faced meaning difficulties, one way to overcome the problem was replacing L1 words in L2 phrases or L2 sentences. This was more frequently observed in less proficient learners' data but was not confined to them. In some instances, learners used L1 intermentally and replaced the L1 equivalents so as not to disrupt the continuity of their interaction with the teacher or peers. In other instances, they used L1 words intramentally in order to better comprehend the L2 text. The following excerpts demonstrate how the learners used L1 as a substitution for an L2 word.

Excerpt 130 is an example for L1 substitution which enhances a learner's comprehension of L2 text. Mahdi, a low proficient learner, substituted the L1 equivalent for the L2 word 'actually', provided to him by the more proficient peer earlier to this excerpt. From the translation provided by Hadi prior to this excerpt, Mahdi was introduced to the meaning of 'actually'. In lines 1 and 2, he confirms its meaning '*dar vaghe*' and after being sure about it, he substitutes this L1 equivalent in the L2 sentence and rereads the sentence (line 5). Following this he produced the L1 utterance "*Fahmidam man in yeki ro, kamelan fahmidam* [I understand this one, I completely understand.]" which is a strong indication that the use of L1 was beneficial and that he understood the L2 text independently, and required no more help at this point.

### **Excerpt 130**

1. Mahdi: **Actually** *yani chi? Dar vaghe?*
2. [What does '**actually**' mean? Actually?]
3. Hadi: *Dar vaghe.*
4. [Actually.]
5. Mahdi: *Dar vaghe* (substitutes L1 in L2) there are so many reasons
6. why exercise is good. *Fahmidam man in yeki ro, kamelan*
7. *fahmidam.*
8. [Actually (substitutes L1 in L2) there are so many reasons why

9. exercise is good. I understand, I completely understand this one]  
(Grade 12, Group work, October 2013)

What Mahdi did is an indication of how he must have been paying close attention to the reading text and navigating his thinking process using L1. He made a connection between two separate sentences by replacing the L1 word for ‘actually’ between them. The complete text he was trying to make sense of was as follows: ‘Without it (exercise) we would not be feeling or looking very good. Actually, there are so many reasons why exercise is good for you’. Mahdi, in trying to make sense of this part of the text, used L1 instead of the L2 word ‘actually’, in order to connect the two L2 sentences together in a way where he could understand them.

Excerpt 131 is an interaction that happened during reading a text about earthquakes. It was talking about things to do during an earthquake. More specifically, it was discussing driving away from underpasses and overpasses during an earthquake, in order to stay safe.

### Excerpt 131

1. Matin: Overpasses? Underpasses?
2. Arash: **overpasses, underpasses**, *kenare haye khiaboon fekr Konam.*
3. *Khanom overpasses, underpasses kenare khiaboone?*
4. [**overpasses, underpasses**, I think they’re the sidewalk
5. Miss, **overpasses, underpasses**, is it the sidewalk?]
6. Teacher: overpass, *az over bayad motevajeh beshid.*
7. [Overpass, you should be able to guess from the word “over”.]
8. Arash: *Aha.*
9. [Right.]
10. Teacher: Underpass?
11. Arash: *ya’ni zir gozar o roo gozar.*
12. [it means underpass and overpass]
13. Teacher: *Afarin.*
14. [Well done.]
15. Arash: Drive away from *zir gozar o roo gozar.*
16. [Drive away from underpass and overpass.]

(Grade 12, Pair work, December 2013)

In Excerpt 131, Arash, was able to guess the meaning of ‘overpasses’ and ‘underpasses’ with the help of the teacher’s hint, which was in L1. The hint provided by the teacher might have triggered Arash’s imagination which in turn enabled him to make a correct guess. Finally, he reread the L2 sentence and substituted the L1 equivalents of the two words in the original L2 sentence.

Excerpts 132 and 133 demonstrate instances of learners’ intermental use of L1 in the form of substitution in L2 in order that they can maintain the continuity of their interaction with the teacher or peers. In some instances , learners did not have the required L2 vocabulary knowledge to maintain their interactions in L2. One strategic use of L1 which lead to continuity of the interactions was to substitute the unknown word with its L1 equivalent. In this way, learners tried to participate in classroom interactions and continue using L2.

Excerpt 132 is taken from whole class interactions and involves the teacher and a low proficient learner. During the discussion before the reading task about ‘Earthquakes and How to Survive Them’, the teacher asked the learners about their personal experiences with earthquakes, and asked if they have suggestions on what should be done before, during, or after an earthquake.

### **Excerpt 132**

1. Teacher: What can we do before an earthquake to stay safe and survive
2. it?
3. Mahdi: **building** *e zed e zelzele*
4. [earthquake resistant **building**]
5. Teacher: You mean the engineers who design and construct the buildings
6. must follow certain standards to make buildings strong enough
7. in case an earthquake happens. What else?
8. Mahdi: We know, hmm, how to use, hmm, **box** *e komak hay e avalieh*
9. (peers laugh)
10. [We know, hmm, how to use, hmm, **the** first aid **box**
11. (peers laugh)]
12. Teacher: First aid kit. Yes. There are some procedures that we should
13. follow. We need to know how to use a first aid kit.

(Grade 12, Whole class, December 2013)

Mahdi, a low proficient learner who lacked sufficient L2 vocabulary knowledge to express his ideas fully in L2, utilized L1 and replaced the L2 in order to continue his interaction with the teacher and participate actively in the classroom.

In another excerpt of interaction, a more proficient learner, while engaged in group work, replaced an L2 word, which was not in his vocabulary, with an L1 word. However, the high proficiency learner displayed a different approach to use of L1 for solving his lexical problems. This instance occurred when learners were doing a discussion on ‘Global Warming’ before the reading text for a lesson on the same topic. They were talking about some of the bad things that have happened to the Earth. Arash, who did not know the L2 word ‘layer’, used the L1 equivalent ‘*laye*’ instead in order to continue their interaction without disrupting it. Following this, his peer Hadi suggested the L2 equivalent “layer”, which Arash picked up and confirmed, and finally used in his speech.

### **Excerpt 133**

1. Arash: What we have done to the earth? the Ozone *laye*
2. [What we have done to the Earth? The Ozone Layer]
3. Hadi: layer
4. Arash: layer? Ok, the Ozone layer

(Grade 12, Group work, December 2013)

Analysis revealed an interesting finding after comparing the way Arash (Excerpt 133) and Mahdi (Excerpt 132) substituted L1 in their L2 answers. Although at first look it seemed they had similar approach in utilizing L1, Arash, the more proficient learner, kept the L2 structure in the substitution “the Ozone *laye*”, while the less proficient learner’s utterance resembles the L1 structure when he produced “building *e zed e zelzele*” and “box *e komak hay e avalieh*”.

Analysis showed another use of L1 for substitution by learners, in which learners replaced L2 words with L1 words in an attempt to guess the meaning of an

unknown L2 word. This use of L1 was observed in learners' data regardless of their proficiency level. Excerpt 134 exemplifies a low proficient learner's using L1 in an L2 sentence. Mahdi, while reading a text about the importance of exercise, encounters two unknown words: 'lift' and 'weights'. The more proficient partner, too, did not know the meaning of these words. Help provided by Hadi was not enough, since he did not know what 'lift' meant in this context, and the L1 equivalent for 'weight' which he knew was not the intended meaning in this context- weight lifting.

### Excerpt 134

1. Mahdi: *in chie?*
2. [What's this?]
3. Hadi: **Weight** *yani vazn.*
4. [**Weight** means mass.]
5. Mahdi: Weight? (Confirms pronunciation)
6. Hadi: *Vazn* , weight.
7. [Weight. Weight.]
8. Mahdi: *Vazn* (repeats)
9. [Weight.] (repeats)
10. Mahdi: Lift. **Lift** *vazn.* Cannot lift *vazn.* +++
11. [Lift. **Lift** weight. Cannot lift weight.] +++
12. Mahdi: *Khanoom lift weight yani chi?*
13. [Miss, what does **lift weight** mean?]

(Grade 12, Group work, October 2013)

The following excerpt exemplifies a high proficient learner's use of L1 in substituting an L2 word. The high proficiency learner displayed a similar approach to use of L1 for solving his lexical problems and substituted an L1 word instead of the unknown L2 word. The substitution is slightly different from previous example, as Iman replaced the unknown word 'lift' with L1 word '*ye chizi*' meaning [something] (line 14).

### Excerpt 135

1. Nima: *akharesh chi mige? ++ nemitoonid vaznetoon ro kam konid*
2. [what does it say at the end? ++does that mean you can't lose weight?]
3. [what does it say at the end? ++does that mean you can't lose weight?]
4. Iman: The heart is a muscle ... it cannot lift weights to get stronger.
5. Nima: *age nemitoonid vaznetoon o kam konid, khob,* (not finished)

6. [If you can't lose weight, Ok] (not finished)
7. Iman: lift weights to get stronger, lift weight *mishe ezafe kardan e*
8. *vazn?*
9. [lift weights to get stronger, does it mean to put on weight?]
10. Nima: *yani az dast dadanesh?+++ be ma'ni ye vaznetoon ro kam*
11. *konid dige, are?*
12. [Does it mean losing weight?+++ means to lose weight,
13. right?]
14. Iman: *ye chizi vazn*
15. [something weight]
16. Teacher: one meaning for 'lift' is elevator =
17. Iman: =yes, I know.
18. Teacher: but here, it is a verb. Lifting weights means=
19. Nima: *bala bordan e vazn?*
20. [Increasing in weight?]
21. Teacher: *VAZNE.*
22. [weights]
23. Iman: *Ahaa, vazne bardari.*
24. [Ohhhh, weight lifting]
25. Nima: *Aha.* (continues reading)
26. [Ohh. (continues reading)]

(Grade 12, Pair work, October 2013)

In excerpts 134 and 135 we see that substitution itself was not beneficial for Mahdi and Iman to understand the meaning of L2 word 'lift'. From another segment of interaction, which occurred earlier on and is not reported in the above excerpt, it was evident that Iman knew the other meaning for the word 'lift'. He was aware that 'lift' meaning 'elevator' was a noun and had nothing to do with the sentence. Previously, Iman used L1 in his metatalk and explained all these to his partner, Nima. A possible reason why L1 substitution was not useful is that 'lift' was not the only problematic word for the learners. Both Mahdi and Iman did not know the meaning of weights in this context. Hence, the L1 equivalent they substituted was not helpful in providing the context required for making a correct guess or even a close one. However, in Iman's interaction, once the teacher provides the accurate equivalent for 'weights' in the context (line 21), Iman very quickly guesses the meaning for 'lift' and translates correctly.

**L1 as a tool for better and faster performance.** One notable finding in the study was that learners used L1 to cope with time issues. Because of their faster speed of processing L1 compared to their processing of L2, some learners utilized L1 and made notes and annotations in the margins of their textbooks of points that struck them as important or questionable. These notes and annotations were in L1. Some learners made notes on the pronunciation of a word, while others made notes on points the teacher had emphasized as important for their exam. Some others made notes on grammar. These L1 notes were made by both high-proficiency learners as well as low-proficiency learners. Image 4.2 shows a learner's use of L1 to jot down pronunciation of certain L2 words.

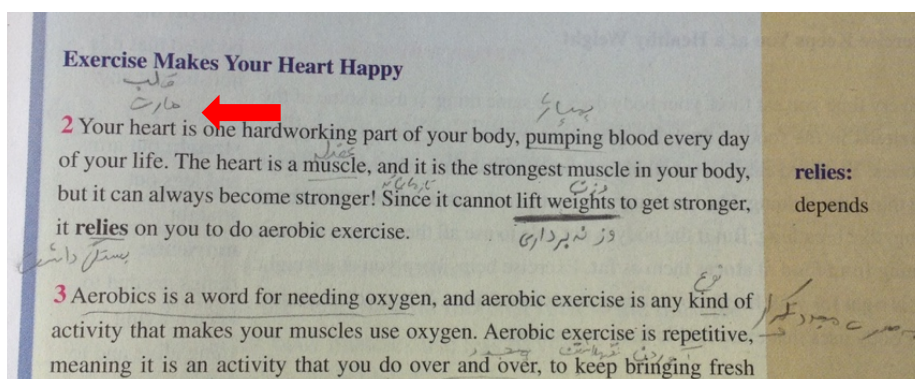


Figure 4.2 Grade 12 learner's use of L1 as pronunciation guide

Follow up interview with the learners showed that they received benefits from making these annotations and notes in L1. Learners were asked for further comments on their choice. During follow up interviews, when asked why they made the notes in L1, they answered with “*Farsi ro saritar mikhoonam* [I read Persian faster]”, “*tavajoham bishtar jalb mishe* [It makes me notice it]”, “*ba ye negah motevajeh misham matlab chie* [I’ll understand it with just a look]”, and “*ham saritar minevisam va ham saritar mikhoonam ba’dan* [I can take notes faster and read over them faster.]”.

Analysis of the interview data provided evidence that learners' notes in L1 were beneficial to them. According to the learners themselves, using L1 to make notes increased the chances of them retaining and recalling information at later times. This could be because as a lot of their thought processes were in L1, their minds actively got involved with the information. They also stated that using L1 made it much easier and faster to write. Hence, writing in L1 helped them cope with time issues, and the speed of their processing was higher in L1.

Looking at the annotations, it was seen that most of the notes were on points which struck them as being significant.

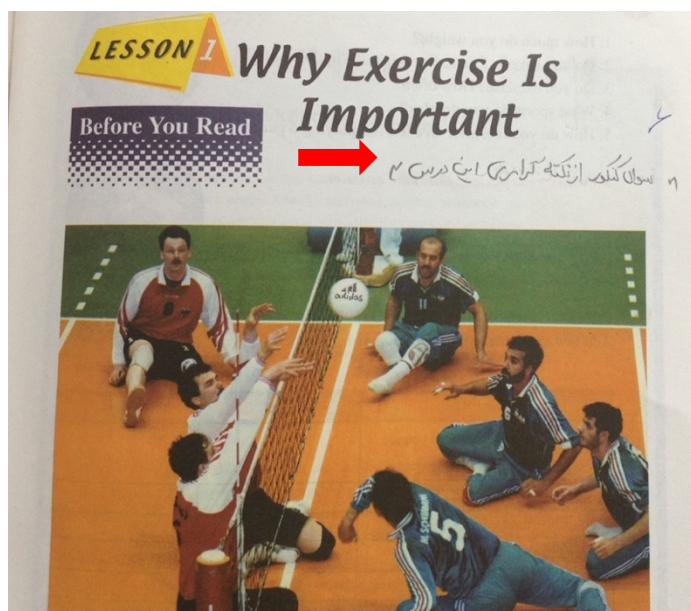


Figure 4.3 Grade 12 learner's use of L1 to jot down important notes

Learners had also written down definitions or equivalents of more difficult L2 words. Overall, it can be said that using L1 made it easier for them to study and review the notes after class.



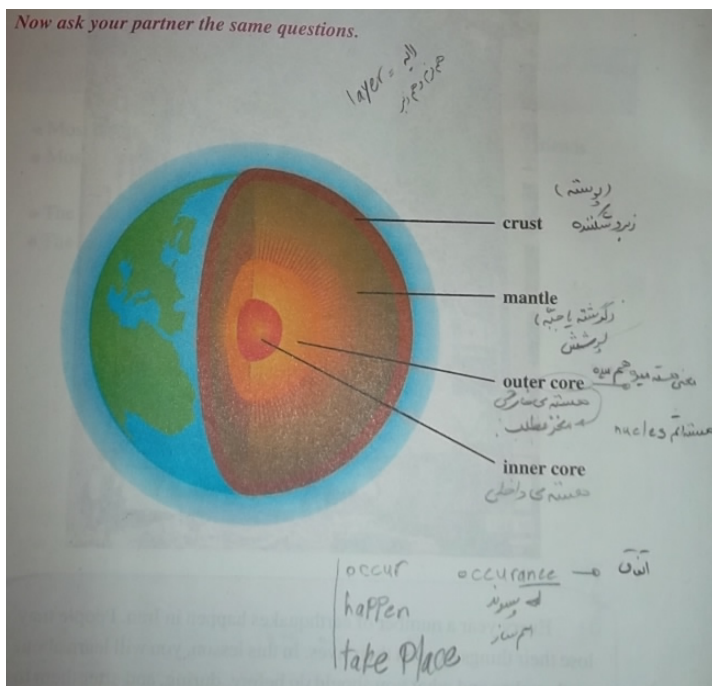


Figure 4.4 Grade 12 learner's use of L1 to write equivalents for L2 words

**Summary of findings for Research Question 4.** To sum up , Research Question 4 examined the learners' use of L1 as a mediating tool in classroom interactions qualitatively to find out how learners utilized their L1 in reading L2. Analysis revealed that L1 played an important role in the process of learning L2 for both Grade 9 and Grade 12 learners. In some instances L1 use was beneficial while in some other instances it was observed that utilizing L1 was not productive. At some points learners were regulated by the text, the mono-lingual dictionary definition, or the glossary at the side of the text and attempted to use L1 to overcome their linguistic problems. There were many instances that a learner recognized a linguistic problem and could not resolve it by himself. However, he was able to respond to the assistant provided in L1 by the teacher or his peers and thus overcome the problem. Analysis showed that at some points when learners identified a linguistic problem, they utilized L1 and successfully finished the task. In other words, they utilized L1 in the process

of L2 reading while being object, other, or self-mediated. Use of L1 in many instances helped the learners to concentrate on the problematic part of the L2 text. It was evident that this enabled them to add to their comprehension of the text.

Analysis revealed some similarities as well as differences among the learners of different proficiency levels in terms of their use of L1 in L2 reading. Some functions for use of L1 seemed to be general and were observed in data from the three levels, whereas some did not appear in certain level.

## **Chapter 5 Summary of Findings, Discussion and Implications**

### **Introduction**

This study attempted to achieve an understanding of L1 use by the Iranian high school EFL learners when engaged in different tasks during the real time of classroom. This final chapter presents the summary and discussion of the key findings of the study. First, the summary of findings for each research question is presented. Then discussions and the pedagogical and theoretical implications of the findings are discussed, followed by suggestions for future research.

### **Summary of the Findings for Research Question 1**

Since understanding what happens in L2 classrooms and how classroom interaction works is fundamental in L2 learning, this study investigated the phenomenon of use of L1 in naturally occurring L2 classroom. Sociocultural theory of L2 (Lantolf, 2000) is applied as the framework for the study. Four research questions are addressed in the study.

The first research question of the study investigated the extent of L1 use in learners' speech during naturally occurring classroom interactions. Five-second sampling (see Chapter 3) was employed as a methodological instrument to determine the percentages of learners' use of L1/TL. Data from one semester of both Grade 9 and Grade 12 learners was used to answer the question. The answer provided an overview of the relative importance of L1 and also the extent the learners relied on their L1. Percentages of L1/TL used across the lessons during one semester were calculated and analyzed. L1/TL use for each individual learner was also calculated. This quantitative analysis provided a partial understanding of what was going on in the classroom with regard to use of L1 in L2 reading.

For Grade 9, learners' use of L1 in their interactions varied with that of other learners', and it ranged from exclusive use of English to using L1 most of the time. On average, the use of L1 by these learners throughout the whole semester made up 25.81% of all interaction (see Table 4.1). It was also found that the quantity of assistance provided through L1 decreased at the end of the semester compared to the beginning of the semester.

For Grade 12 learners, it was found that with the exception of one learner, all learners used their L1 in some way and in some part of the lessons in their speech. On average, the use of L1 by these learners throughout the whole semester made up 41.64% of all interaction (see Table 4.3). It was also seen that, contrary to Grade 9 learners, with Grade 12 learners, the quantity of assistance provided through L1 increased at the end of the semester compared to the beginning of the semester.

Overall, it is evident that all learners, regardless of their grade level, used L1 in order to accomplish tasks. However, the extent of their L1 use varied from one learner to another. The findings of this research question were utilized and drawn upon to answer Research Question 3.

### **Summary of the Findings for Research Question 2**

The second research question of the study investigated the functions served by learners' use of L1 in their classroom interactions. SCT-L2 guided the analysis of findings for the functions of L1 in two ways; firstly, by maintaining that learners' speech has the ability to function as a "mediational artifact to control thinking" and secondly, by holding that learners' speech "may also be outwardly directed toward other individuals and may regulate in some way those who are the object of speaking" (Lantolf & Thorne, 2006, p.60). The question of the status and function of speech is central to sociocultural theory (DiCamilla & Antón, 2004). Consistent with the

findings of previous studies (Antón & DiCamilla, 1999; Leeming, 2011; Storch & Aldosari, 2010), learners' L1 was found to be an important psychological tool which served a social function in mediating their social interaction and also played a self-regulatory function in mediating learners' mental activity.

Learners used L1 for a wide range of purposes. Inspired by the theoretical framework of the study, learners' L1 utterances were categorized into two broad categories of macrofunctions: as intermental social tool in speech directed to other learners or to the teacher, and as an intramental tool in their private speech directed to self. Intermental use of L1 accounted for a very high percentage of all instances of use of L1. Analysis of data from both grade levels revealed that learners used L1 intermentally in metatalk about language, metatalk about task, and in their interpersonal relations. Intramental use of L1 comprised a small proportion of the data; it accounted for only 5.14% of L1 use by Grade 12 learners, and 1.33% of L1 use by Grade 9 learners (see Table 4.5).

The macrofunction of intermental use of L1 in metatalk about language made up the highest percentage of L1 use for both grade levels. And among the microfunctions categorized under this macrofunction, for the Grade 12 learners, L1 was most frequently used for translation (26.76%), followed by requesting assistance (23.18%), whereas, for Grade 9 learners, the most frequent use of L1 was for requesting assistance (26.80%), followed by providing assistance (22.69%) (see Table 4.6). The macrofunction of intermental use of L1 in metatalk about task was the second most frequent macrofunction for which Grade 9 learners used L1 (29.23%), while for Grade 12 learners, this macrofunction was the third most frequent category (15.32%), coming after intermental use of L1 in interpersonal relations (16.58%) (see Table 4.5).

Literature from think aloud studies (Kern, 1994; Seng & Hashim, 2006; Upton, 1997; Upton & Lee-Thompson, 2002) which investigated reading concluded that L2 learners rely on their L1 when processing L2. Findings of this study confirmed those of previous studies in reading. This study clearly showed that learners access their L1 intramentally to serve them different functions in an attempt to solve comprehension problems. Although, this study did not employ think aloud to collect the data, it found learners' frequent use of L2/L1 translation assisted them in making more sense of L2 texts. According to learners' comments, this helped them be more focused, avoid distraction and assisted them to better relate different segments of the text together. They were object-regulated by L1 translations. During social interaction we also mediate our own thinking. Hence, it can be said that learners' use of L1 as translation mediated their own thinking process as well as that of their peers'. The findings for this question, too, were utilized to answer the third research question.

### **Summary of the Findings for Research Question 3**

Research Question 3 investigated the learners' use of L1 as a mediating tool in classroom interactions, with a focus on different tasks. Both quantitative and qualitative analysis were performed. Quantitative analysis addressed both the proportion of L1 use and the functions of L1 use in different tasks. Findings from Research Questions 1 and 2 were drawn upon for this part of the analysis.

From the first research question, data analysis from five-second sampling (see Chapter 3) was utilized in order to report on the proportion of learners' use of L1 across different tasks. From the second research question, data from the quantitative analysis of the functions of use of L1 by the learners was used to find out whether L1 served learners different functions in doing different tasks of their textbook. In other words, for the quantitative part, the analysis used to answer Research Questions 1 and 2 were

pulled together with a focus on different tasks, in order to answer the third research question of the study, and to determine if L1 use varied in different tasks.

From the quantitative analysis, it was revealed that the highest proportion of L1 use for Grade 9 learners was during the New Words task (30.11%), while for Grade 12 learners it was during the Reading task (43.37%) (see Tables 4.8 and 4.9 respectively).

Following this, qualitative analysis of the learners' use of L1 across tasks was carried out. For this part of the analysis, interaction data gathered during the real time classroom was used. This qualitative analysis of data revealed how learners used their L1 while performing different tasks. Based on SCT-L2, which provided the framework for the study, learners' speech, either in L1 or in L2, impacts L2 learning. L1 utterances made by learners were closely analyzed for their content, such as what was said, who it was said by, what purpose specific utterances were used for, and what was gained by using a specific utterance at a particular time. Investigating learners' use of L1 during their language learning experience with respect to the role of L1 as a mediating tool helped in finding out how L1 was used by learners while interacting when engaged in different tasks.

Grade 9 learners were more engaged with New Words compared to other tasks, and it was seen that L1 use played a role in bringing about engagement with the task. Analysis revealed that for some learners, the assistance in L1 benefitted the learners not only in the new words task itself, but it also helped them transfer the mediated performance to the next task, i.e. Presentation task (see Excerpts 67 and 68).

When the Grade 9 data was analyzed qualitatively for the functions of L1 in different tasks, it was found that learners' use of L1 was different in a number of ways. It was seen that although the use of L1 for a certain function was present in all tasks,

the nature of learners' use of L1 was not the same. For example, in the New Words task, L1 was used in a more positive way while arguing a point, when compared with other tasks. In New Words, use of L1 provided more learning opportunity than it did in other tasks. Moreover, analysis also revealed that the way learners offered mediation through L1 and responded to the mediation was not the same in all tasks.

Grade 12 data revealed that learners' involvement in the task was very high during Reading task. Throughout the lessons, learners were more vocal and also used more L1 while doing the task. Analysis of data for the macrofunction of intramental use of L1 in different tasks revealed some noticeable differences. There was no instance of intramental use of L1 during True/False task. It was also found that Reading task engendered more L1 mediation for private speech than the other tasks.

When the instances of Grade 12 learners' intramental use of L1 were coded for its content, analysis showed that the L1 utterances were used in repetitions, affective markers, self-directed explanations, pause fillers, self-directed questions, self-addressed negation, and self-addressed directive. Learners produced more varied L1 intramental utterances in terms of content during the Reading task compared to other tasks (see Table 4.12). Among these, the most frequent use of L1 was for repetition. This finding is in line with Anani Sarab and Gordani's (2014) study where found repetition frequently used as private speech by Iranian learners. Affective utterances (e.g., self-encouraging comments, motivational utterances) were the second most frequent ones. Learners used L1 in their utterances as pause fillers and self-directed questions which functioned as a search process for them. These utterances were further coded for their effectiveness. Analysis revealed that the number of instances of effective searches, i.e. accompanied by a right answer, were much more than the



ineffective ones. Utilizing L1 in such utterances assisted them to direct their thinking towards a specific objective and enabled them to retrieve information from memory.

When data was examined for the regulatory functions of private speech, it was found that the functions served by L1 during reading were more variable.

Intramental use of L1 happened less frequently in Grade 9 learners data, as opposed to in Grade 12 learners' data. A reason for this could be that the reading texts in the Grade 9 textbook were relatively easy for the proficiency level of many students in the class. When faced with difficult tasks, learners often lose control over the mediating means provided by their second language, and hence rely on their L1. The Grade 12 learners' textbook included more difficult reading passages and vocabulary, which were challenging to all learners and thus, may have required more cognitive effort and thinking.

#### **Summary of the Findings for Research Question 4**

Research Question 4 investigated the learners' use of L1 as a mediating tool in classroom interactions qualitatively to find out how they utilized their L1 in reading L2 and why it was more beneficial for some learners compared to others.

Analysis revealed that Grade 9 learners used their L1 as a tool to assist them in different ways in the process of L2 reading. They utilized it, for example, as a tool to provide a scaffold to peers, create a comfortable social context, for metatalk, to aid the function of their memory, and to self-monitor their comprehension of L2.

One notable finding of the study from the analysis of Grade 9 interaction data and supported by the follow up interview data was that for the less proficient learners, L1 created a positive context for learning of L2. Obtaining and providing assistance during reading lessons was enhanced through the use of L1. It was found that some low proficient learners felt more secure when they put their ideas first in L1 and then

tried to come up with its L2. This use of L1 was beneficial and helped them produce L2 sentences. However, in many of instances, their L2 utterances were not accurate and the low proficient learners required further assistance from other proficient learner's or from the teacher. For example, it was found that L1 enhanced a good social relationship and a relaxed working atmosphere for Hamid, a low proficient learner, and enabled him to produce L2 (e.g., Excerpt 80 and 81). Moreover, the less proficient learner's use of L1, in some instances, was indication that he needed help and also provided the context for the more proficient learner to realize the type and amount of required assistance. It was seen that Hamid, after the scaffold provided by the more proficient other through L1, cognitively attempted to gain control through private rehearsal before participating in another social setting, i.e. during the teacher fronted and presentation task.

It was also found that in groups whose interactions occurred mostly in L2, one of the learners was dominant and produced much more speech compared to peers. On the contrary, in groups in which more L1 was incorporated peers valued each other's participation.

Another finding is an indicative of the reason why Grade 9 learners sometimes used L1. The unsuccessful L2 mediation resulted in learners' use of L1, and it was found that learners relied on their L1 to solve a problem. For examples, unsuccessful L2 mediation when looking up a word in a monolingual English dictionary (e.g., Excerpt 89), or during metatalk speech in L2 (e.g., Excerpt 90). After unsuccessful L2 use, learners tended to use L1, as this proved more efficient and saved time as well.

It should also be noted that in certain instances of the data, as revealed from the analysis, L1 use was not necessarily beneficial always.

The Grade 12 learners data showed that these learners, too, utilized their L1 as a tool for comprehending L2 text; to process the teacher's L2 speech; for explicit instruction; to link old and new information in their mind; to create or activate peers' schemata; to organize thinking and retain more information; to maintain the fluency of speech; and as a tool for faster performance.

Learners bring their own knowledge of the world, acquired through L1, to reading L2 texts. In many instances, this use of L1 was helpful to them. It provided them with the required context for the comprehension of L2 texts. A less proficient learner requires more L1 cognitive resources in order to grasp the context of an L2 text, and deal with unknown words encountered. However, more proficient learners used their L1 differently to their advantage.

It was observed that the learners' L1 knowledge was helpful in motivating them to try and read through texts, as, in many instances, a lack of an L1 equivalent resulted in the loss of motivation to go on with a task (see Excerpt 101). This was less evident in the more proficient learners, as they were able to get more meaning out of L2 texts. When, in instances that L2 mediation alone seemed insufficient for them, they did use their L1 resources. The more proficient learners were better able to analyse and think about and go over a certain L2 text and translated and replaced L2 words with L1 equivalents until they came up with the right solution to the problem. This itself acted as motivation for them to go on. Utilizing L1 enhanced meaning construction while processing the L2 text for all learners regardless of their proficiency. For less proficient learners, it created motivation to continue the task. With the less proficient learners, as going over completely unknown concepts and words was unhelpful to them, and they could not even correctly recognise the proper L1 equivalent on their own, they tended to lose their motivation quickly unless provided with an L1 equivalent or translation

by others. Previous studies, too, have noted the use of L1 during reading an L2 text as a tool to aid comprehension (Kern, 1994; Upton, 1997; Upton & Lee-Thompson, 2002).

It should also be noted that in some instances, limited knowledge in L1 proved to be a hindrance to the learners while reading L2 texts. When learners' knowledge was limited, they were unable to utilize it correctly in order to make an informed guess as to mediate their L2 reading. It was seen that learners' limited knowledge of the world, or even shortcomings of the textbook, brought about increased use of L1 by the learners, which, in some cases, was unsuccessful in resolving the comprehension problems (e.g., Excerpt 103).

Another interesting finding of the study, as reported in Excerpts 109-113, was the use of L1 by learners at times when they utilized L1 and added to the teacher's L2, or verbalized a translation of the last part of the teacher's speech to L1. These examples of L1 utterances in Grade 12 data were indications of the mediating role of L1 in their thinking process and how L1 operated in their L2 processing. They show how learners mentally interact with the teacher's L2. Their L1 utterances show that, as the learner was listening to the teacher's L2 explanation, his comprehension process was taking place in L1. This finding adds support to what Cook (1999) argues. Cook argues that L1 is a valuable resource in learning of L2, and that it is present in the mind of learners, whether visible or invisible.

One other finding of the study, reported in Excerpts 116-119, showed an important role for the use of L1 in extending the learners' L2 knowledge, through linking new information with information that was previously known to them. For example, after being provided by L1 meanings, learners were able to link and relate the new information with previously known information. In many instances, the L1

equivalent triggered the learners' previous L2 knowledge and enabled them make a conscious connection between the newly introduced vocabulary and other words from the same family, for example. By making such links, learners seemed to solidify their knowledge of L2, and hence, it can be said that L1 provided them with an opportunity to enhance L2 vocabulary and knowledge. Other examples of this was found when they made a link with real life experience or with different parts of speech of a word. In some instances L1 provided by peers enabled other learners notice cognate words, homophones, or a grammar point which following that they used L1 and made such link. Doing this enabled them to keep the words in their mind more effectively and retain new information.

Findings of the study also revealed that Grade 12 learners used L1 intermentally to create or activate their peers' schemata that was required for L2 comprehension. For example, they used it to make up for their peers' lack of knowledge, which allowed their peers to continue with their L2 reading. This showed the role of L1 in mediating other peers' L2 reading.

Learners used L1 to organize their thinking and retain more information. For both high and low proficiency learners, it was not easy to hold new information in their working memory in L2. And frequently they used L1 to support their memory function. For example, they used L1 and talked about the main points of paragraphs (e.g., Excerpt 125). It can be concluded that L1 not only allowed the learners to comprehend the text better, but it also served them to better recall it later. However, this use of L1 seemed to be less beneficial for low proficient learners when they attempted to convert the L1 ideas into proper L2 sentences.

There was another interesting finding in more proficient learners' data which was absent in less proficient ones', as can be seen in Excerpt 126. When they were

preparing themselves to summarize a part of text, they used some L1 utterances in between the L2 sentences. For example, a translation of an L2 phrase he himself just uttered, or posing a question whose answer was the next L2 words uttered by himself again. Finally, he just cut the L1 utterances and the product was a short L2 summary. In this way the L1 utterances serve as a “bridge” between the important L2 information which he wants to include in his summary. Use of L1 in this way mediates learner’s cognition and enables him to organize his thinking and also provides cognitive scaffold to produce L2 sentences.

In other instances, it was seen that learners use of L1 helped them maintain their conversation and override barriers caused by lack of required L2 vocabulary.

This study confirms findings of previous research on use of L1 in L2 classroom (DiCamilla & Anton, 2012; Leeming, 2011). DiCamilla and Anton’s study investigated L1 use in learners’ interaction during writing task, and Leeming’s study examined learners’ use of L1 in oral communicative tasks. This study adds to the body of literature by investigating reading lessons.

## **Discussion and Conclusion**

The sociocultural perspective views language as a resource, and participation is considered both the process and the product of learning. In this study, learners’ understanding of the L2 text, utterance building process, and their participation in tasks were examined as it occurred in the real time classroom setting.

Donato (1994) concludes that “in social interaction, a knowledgeable participant can create, by means of speech, supportive conditions in which the novice can participate, and extend current skills and knowledge to higher levels of competence” (p. 40). It was evident from the findings that learners use of L1 provided a comfortable social context which enhanced learners’ participation and engagement

with tasks (see Excerpts 80 & 81). And the independent use of collaboratively constructed L2 sentences by less proficient learners in this study supports Donato's conclusion. As Donato (1994) argues, "learners expand their own L2 knowledge and extend the linguistic development of their peers" in the process of their interactions (p.52). As this study unfolded, it was revealed that learners became more engaged in the assigned tasks by means of L1; and that the independent use of collaboratively constructed L2 was a result of their social interaction which was facilitated by the use of L1. The learners' linguistic development was evident when they could transfer their learning of L2 to another task or when they utilized L2 and answered the teacher's questions (e.g., Excerpts 67 and 68).

The affective dimension of the group, a factor of which could be attributed to the use of L1, influenced the individual student's participation and engagement with the task. It can be argued that L1 created a kind of classroom or group context where students felt encouraged to share and make contributions to their group work during the class. Some less proficient learners were unable to provide an input in L2, and even felt embarrassed due to their lack of L2. However, when other peers were willing to draw on L1, this facilitated more contribution and participation from all the learners in a group. In accordance with Vygotsky's (1978) ideas, speech is of vital importance, so much so that if not allowed to use it, young children are unable to accomplish a given task. To further elaborate, in this study, it was seen the way students contributed differed depending on whether they were grouped with more proficient learners who preferred to use L2 most of the time, or whether they were grouped with peers who were willing to draw on their L1 when necessary. It was also observed that, in many instances, participation promoted language learning and the scaffold provided through L1 by the more proficient peers proved beneficial. The learners in this study were

more engaged in tasks when using L1, and this engagement increased the chance for them to develop their L2 learning.

As mentioned above, from the study, it was determined that, in many instances, L1 use was beneficial to the learners. However, it should be noted that L1 use alone did not bring about maximum benefits, but that the way L1 was utilized by learners was also an important factor in how beneficial it was to their learning. For example, in Grade 9 learners' data, it was seen that some learners used L1 only to provide translations or an equivalent word, and then moved on to the next step without any further attempt to learn it. Other learners, however, spent time discussing new L2 knowledge in L1. Other instances showed another reason for better performance by the learners when using L1. Sometimes, a second step was included after a learner's L1 use, where the learner used certain intramental processes, such as repetition of a newly learnt word or a sentence, all of which might have enhanced their L2 performance. Such second steps were absent in some other learners' data, and it was seen that these learners could not successfully transfer their assisted performance to another task. It can be concluded that these extra second steps promoted and assisted the learners' internalization of knowledge co-constructed in shared activity.

As further proof, analysis revealed that the use of L1 was more supportive and beneficial for some Grade 12 learners compared to others. Closer inspection of data and analysis revealed that this may be due to the way in which some learners utilized L1. It was seen that, some learners, after being informed of a piece of L2 information in L1, had a second further step in their reading process. For example, with some learners, it was seen that after being provided by L1 equivalents, the learner reread the parts of the text which initially did not make sense to him. After the high proficient peer's translation of the sentence, it was seen that he was able to relate what he knew



to what he did not and make sense and monitor his learning of L2. In other words, L1 made integration of information easier for them. In some instances they used L1 and reminded themselves of vocabulary meanings, a grammar point, homophones, different meanings of a word or its parts of speech through L1 self-explanations (e.g., Excerpts 117&119). And so, it can be concluded that in this way they regulated their own learning. The peers who went a step further in their learning process seemed to know how to use L1 resourcefully to their advantage, and were able to consciously link recently learned L2 knowledge to previous knowledge of L2, and in this way enhanced their “self-regulatory capacity,” (Lantolf & Thorne, 2006, p. 148). This further step might bring the processing of L2 to a higher level of awareness and allow them to focus greater attention on what was to be learned. In this way, through reflecting on what is said, they construct new knowledge.

According to Lantolf and Thorne (2006, p. 277), for good mediation, continuous assessment of a learners’ ZPD is needed, along with subsequent tailoring of the mediation to bring about a gradual progression of the learner from being other-regulated to self-regulated.

From this study, it was found that in many instances, L1 use enhanced learners’ understandings of each other, which was necessary to accomplish the tasks. Less proficient learners’ use of L1 provided the context for the more proficient learners to realize peers’ linguistic strength or weaknesses, and hence, they could upgrade the scaffolding when needed (e.g., Excerpt 82). Learners’ speech in L1 brought about learning of L2, in the way that proficient learners used L1 in their social speech to match their speech to their peers’ level of language proficiency. Lantolf and Thorne (2006) also argue that assistance should be “contingent on actual need”. That is to say, the help should be removed when a learner shows the ability to function independently.

Findings of the study show that, in the same way that L1 allowed a more proficient learner to realize the help needed by a less proficient one, it also allowed for them to realize when their help was unwelcome. For example, through less proficient learners' utterances such as "*Midoonam, nemikhad begi*. [I know; you don't need to tell me that.]", learners conveyed to their peers that they did not require any further L1 assistance at that particular point. In other words, using L1 provided an opportunity for the more proficient learner to realize the less proficient learners' ZPD, and hence, to adjust his level of assistance and communication accordingly. Evidence of development, from the perspective of sociocultural theory is not limited to the actual linguistic performance of the learners, but it might be the frequency and quality of assistance needed by a learner in order to perform in the new language (Aljaafreh & Lantolf, 1994; Lantolf & Thorne, 2007). Hence, it can be concluded that it is important to find out and investigate the points at which learners move from requiring assistance in L1 to becoming more independent in a classroom setting, and more emphasis should be given to gradually decreasing a learners' reliance on L1 toward a reliance on L2 for mediating L2 learning.

Close analysis of the data revealed another notable finding. As mentioned before, learners used L1 as a tool in different contexts in different ways. Close analysis showed that, in some instances, a common reason, but not the only reason, for use of L1 by learners was time constraints. In an EFL context classroom, where learners only get one session per week, there is never enough time for all learners to understand and perform tasks in exclusively L2. Hence, taking an L2 only approach will not be beneficial. This is in line with Butzkamm's (2011) argument on the role of L1 in a foreign language classroom. From our analysis, it was revealed that learners tended to switch to L1 whenever they felt there was not enough time for them to complete a task

in L2. For example, for metatalk, or to aid their memory when preparing a summary of the lesson, and when looking for definitions of L2 terms, it was seen that learners preferred to use L1 in order to speed up their work, and to ensure that they meet the time limit. It was seen that L1 provided the cognitive scaffold which enabled learners to produce L2 utterances without any extra assistance from the proficient learners, or in some cases, L1 use helped optimise short term memory retention.

The findings of this study confirmed Lantolf and Thorne's (2006) suggestion that learners use of L1 in metatalk about the L2 may contribute to L2 development. In the study, learners frequently used L1, mostly in metatalk about both language and task, and this use of their L1 seemed to be beneficial to both high proficient and low proficient learners in different ways.

Findings are in line with studies which provide cognitive and sociolinguistic reasons for use of L1 in L2 classroom and argue that learners' L1 should not be abandoned in L2 classroom (e.g., Antón & DiCamilla, 1999; Storch & Wigglesworth, 2003). Similar to findings of these studies, L1 was found to be a helpful mediating tool in the process of L2 reading and promoted the learner-learner classroom interaction.

From the study, analysis revealed that the use of L1 in many instances arose from the learners' need to clarify vocabulary and expressions, and served social or cognitive functions as well. In this study, we also saw that L2 learning is tightly linked with an L1 cognitive process. This goes to support Cook's (2001) argument that "Meanings do not exist separately from the L1 meanings in the learner's mind, regardless of whether they are parts of the same vocabulary store or parts of different stores mediated by a single conceptual system" (p. 407). This concept was evident in many different parts of our data, and was seen that not only was L1 not a hindrance, but that in many instances, proved to be beneficial to L2 learning. It could be concluded

that this study recognizes L1 as a valuable resource in L2 classroom, and is in line with Levine (2013; 2014), who presented a case for a “multilingual approach” to foreign language classroom communication.

### **Implications of Findings for L2 Pedagogy**

The study has a number of pedagogical implications. The findings will be significant for teacher education, teachers, material writers, and course designers. Our study examined learners’ L1 use in reading L2 in an ongoing, real-time classroom. Hence, its findings will have implications for better understanding the role L1 plays in of L2 reading, and how it can contribute to the L2 learning process. The implications of the findings are discussed below.

The data for this study was gathered and drawn from an actual classroom context, and hence, the findings we reached might directly reflect what might occur in other EFL classroom contexts. The findings may also provide insights that can inform the methodology for teaching L2 reading comprehension, and how to better implement L1 in L2 classrooms.

One of the pedagogic implications stemming from this study is for the language teachers. Understanding of language learning process will improve language teaching, as when teachers better realize the role of L1 in L2 learning, they will be able to build on the learners’ existing knowledge which was acquired in their L1. They can provide guidance on the supportive use of L1 and in this way, take advantage of a prudent use of it. Findings of the study may help teachers to raise learners’ awareness on their use of L1 and to remind them of what might be accomplished by using it.

Findings of this study may also have implications for material writers. For example, in some instances, Grade 12 learners’ use of L1 was due to a shortcoming of their textbook. Pedagogic implications from this study also include some criticism of

the way some new words or phrases were defined for learners in the textbook glossary. In the Grade 12 textbook, some words from the text were defined in a glossary by the side of the text. It was expected that this glossary would assist learners' comprehension of the main text; however, it was seen that in some instances, glossary definitions added more confusion and created comprehension problems for the learners. As it is reported in the findings (e.g., Excerpt 103), for some words this was due to having words unknown to the learners in the definitions, and in some others it was because of the way words were defined. When some definitions were compared with definitions given in dictionaries, this finding became even more evident (e.g., Excerpt 100). Incorporating clearer definition of words which are easier to understand and more applicable to the main text fulfils the functions of glossaries and will also influence learner's use of L1 in their speech, as knowing the vocabularies is crucial in reading and facilitates learners' comprehension of the text.

It was also found that solving learners' vocabulary problems facilitated their engagement with the task and influenced their willingness to continue on with the task, and ultimately with their learning of L2. Small changes in the way words were defined would have increased the potential benefits of L2 glosses and might have resulted in less of a need for L1 mediation for Grade 12 learners.

From complaints made by several Grade 9 learners, such as “*adam mire donbale evaporate , az oonja mire donbale ye kalameye dige, aslan gom mishe* [You go to look for evaporate, and from there you look for another word, you just get lost].”, we can suggest that learners should be taught how to properly use a monolingual dictionary, as this may reduce the unnecessary use of bilingual dictionaries. It should be noted that English classes at Iranian schools lack this and it would be critical to include it as a study skill in the schools' English program.

Another pedagogical implication of the study which also relates to vocabulary, is that it may be better if learners are taught different meanings or parts of speech for frequently used words the first time they are taught that word. It could be beneficial if learners are taught, early on, all relevant meanings of the same word, and to remind learners that there is not always a one to one meaning correspondence between L1 and L2. Doing this would better prepare learners for coming face to face with the same word in a different context, and avoid much confusion. An example of a scenario like this was seen in Excerpt 118, where learners were confused by the word 'fat'.

One important implication of this study relates to the grouping of students in an EFL classroom. One problem faced in this classroom was when members of a group were too different in their proficiency levels, the higher proficient learners tended to complain about their group members, and lose their eagerness to continue. Some of the L1 utterances they produced to complain in cases like this included: ["How many times do I have to tell you?"] or ["I'm getting tired."]. These kinds of complaints can be reduced by more careful grouping of students, and teachers, as organizers of the social environment of the class should take this matter into account.

The findings of the study will be of significance for the L2 learners too. Assisted problem solving creates learning. Learners should be encouraged to participate frequently in the classroom and contribute to the group performance. They should be reminded of the fact that participation and their social speech and being mentally engaged with the tasks are crucial for their L2 learning. Learners should be aware how to manage both their intermental and intramental use of L1 to develop their L2. How to use L1 and still succeed in L2 classroom.

## **Implications of Findings for Theory**

Findings of this study may afford insights into processes of L2 development, and may have contributions and implications to studies on L2 learning. The findings of this study specify and elaborate the intramental and intermental functions of language which Vygotsky originally suggested, and which Lantolf has applied in second language acquisition. The findings evidence, represent and specify what both Vygotsky and Lantolf argued for in the context of the study.

According to Vygotskian sociocultural theory, speech has dual mediational macrofunctions - a primary function, to mediate our social activity, and a secondary function, to mediate our mental activity (Appel & Lantolf, 1994). Findings in this study provided support for the theoretical orientation which views dialogue as both a means of communication and a cognitive tool. The findings of this study support the theory that the psychological function of speech derives from social speech.

This study also attempted to add to the body of SCT-L2 by investigating EFL Iranian high school students in the ESL context of Kuala Lumpur, Malaysia, which is under-studied and under-represented in the literature.

Other than these, the study also contributes to the sociocultural based studies that examined use of L1 in the learners' speech. Cognitive function during interactions and in real time classroom is relatively unexamined. To the best of my knowledge, empirical research investigating learners' L1 mediation in L2 reading comprehension in real classroom setting is somewhat under researched. Thus, the insights gained from the findings of this study extends our understanding of how L1 can be positively incorporated in an L2 reading classroom. Observing the learners' co-construction of L2 knowledge and how this results in linguistic change among and within learners

during group or pair work in real classroom time provides insights into the development of L2 sociocultural perspectives.

Learners' progress from their actual developmental level towards their potential level as a result of assistance provided by a more proficient other was evident in the data. In many instances this assistance and scaffolding was offered through the mediation of their L1. This could not be accomplished by the learner alone. By using L1, they created the conditions for learners' L2 development. The use of L1 was frequently observed in the both broad categories of mediation i.e., as in the form of human mediation when they received assistance from the teacher or other peers through use of L1, and as in the form of psychological tool in learners' thinking process. The other mediation through their social speech supported the learners' control over an L2 feature during the tasks and facilitated learners' internalization of the L2.

This study also contributed to the taxonomies of functions of L1 use in L2 which are found in the literature. This study provided a thorough classification of functions, which may be implemented in other future studies.

### **Implications for Future Research**

Many existing classroom studies primarily focus on the teacher's use of L1, and fewer studies have focused on how the learners use their L1 in a naturalistic context of a classroom. This study investigated Iranian English learners' use of L1. Future studies should address how the use of L1 affects learning of L2 in other settings and with other language pairs. It may be beneficial to study the role of L1 in a variety of different languages and a variety of different L2 learning contexts, to see how, why and to what extent learners' L1 affects their L2 learning. There is a need for a clearer framework for L1 use in EFL classroom settings. Extending research to different



languages in different contexts will hopefully lead to establishment of principles and parameters that will bring about a wider understanding of how L1 should be used in EFL classrooms, and how much L1 is needed to gain optimum results.

Future research is needed to demonstrate links between target language learning and L1 use, and to examine learners' patterns of L1 use in their L2 learning progress. This study tried to understand how learners' speech in L1 mediated their social and mental activity, and to some extent tried to understand the reason behind why L1 use was more beneficial for some learners compared to others. Although this study and other studies in the literature have shed light on this phenomenon, there is still room for further study into this topic.

## References

- Ajideh, P. (2003). Schema theory-based pre-reading tasks: A neglected essential in the ESL reading class. *The Reading Matrix*, 3(1), 1-14.
- Akbari, Z., & Tahririan, M. (2009). Vocabulary learning strategies in an ESP context: The case of para/medical English in Iran. *The Asian EFL Journal Quarterly*, 11(1), 39.
- Aljaafreh, A., & Lantolf, J. P. (1994). Negative feedback as regulation and second language learning in the zone of proximal development. *The Modern Language Journal*, 78(4), 465-483.
- Anani Sarab, M. R., & Gordani, Y. (2014). The role of L2 private speech in cognitive regulation of adult foreign language learners. *Journal of English Language Teaching and Learning*, 6(14), 1-18.
- Anh, K. (2010). Use of Vietnamese in English language teaching in Vietnam: Attitudes of Vietnamese university teachers. *English Language Teaching*, 3(2), 119-128.
- Antón, M., & DiCamilla, F. (1999). Socio cognitive functions of L1 collaborative interaction in the L2 classroom. *The Modern Language Journal*, 83(2), 233-247.
- Appel, G., & Lantolf, J. P. (1994). Speaking as mediation: A study of L1 and L2 text recall tasks. *The Modern Language Journal*, 78(4), 437-452.
- Atay, D., & Kurt, G. (2006). Elementary school EFL learners' vocabulary learning: The effects of post-reading activities. *Canadian Modern Language Review/La Revue canadienne des langues vivantes*, 63(2), 255-273.
- Atkinson, D. (1987). The mother tongue in the classroom: a neglected resource? *ELT journal*, 41(4), 241-247. doi:10.1093/elt/41.4.241
- Atkinson, D. (1993a). Teaching in the target language: a problem in the current orthodoxy. *Language Learning Journal*, 8(1), 2 - 5.
- Atkinson, D. (1993b). *Teaching monolingual classes: Using L1 in the classroom*. London: Longman Group Ltd.

- Atkinson, D. (1997). A critical approach to critical thinking in TESOL. *TESOL Quarterly*, 31(1), 71-94.
- Barnett, M. A. (1989). *More than meets the eye: Foreign language reading. Language and education: Theory and practice*: Prentice-Hall Regents, Englewood Cliffs, NJ 07632.
- Bateman, B. E. (2008). Student teachers' attitudes and beliefs about using the target language in the classroom. *Foreign Language Annals*, 41(1), 11-28.
- Bernhardt, E. (1998). Sociohistorical perspectives on language teaching in the modern United States. *Learning foreign and second languages: Perspectives in research and scholarship*, 39-57.
- Bernhardt, E. (2005). Progress and procrastination in second language reading. *Annual Review of Applied Linguistics*, 25(1), 133-150.
- Bernhardt, E. B. (1986). *Reading in the foreign language*. Paper presented at the Northeast conference on the teaching of foreign languages—Listening, reading, writing: Analysis and application. Middlebury, VT: Northeast Conference.
- Block, E. (1986). The comprehension strategies of second language readers. *TESOL Quarterly*, 20(3), 463-494.
- Bogdan, R. C., & Biklen, S. K. (1998). *Qualitative research in education. An introduction to theory and methods*: ERIC.
- Brooks, F. B., & Donato, R. (1994). Vygotskian approaches to understanding foreign language learner discourse during communicative Tasks. *Hispania*, 77(2), 262-274.
- Brown, H. D. (2001). *Teaching by principles: An interactive approach to language pedagogy*: London: Longman.
- Butzkamm, W. (2003). We only learn language once. The role of the mother tongue in FL classrooms: Death of a dogma. *Language Learning Journal*, 28(1), 29-39.
- Butzkamm, W. (2011). Why make them crawl if they can walk? Teaching with mother tongue support. *RELC Journal*, 42(3), 379-391. doi:10.1177/0033688211419830

- Campa, J. C. d. I., & Nassaji, H. (2009). The amount, purpose, and reasons for using L1 in L2 classrooms. *Foreign Language Annals*, 42(4), 742-759.
- Carless, D. (2008). Student use of the mother tongue in the task-based classroom. *ELT journal*, 62(4), 331-338. doi:10.1093/elt/ccm090
- Carrell, P., & Eisterhold, J. (1983). Schema theory and ESL reading pedagogy. *TESOL Quarterly*, 17(4), 553-573.
- Carrell, P. L. (1988). Some causes of text-boundedness and schema interference in ESL reading. *Interactive approaches to second language reading*, 101-113.
- Celik, M. (2003). Teaching vocabulary through code-mixing. *ELT journal*, 57(4), 361-369. doi:10.1093/elt/57.4.361
- Centeno-Cortés, B., & Jiménez Jiménez, A. F. (2004). Problem-solving tasks in a foreign language: the importance of the L1 in private verbal thinking. *International Journal of Applied Linguistics*, 14(1), 7-35. doi:10.1111/j.1473-4192.2004.00052.x
- Chamot, A. U., & Kupper, L. (1989). Learning strategies in foreign language instruction. *Foreign Language Annals*, 22(1), 13-22.
- Chang, C. (2009). *Teacher's Use of Students' L1 in an EFL Classroom: A Case Study*. (Master's Thesis).
- Chavez, M. (2016). The first language in the foreign language classroom: teacher model and student language use—an exploratory study. *Classroom Discourse*, 7(2), 131-163. doi:10.1080/19463014.2016.1149499
- Chia, H.-L. (2001). *Reading Activities for Effective Top-Down Processing*. Paper presented at the Forum.
- Clarke, M. (1980). The short circuit hypothesis of ESL reading-or when language competence interferes with reading performance. *Modern Language Journal*, 64(2), 203-209.
- Cohen, A. D., & Brooks-Carson, A. (2001). Research on direct versus translated writing: Students' strategies and their results. *The Modern Language Journal*, 85(2), 169-188.

- Cohen, L., Manion, L., & Morrison, K. (2013). *Research methods in education*: Routledge.
- Cook, V. (1999). Going beyond the native speaker in language teaching. *TESOL Quarterly*, 33(2), 185-209.
- Cook, V. (2001). Using the first language in the classroom. *Canadian Modern Language Review/La Revue canadienne des langues vivantes*, 57(3), 402-423.
- Crawford, J. (2004). Language choices in the foreign language classroom: Target Language or the learners' first language? *RELC Journal*, 35(1), 5-20.
- Creswell, J. W. (2007). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*: Pearson Merrill Prentice Hall.
- Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches*: Sage.
- Cummins, J. (2007). Rethinking monolingual instructional strategies in multilingual classrooms. *Canadian Journal of Applied Linguistics (CJAL)/Revue canadienne de linguistique appliquée (RCLA)*, 10(2), 221-240.
- Diaz, R. M., Winsler, A., Atencio, D. J., & Harbers, K. (1992). Mediation of self-regulation through the use of private speech. *International Journal of Cognitive Education and Mediated Learning*, 2(2), 155-167.
- DiCamilla, F. J., & Antón, M. (2004). Private speech: A study of language for thought in the collaborative interaction of language learners. *International Journal of Applied Linguistics*, 14(1), 36-69.
- DiCamilla, F. J., & Antón, M. (2012). Functions of L1 in the collaborative interaction of beginning and advanced second language learners. *International Journal of Applied Linguistics*, 22(2), 160-188. doi:10.1111/j.1473-4192.2011.00302.x
- Donato, R. (1994). Collective scaffolding in second language learning. In J. P. Lantolf & G. Apple (Eds.), *Vygotskian Approaches to Second Language Research*. (pp. 33-56). NJ: Ablex.
- Donato, R. (2004). Aspects of collaboration in pedagogical discourse. *Annual Review of Applied Linguistics*, 24, 284-302. doi:10.1017/S026719050400011X

- Donato, R., & Lantolf, J. (1990). The dialogic origins of L2 monitoring. *Pragmatics and Language Learning, 1*, 83-97.
- Dörnyei, Z. (1990). Conceptualizing motivation in foreign language learning. *Language Learning, 40*(1), 45-78. doi:10.1111/j.1467-1770.1990.tb00954.x
- Duff, P. A., & Polio, C. G. (1990). How much foreign language is there in the foreign language classroom? *The Modern Language Journal, 74*(2), 154-166.
- Ehrich, J. (2006). Vygotskian inner speech and the reading process. *Australian Journal of Educational & Developmental Psychology, 6*, 12-25.
- Eldridge, J. (1996). Code-switching in a Turkish secondary school. *ELT journal, 50*(4), 303-311. doi:10.1093/elt/50.4.303
- (2009a). *Rod Ellis Task - Based Language Teaching Seminar* [Retrieved from <http://www.anaheim.edu/>]
- Ellis, R. (2009b). Task-based language teaching: sorting out the misunderstandings. *International Journal of Applied Linguistics, 19*(3), 221-246. doi:10.1111/j.1473-4192.2009.00231.x
- Farhady, H., & Hedayati, H. (2009). Language assessment policy in Iran. *Annual Review of Applied Linguistics, 29*, 132-141. doi:10.1017/S0267190509090114
- Ferguson, G. (2003). Classroom codeswitching in post-colonial contexts: Functions, attitudes and policies. *AILA review, 16*(1), 38-51.
- Fernández-García, M., & Martínez-Arbelaiz, A. (2002). Negotiation of meaning in nonnative speaker-nonnative speaker synchronous discussions. *CALICO JOURNAL, 19*(2), 279-294.
- Foster, P. (1998). A classroom perspective on the negotiation of meaning. *Applied Linguistics, 19*(1), 1-23.
- Freeman, D. (1998). *Doing teacher research: From inquiry to understanding*: Heinle & Heinle Pub.
- Friedlander, A. (1990). Composing in English: Effects of a first language on writing in English as a second language. In B. Kroll (Ed.), *Second language writing*:

- Research insights for the classroom* (pp. 109-125): Cambridge University Press.
- Gass, S. M. (2003). Input and interaction. *The handbook of second language acquisition* (pp. 224-255).
- Gay, L., & Airasian, P. (2000). *Educational research: Competencies for analysis and application* (sixth ed.).
- Goodman, K. (1970). Reading as a psycholinguistic guessing game. In H. Singer & R. B. Ruddell (Eds.), *Theoretical models and Processes of Reading*. Newark, N.J.: International reading Association.
- Goodman, K. (1988). The reading process. In P. L. Carrell, J. Devine, & D. E. Eskey (Eds.), *Interactive approaches to second language reading* (pp. 11). Cambridge: Cambridge University Press.
- Griffiths, C. (2004). Language learning strategies: Theory and research. *Occasional Paper, 1*, 1-30.
- Grim, F. (2010). L1 in the L2 classroom at the secondary and college levels: A comparison of functions and use by teachers. *Electronic Journal of Foreign Language Teaching, 7*(2), 193-209.
- Guk, I., & Kellogg, D. (2007). The ZPD and whole class teaching: Teacher-led and student-led interactional mediation of tasks. *Language Teaching Research, 11*(3), 281-299.
- Hadley, A. O., & Reiken, E. (1993). *Teaching language in context*. Florence, KY: Heinle & Heinle.
- Hall, G., & Cook, G. (2012). Own-language use in language teaching and learning. *Language Teaching, 45*(3), 271-308. doi:10.1017/S0261444812000067
- Hamouda, A. (2012). An exploration of causes of Saudi students' reluctance to participate in the English language classroom. *International Journal of English Language Education, 1*(1), 1-34.
- Hansen, J. (1981). The effects of inference training and practice on young children's reading comprehension. *Reading Research Quarterly, 39*1-417.

- Ho, P. (2007). A study of EFL reading strategies used by vocational high school students in Taiwan. *Unpublished Master Thesis, National Taiwan University of Science and Technology, Taiwan.*
- Hudson, T. (1982). The effects of induced schemata on the "short circuit" in L2 reading: Non-decoding factors in L2 reading performance *Language Learning*, 32(1), 1-33. doi:10.1111/j.1467-1770.1982.tb00516.x
- Inbar-Lourie, O. (2010). English only? The linguistic choices of teachers of young EFL learners. *International Journal of Bilingualism*, 14(3), 351-367. doi:10.1177/1367006910367848
- Kalaja, P., & Barcelos, A. F. (2003). *Beliefs about SLA: New research approaches*: Springer Science & Business Media.
- Kern, R. (1994). The role of mental translation in second language reading. *Studies in second language acquisition*, 16(04), 441-461.
- Kharma, N. N., & Hajjaj, A. H. (1989). Use of the mother tongue in the ESL classroom. *International Review of Applied Linguistics*, 27(3), 223-235.
- Kim, E.-Y. (2011). Using translation exercises in the communicative EFL writing classroom. *ELT journal*, 65(2), 154-160.
- Kim, Y., & Petraki, E. (2009). Students' and Teachers' Use of and Attitudes to L1 in the EFL Classroom. *Asian EFL Journal*, 11(4), 58-89.
- Kobayashi, H., & Rinnert, C. (1992). Effects of first language on second language writing: Translation versus direct composition. *Language Learning*, 42(2), 183-209.
- Kozulin, A., Gindis, B., Ageyev, V. S., & Miller, S. M. (2003). *Vygotsky's educational theory in cultural context*: Cambridge University Press.
- Krashen, S. D., & Terrell, T. D. (1983). *The natural approach: Language acquisition in the classroom*. Oxford, UK: Pergamon.
- LaBerge, D., & Samuels, S. J. (1974). Toward a theory of automatic information processing in reading. *Cognitive psychology*, 6(2), 293-323.



- Lankshear, C., & Knobel, M. (2004). *A handbook for teacher research*: McGraw-Hill Education (UK).
- Lantolf, J. P. (2000). Introducing sociocultural theory. In J. P. Lantolf (Ed.), *Sociocultural theory and second language learning* (pp. 1-26): Oxford: Oxford University Press.
- Lantolf, J. P. (2000a). Second language learning as a mediated process. *Language Teaching*, 33(2), 79-96.
- Lantolf, J. P. (2004). Sociocultural theory and second and foreign language learning: An overview of sociocultural theory. In K. van Esch & O. St. John (Eds.), *New insights into foreign language learning and teaching* (pp. 13-34). Frankfurt am Main: Peter Lang.
- Lantolf, J. P. (Ed.) (2000b). *Sociocultural Theory and Second Language Learning*. Oxford, England: Oxford University Press.
- Lantolf, J. P., & Thorne, S. L. (2006). *Sociocultural theory and the genesis of second language development*. Oxford: Oxford University Press.
- Lantolf, J. P., & Thorne, S. L. (2007). Sociocultural theory and second language learning. In B. VanPatten & J. Williams (Eds.), *Theories in second language acquisition: An introduction* (pp. 201-224). Mahwah, NJ: Erlbaum.
- Larsen-Freeman, D., & Freeman, D. (2008). Language moves: The place of “Foreign” languages in classroom teaching and learning. *Review of Research in Education*, 32(1), 147-186. doi:10.3102/0091732x07309426
- Latsanyphone, S., & Bouangeune, S. (2009). Using L1 in teaching vocabulary to low English proficiency level students: A case study at the National University of Laos. *English Language Teaching*, 2(3), 186.
- Lee, J. H. (2016). Exploring non-native English-speaking teachers' beliefs about the monolingual approach: differences between pre-service and in-service Korean teachers of English. *Journal of Multilingual and Multicultural Development*, 37(8), 759-773. doi:10.1080/01434632.2015.1133629
- Lee, J. W., & Schallert, D. L. (1997). The relative contribution of L2 language proficiency and L1 reading ability to L2 reading performance: A test of the threshold hypothesis in an EFL context. *TESOL Quarterly*, 31(4), 713-739.

- Leeming, P. (2011). Japanese high school students' use of L1 during pair work. *International Journal of Applied Linguistics*, 21(3), 360-382.
- Levine, G. S. (2003). Student and instructor beliefs and attitudes about target language use, first language use, and anxiety: Report of a questionnaire study. *The Modern Language Journal*, 87(3), 343-364. doi:10.1111/1540-4781.00194
- Levine, G. S. (2013). The Case For a Multilingual Approach to Language Classroom Communication. *Language and Linguistics Compass*, 7(8), 423-436. doi:10.1111/lnc3.12036
- Levine, G. S. (2014). Principles for code choice in the foreign language classroom: A focus on grammaring. *Language Teaching*, 47(3), 332-348. doi:10.1017/S0261444811000498
- Liao, C. H. (2005). *First language use in EFL (English as a foreign language) writing processes*. (Doctoral Dissertation ). Retrieved from <http://proquest.umi.com/pqdweb?did=913514291&Fmt=7&clientId=18803&RQT=309&VName=PQD>
- Liao, P. (2006). EFL learners' beliefs about and strategy use of translation in English learning. *RELC Journal*, 37(2), 191.
- Lincoln, Y. S., & Denzin, N. K. (2003). *Turning points in qualitative research: Tying knots in a handkerchief*. Rowman Altamira.
- Littlewood, W., & Yu, B. (2011). First language and target language in the foreign language classroom. *Language Teaching*, 44(01), 64-77. doi:10.1017/S0261444809990310
- Liu, J. (2009). L1 use in L2 vocabulary learning: Facilitator or barrier. *International Education Studies*, 1(2), P65.
- Macaro, E. (1995). Target language use in Italy. *Language Learning Journal*, 11(1), 52-54.
- Macaro, E. (2001). Analysing student teachers' codeswitching in foreign language classrooms: Theories and decision making. *The Modern Language Journal*, 85(4), 531-548.

- Macaro, E., & Lee, J. H. (2013). Teacher Language Background, Codeswitching, and English-Only Instruction: Does Age Make a Difference to Learners' Attitudes? *TESOL Quarterly*, 47(4), 717-742. doi:10.1002/tesq.74
- Macdonald, C. (1993). *Using the target language*: Mary Glasgow.
- MacKey, A., & Gass, S. M. (2005). *Second language research: Methodology and design*: Lawrence Erlbaum.
- Mahdavi-Zafarghandi, A., & Jahandideh, Y. (2006). An assessment of dentistry students' reading proficiency of EST texts. *Journal Of The Faculty Of Letters And Humanities (Kerman)*.
- Mahmoud, A. (2006). *Translation and foreign language reading comprehension: A neglected didactic procedure*. Paper presented at the English Teaching Forum.
- Mahmoudi, L., & Amirkhiz, S. (2011). The use of Persian in the EFL classroom—The case of English teaching and learning at pre-university level in Iran. *English Language Teaching*, 4(1).
- McCafferty, S. G. (1994). Adult second language learners' use of private speech: A review of studies. *The Modern Language Journal*, 78(4), 421-436.
- Meiring, L., & Norman, N. (2002). Back on target: Repositioning the status of target language in MFL. *Language Learning Journal*, 26, 27-35.
- Merriam, S. B. (1998). *Qualitative research and case study applications in education. Revised and expanded from " Case study research in education."*: ERIC.
- Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation*: John Wiley & Sons.
- Mori, R. (2004). Staying-in-English rule revisited. *System*, 32(2), 225-236.
- Myung-Hye, H., Yang-Sook, L., & Nara, L. (2013). Mediation through the first language during the second language writing: A sociocultural approach. *English Teaching*, 68(1), 69-84.
- Nation, P. (2003). The role of the first language in foreign language learning. *Asian EFL Journal*, 5(2), 1-8.

- Nazary, M. (2008). The role of L1 in L2 acquisition: Attitudes of Iranian university students. *Novitas Royal*, 2(2).
- Negueruela, E., & Lantolf, J. (2006). Concept-based instruction and the acquisition of L2 Spanish *The art of teaching Spanish: Second language acquisition from research to praxis* (pp. 79-102): Georgetown University Press Washington, DC.
- Negueruela-Azarola, E., García, P. N., & Buescher, K. (2015). From Interaction to Intra-action *The Handbook of Classroom Discourse and Interaction* (pp. 233-249): John Wiley & Sons, Inc.
- Nystrand, M. (1986). The structure of written communication: Studies in reciprocity between readers and writers. *Norwood, NJ: Ablex*.
- Nystrand, M. (1997). Dialogic instruction: When recitation becomes conversation. In M. Nystrand, A. Gamoran, R. Kachur, & C. Prendergast (Eds.), *Opening dialogue understanding the dynamics of language and learning in the english classroom*. New York: Teachers College Press.
- O'malley, J. M., & Chamot, A. U. (1990). *Learning strategies in second language acquisition*: Cambridge Univ Pr.
- Paker, T., & Karaağaç, Ö. (2015). The Use and Functions of Mother Tongue in EFL Classes. *Procedia - Social and Behavioral Sciences*, 199, 111-119. doi:<http://dx.doi.org/10.1016/j.sbspro.2015.07.494>
- Patton, M. Q. (1990). *Qualitative evaluation and research methods*: SAGE Publications, inc.
- Pearson-Casanave, C. R. (1984). Communicative pre-reading activities: Schema theory in action. *TESOL Quarterly*, 18(2), 334-336.
- Polio, C. G., & Duff, P. A. (1994). Teachers' language use in university foreign language classrooms: A qualitative analysis of English and target language alternation. *The Modern Language Journal*, 78(3), 313-326.
- Prodromou, L. (2002). The role of the mother tongue in the classroom. *IATEFL Issues*, 6-8.
- Rell, A. B. (2005). *The role of the first language (L1) in the second language (L2) classroom*. (Doctoral Dissertation). Retrieved from

- Richards, J. C., & Rodgers, T. S. (2001). *Approaches and methods in language teaching*: Cambridge University Press.
- Ringbom, H. (1987). *The role of the first language in foreign language learning*: Multilingual Matters Ltd.
- Ritchie, J., Lewis, J., Nicholls, C. M., & Ormston, R. (2013). *Qualitative research practice: A guide for social science students and researchers*: Sage.
- Rolin-Ianziti, J., & Brownlie, S. (2002). Teacher use of learners' native language in the foreign language classroom. *Canadian Modern Language Review/La Revue canadienne des langues vivantes*, 58(3), 402-426.
- Rose, H. (2012). Reconceptualizing strategic learning in the face of self-regulation: Throwing language learning strategies out with the bathwater. *Applied Linguistics*, 33(1), 92-98. doi:10.1093/applin/amr045
- Rubin, J. (1987). Learner strategies: Theoretical assumptions, research history and typology. *Learner strategies in language learning*, 15-30.
- Saito, Y. (2014). Students' L1 use: A stumbling block or a facilitator in L2 learning? *Journal of Second Language Teaching & Research*, 3(1), 6-23.
- Scheffler, P., Horverak, M. O., Krzebietke, W., & Askland, S. (2016). Language background and learners' attitudes to own-language use. *ELT journal*. doi:10.1093/elt/ccw058
- Schweers, J., W. (1999). Using L1 in the L2 classroom. *English Teaching Forum*, 37(2), 6-9.
- Scott, V. M., & de la Fuente, M. J. (2008). What's the problem? L2 learners' use of the L1 during consciousness-raising, form-focused tasks. *The Modern Language Journal*, 92(1), 100-113.
- Seifouri, N., & Dehnad, A. (1996). A Comparison of the Effect of English Textbooks for Students of Medicine with that of Selected Articles on the Medical Students' Comprehension in English. *Research in Insfahan University of Medical Sciences*, 3(1), 84-91.

- Seng, G., & Hashim, F. (2006). Use of L1 in L2 reading comprehension among tertiary ESL learners. *Reading in a Foreign Language, 18*(1), 1539-0578.
- Sert, O. (2005). The functions of code switching in elt classrooms. *The Internet TESL Journal, 10*(8).
- Sharma, B. (2006). Mother tongue use in English classroom. *Journal of NELTA, 11*(1), 80.
- Şimşek, M. R. (2010). The effects of L1 use in the teaching of L2 grammar concepts on the students' achievement. *Journal of Theory and Practice in Education, 6*(2), 142-169.
- Soori, A., Kafipour, R., & Soury, M. (2011). EFL textbook evaluation and graphic representation. *European Journal of Social Sciences, 26*(3), 481-493.
- Stern, H. H. (1992). *Issues and options in language teaching*: Oxford Univ Pr.
- Storch, N. (1997). The editing talk of adult ESL learners. *Language Awareness, 6*(4), 221-232.
- Storch, N., & Aldosari, A. (2010). Learners' use of first language (Arabic) in pair work in an EFL class. *Language Teaching Research, 14*(4), 355. doi:10.1177/1362168810375362
- Storch, N., & Wigglesworth, G. (2003). Is there a role for the use of the L1 in an L2 setting? *TESOL Quarterly, 37*(4), 760-770.
- Swain, M., & Lapkin, S. (1998). Interaction and second language learning: Two adolescent French immersion students working together. *The Modern Language Journal, 82*(3), 320-337.
- Swain, M., & Lapkin, S. (2000). Task-based second language learning: The uses of the first language. *Language Teaching Research, 4*(3), 251-274.
- Taglieber, L. K., Johnson, L. L., & Yarbrough, D. B. (1988). Effects of prereading activities on EFL reading by Brazilian college students. *TESOL Quarterly, 22*(3), 455-472.

- Tang, H. N., & Moore, D. W. (1992). Effects of Cognitive and Metacognitive Pre-reading Activities on the Reading Comprehension of ESL Learners. *Educational Psychology, 12*(3-4), 315-331.
- Tang, J. (2002). Using L1 in the English classroom. *English Teaching Forum, 40*(1), 36-43.
- Tian, L., & Macaro, E. (2012). Comparing the effect of teacher codeswitching with English-only explanations on the vocabulary acquisition of Chinese university students: A lexical focus-on-form study. *Language Teaching Research, 16*(3), 367-391. doi:10.1177/1362168812436909
- Tierney, R. J., & LaZansky, J. (1980). The Rights and Responsibilities of Readers and Writers: A Contractual Agreement. *Language Arts, 57*(6), 606-613.
- Turnball, M., & Arnett, K. (2002). Teachers' uses of the target and first languages in second and foreign language classrooms. *Annual Review of Applied Linguistics, 22*, 204-218. doi:10.1017/S0267190502000119
- Upton, T. (1997). First and second language use in reading comprehension strategies of Japanese ESL students. *TESL-EJ, 3*(1), 22.
- Upton, T., & Lee-Thompson, L. (2002). The role of the first language in second language reading. *Studies in Second Language Acquisition, 23*(04), 469-495.
- Üstünel, E., & Seedhouse, P. (2005). Why that, in that language, right now? Code-switching and pedagogical focus. *International Journal of Applied Linguistics, 15*(3), 302-325. doi:10.1111/j.1473-4192.2005.00093.x
- Vaezi, S., & Mirzaei, M. (2007). The effect of using translation from L1 to L2 as a teaching technique on the improvement of EFL learners' linguistic accuracy: Focus on form. *Humanising Language Teaching, 9*(5).
- van Dijk, T., & Kintsch, W. (1983). *Strategies of discourse comprehension*: New York: Academic Press.
- Van Weijen, D., Van den Bergh, H., Rijlaarsdam, G., & Sanders, T. (2009). L1 use during L2 writing: An empirical study of a complex phenomenon. *Journal of Second Language Writing, 18*(4), 235-250.
- Victori, M. (1999). An analysis of writing knowledge in EFL composing: A case study of two effective and two less effective writers. *System, 27*(4), 537-555.

- Vygotsky, L. S. (1978). *Mind in society: The development of higher mental process*. In M. Cole, V. John-Steiner, S. Scribner, & E. Souberman (Eds.): Cambridge, MA: Harvard University Press.
- Vygotsky, L. S. (1981). The genesis of higher mental functions. In J. V. Wertsch (Ed.), *The concept of activity in Soviet psychology* (pp. 144-188). Armonk, NY: Sharpe.
- Vygotsky, L. S. (1987). *The collected works of LS Vygotsky: Vol. 1, Problems of general psychology* (RW Rieber & AS Carton, Eds., N. Minick, trans.). *New York: Plenum*.
- Vygotsky, L. S. (1997). *The collected works of L. S. Vygotsky: Vol. 4. The history of the development of higher mental functions*. R. W. Reiber (Ed.). NY: Plenum.
- Wang, L. (2003). Switching to first language among writers with differing second-language proficiency. *Journal of Second Language Writing, 12*(4), 347-375.
- Watanabe, Y. (2008). Peer-peer interaction between L2 learners of different proficiency levels: Their interactions and reflections. *Canadian Modern Language Review, 64*(4), 605-635.
- Widdowson, H. G. (1983). *Learning purpose and language use*: Oxford University Press Oxford.
- Wigglesworth, G. (2005). Current approaches to researching second language learner processes. *Annual Review of Applied Linguistics, 25*(1), 98-111. Retrieved from doi:10.1017/S026719050500005X
- Wilkinson, L., & Silliman, E. (2000). Classroom language and literacy learning. *Handbook of Reading Research, 3*, 337-360.
- Williams, E. (1987). Classroom reading through activating content-based schemata. *Reading in a Foreign Language, 4*(1), 1-7.