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Meaning Making and Writing Processes across Languages and Genres: A Case Study of Two Bilingual Bilingual Children with Reading Difficulties

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Abstract

This study explores the meaning-making and writing processes of two bilingual biscriptal children with reading difficulties. Each participant produced four texts, one descriptive and one narrative text in Persian (L1) and Swedish (L2). Drawing on systemic functional linguistics (SFL), some aspects of interpersonal, ideational and textual meanings were analyzed as the participants composed their texts across these two languages and genres. The Eye and Pen software was used to examine the writing processes. The results demonstrated that the participant with only poor word recognition successfully created similar meaning across languages and genres. However, the participant with mixed reading difficulties generally struggled to produce similar meaning across languages and genres. Similar patterns were observed in the participants' writing processes. Both of them were more fluent writers in their L2 than in their L1 and could produce meaning more fluently in their L2 compared to their L1. The participants' writing profiles in both languages were in agreement with previous studies on the writing of monolinguals with similar difficulties. The findings are discussed from a multi-competence perspective.

Introduction

In recent decades, researchers have tried to understand how bilinguals acquire and develop their second language. Many theories, models and definitions of bilingualism had a monolingual bias (e.g. Bloomfield, 1933; Weinreich, 1953). Views on bilingualism have gradually shifted from studies that have mainly pinpointed the deficiencies and disadvantages of bilingualism to regarding bilingualism as an advantage and an asset (for a review, see Bialystok, 2009; Antoniou, 2019). In line with this development in SLA research, new theories and models evolved that see bilinguals as multi-competent individuals who share their knowledge between languages (Cook, 2016). Both experienced and inexperienced writers seem to be capable of sharing their knowledge between languages in writing. For example, they can use similar rhetorical features between languages in their texts (Kobayashi & Rinnert, 2012; Lindgren et al., 2017). A few papers that have analyzed the multi-competence of bilinguals in L1 and L2 writing have either studied how these bi/multilinguals use their shared knowledge on product (Lindgren et al., 2017; Kobayashi & Rinnert, 2013) or on process (Van Waes & Leijten, 2015; Chang, 2020) levels. However, these studies have only worked with typically developing bi/multilinguals (particularly adults). The multi-competence perspective has not been investigated in bilinguals with reading difficulties (RD).

To my knowledge, no study has investigated the multi-competence of bilingual biscriptal children with RD in both L1 and L2 on product and process levels. The current paper fills this gap by analyzing how two bilingual biscriptal children with RD in years 6 and 7 create meaning as they composed their texts across two different genres, descriptive and narrative, in both Persian and Swedish.

Literature Review

Multicompetence

Multi-competence as a concept was introduced in 1991 to describe how multilinguals process language cognitively (Cook, 1991). Cook described multi-competence as “knowledge of two languages in the same mind” (2016:2). Cook (2016) further described that there are *inter-connections* between bilinguals’ languages. Studies have used different terms to refer to these *inter-connections*. For example, Kobayashi and Rinnert (2012) have used the term *shared knowledge* (Kobayashi & Rinnert, 2012). According to Cook’s (2003) *integration continuum model*, different aspects of bilinguals’ languages are more or less integrated. The continuum presents a dynamic view of language, as opposed to the static and traditional concept of transfer. This perspective emphasizes that there is a constant movement between languages in different directions. This provided a new perspective on transfer across languages, which means that a bilingual’s L1 can affect L2, and vice versa (Cook, 2016). These views are in line with *Common Underlying Proficiency (CUP)* in which different “aspects of a bilingual’s proficiency in L1 and L2 are seen as common across languages” (Cummins, 2005: 4).

In L2 writing research, DePalma and Ringer (2011: 141) introduced the theory of *adaptive transfer* which they describe as the “intuitive process of applying or reshaping learned writing knowledge in new unfamiliar writing situations”. Adaptive transfer is “dynamic, distinctive to individuals, cross-contextual, rhetorical, multilingual and transformative” (p. 141). According to this view, bilinguals have a number of language skills at their disposal that they can use in all writing situations. Research has drawn on the multi-competence and dynamic perspective to analyse bi/multilinguals’ writing product (final text) or process.

Multicompetent Writers

With regard to bilinguals’ multi-competence, similar patterns have been observed in typically developing bi/multilingual adults and children on text level and across genres. For example, Kobayashi and Rinnert (2012) employed the multi-competence perspective to analyze how the writing knowledge of Japanese adult bilinguals affects L2 writing development. The results revealed that some elements such as rhetorical features were interrelated in both languages, which increased and promoted writing development. They concluded that an experienced writer’s knowledge was shared and merged into one “core repertoire” (p. 125), which they consider as multi-competence knowledge. Lindgren and colleagues (2017) showed that multilingual children could also use similar rhetorical devices across languages. In another study, Cenoz and Gorter (2011) showed that multilingual writers were able to use linguistic and non-linguistic resources in their languages on both word and text levels. In their paper, a writing analysis of children in Basque, Spanish and English demonstrated that the children used lexical and grammatical resources and produced similar writing strategies, irrespective of languages.

A comparison of the genre knowledge of multilinguals across languages demonstrated that multilingual writers gain specific knowledge about one genre in one language and use it across languages (Gentil, 2011). For example, Tardy and colleagues (2020) “genre-specific knowledge” included various “overlapping domains” such as formal (e.g. text knowledge such as organization), process (e.g. procedures for composing a text), rhetorical (e.g. awareness about the text’s aim and target group) and subject-matter knowledge (e.g. disciplinary content).

The SFL framework has also been used to analyze how multicompetent writers across languages unfold (or *logogenesis* in SFL terms) meaning throughout a given discourse (Halliday, 1998: 88). Behind every written text, the writer has the opportunity to choose from a variety of linguistic features when creating the text. In other words, the choices the writer makes from a set of lexico-grammatical resources create the meaning and the message that is conveyed in the text. According to SLF, meaning can be created through three main interconnected metafunctions: *interpersonal*, *ideational* and *textual* (Halliday, 2014).

Drawing on the multi-competence perspective, SFL has been used to investigate whether children can, for instance, create similar ideas across languages in their final texts. For example, Lindgren and Stevenson (2013) found that 11-year-old Swedish children used similar interactional meaning in L1 (Swedish) and FL (English). Similarly, Lindgren and colleagues (2017) demonstrated that multilingual Sami children in Sweden, Norway and Finland conveyed similar interpersonal, ideational and textual meanings across their L1, L2 and L3. For instance, an examination of ideational meaning showed how one of the children conveyed similar ideas in all three languages about outdoor activities and protecting the environment.

Cognitive Writing Model

One of the most influential cognitive writing models was proposed by Flower and Hayes (1981). The most recent version of this model (Hayes, 2012) introduced three levels: *control*, *process* and *resource*. On the control level, aspects such as writer’s motivation, goal setting and writing schema are considered when producing a text. The process level comprises writing processes (e.g. proposer, translator, evaluator, transcriber) and task environment (social (e.g. classroom noises)) and physical aspects (e.g. transcribing tool such as pen or keyboard). On the resource level, the writer’s attentional resources, reading, working memory (WM) and long-term memory (LTM) capacities are included. Regarding the reading and writing profiles of children with poor word recognition and mixed reading difficulties, this model could be applied to explain their difficulties on different levels (Hayes & Berninger, 2014).

For example, regarding resource level, limited WM, linguistic knowledge (e.g. vocabulary and grammatical structures) and difficulty in finding words stored in the LTM, reading experience and exposure could possibly hamper writing on the process level, such as in the translation of ideas and/or transcription of such ideas into written language. In other words, this limited cognitive capacity and linguistic knowledge could, for example, influence children’s L1 and/or L2 writing fluency (e.g. burst length, frequency of pauses) and accuracy (e.g. spelling rate and grammatical errors) (Hayes & Berninger, 2014; Reilly et al., 2014).

Writing Processes in L1 and L2

Writing in L2 is often more cognitively demanding than writing in L1, which, for example, could result in shorter bursts, longer, more frequent pauses and more revisions in L2 (Chenoweth & Hayes, 2001; Van Waes & Leijten, 2015). In addition, L2 writers produce more within and between word pauses, which could be related to low-level processes such as spelling and lexical problems (Van Waes & Leijten, 2015). Writers have also been shown to make longer pauses when they write in L2 compared to L1 across all syntactic units (Spelman Miller, 2000).

Writing experience, competence and exposure can impact writing processes in L1 and L2. In a longitudinal study, Miller and colleagues (2008) found that Swedish children produced longer bursts and paused less frequently in their L2 writing as they grew older. An analysis of Chinese adult EFL writers on the composing process showed that factors such as the writer's L2 competence and exposure to L2 tuition show which writing processes, such as generating ideas, can be involved in writing in L1 and L2 (Chang, 2020). As writers' L2 proficiency and exposure increased, they became more flexible and used both languages when composing texts in both L1 and L2. Writers specifically used their "total language repertoire" (Chang, 2020: 20) when addressing lexical issues.

Reading Difficulties and Writing

According to the Simple View of Reading (SVR), poor reading comprehension is the result of one of the following conditions: poor word recognition (PWR) or poor linguistic comprehension (PLC) (Tunmer & Greaney, 2010; Gough & Tunmer, 1986). The first category includes individuals with good linguistic comprehension who have problems decoding and reading words accurately. These difficulties relate to phonological processing skills such as phonological awareness and speed of processing. There are also individuals with poor linguistic comprehension who have no problems with phonological processing and can read words accurately. These individuals with specific comprehension problems have difficulties on word, sentence and text levels in both listening and reading comprehension. Poor vocabulary and syntactic skills lead to problems in comprehending written sentences and children who have difficulty associating the meaning of each new sentence with the previous sentence struggle to understand and recall written stories and texts, and therefore do not understand the text (e.g. Catts et al., 2006).

There are also individuals who have mixed reading difficulties (MRD) who experience both phonological processing deficits and difficulties on a semantic, syntactic and text level. Thus, this group has difficulties both reading words and comprehending texts (Tunmer & Greaney, 2010). Some of the students identified with PWR may also fulfil the criteria for dyslexia (Gough & Tunmer, 1986). These students mainly have difficulties on a word level, which is shown in their writing accuracy (e.g. spelling). For example, both monolingual (Williams & Larkin, 2013; Sumner, 2013) and bilingual children with dyslexia (Łockiewicz & Jaskulska, 2016; Palladino et al., 2016) made more spelling errors than children without dyslexia. However, children with dyslexia do not seem to have difficulties on a text level. In this regard, an analysis of writing complexity and written composition has shown that the written texts of children with and without dyslexia were comparable in aspects such as idea development, organization, unity, coherence and sentence structure (Williams & Larkin, 2013; Sumner, 2013).

On the process level, an analysis of writing fluency of children with and without dyslexia has shown different patterns. For example, Sumner et al (2013) and Beers and colleagues (2017) showed that monolingual children with dyslexia produced shorter bursts, more frequent pauses and wrote texts more slowly as they produced fewer words per minute than their peers. Sumner and colleagues (2013) also argued that poor spelling leads to frequent within-word pauses. Similar patterns have been observed in writing in an L2 analysis of bilingual children with dyslexia. For example, they produced fewer words (Hedman, 2009) in L2 than typically developing children.

Children with poor linguistic comprehension such as poor comprehenders and those with both PWR and PLC, like some children diagnosed with developmental language disorder (DLD), have problems with the “acquisition, processing and production of written language” (Connelly et al., 2012: 282). Thus, they have difficulty on all levels (e.g. word, sentence and text), which is shown by their poor performance on accuracy, fluency, complexity and written composition compared to typically developing children (Mackie et al., 2013). For example, regarding accuracy, their texts contained grammatical and spelling errors (Gillam & Johnston, 1992; Puranik et al., 2007). A study of the participants’ writing fluency (text length) of these children demonstrated that they produced shorter texts (Mackie et al., 2013). Furthermore, an analysis of their writing complexity and written composition showed that their texts contained lower lexical diversity, a simpler syntactic structure (Reilly et al., 2014; Re & Carretti, 2016) and were less coherent and contained fewer ideas. The poor text quality was based on content, organization and style (Fey et al., 2004; Cragg & Nation, 2006; Re & Carretti, 2016). In addition, these children tend to use more additive and fewer causal connectives and cohesive devices, which leads to a less integrated event structure (Re & Carretti, 2016; Carretti et al., 2016). These difficulties prevent children from producing age-appropriate texts. A comparison of genres has found different patterns in the written texts of children with poor comprehension. For example, Carretti and colleagues (2013) demonstrated that the descriptive texts of young poor comprehenders were comparable with their age-matched good comprehenders. However, their narrative texts were less informative and coherent than their peers. This could mean that poor comprehenders struggle with coherence and causality, which are essential components of narrative texts.

Children with poor comprehension and DLD also have a number of semantic issues, such as storing and organizing familiar words and finding words (e.g. Brackenbury & Pye, 2005; Lahey & Edwards, 1999). In addition to poor language skills, children with DLD have limited WM capacity (Alloway et al., 2009). According to Hayes & Chenoweth (2007), limited WM capacity can have a negative effect on all aspects of writing. In line with this view, Connelly and colleagues (2012) demonstrated that poor WM capacity in children with DLD influenced the length of their written bursts as they produced shorter bursts compared to chronologically age-matched children.

Both similar and different patterns on different measures of writing fluency and complexity have been found between children with dyslexia and DLD. For example, Puranik and colleagues (2007) showed that regarding their writing fluency, children with dyslexia produced longer texts but their performance was comparable with the DLD group on the average length of T-units. Regarding their linguistic complexity, children with dyslexia produced greater lexical diversity, syntactic complexity (measured by number of T-units) and more ideas than children with DLD. However, both groups performed similarly when their clause density was examined. The different patterns could mean that different measures of analysis may also provide different results. The study

found no differences between the dyslexic and control group on the number of words and ideas produced and between the performance of children with dyslexia and DLD when analyzing their writing accuracy (e.g. proportion of grammatically correct sentences and spelling errors). To my knowledge, no study has investigated how bilingual children with RD make meaning in written texts in real time across different languages and genres.

This Study

This paper aims to explore how two participants with RD, one with PWR and one with MRD, use linguistic features to make meaning as they compose narrative and descriptive texts in two different languages. In particular, the following questions are addressed:

- How do the two participants create interpersonal, ideational and textual meaning in Persian and Swedish narrative and descriptive texts?
- How do the writing processes (e.g. pauses, burst lengths) in their texts differ across languages and genres?
- What is the relationship between meaning-making and writing processes in the participants' texts?

Method

A number of research methods was used for data collection such as questionnaires, interviews, standardized screening tests, writing tasks and the Eye and Pen. The questionnaires and interviews provided some background information about the participants' language and literacy exposure and practice, particularly in the home environment. The standardized screening tasks (see Appendix 1), reading and listening comprehension, in both languages, helped to identify these two participants with RD.

Descriptive and narrative tasks were included in the study in order to investigate whether similar or different patterns were used across genres. Each participant completed writing tasks in one language before moving on to the next language. The Eye and Pen was used to shed some light on the two participants' writing processes across languages and genres.

The Participants

Abtin

At the time of the study, Abtin was a 13-year-old boy in year 7. Abtin was born in Iran and came to Sweden when he was 8 years old, at which time he started attending school in year 2. He had attended school for one year in Iran. Screening measures showed that he had PWR (-1 SD below the mean) in both Persian and Swedish. However, his listening comprehension in both languages was within the normal range. The questionnaires (see Appendix 2) revealed that he spoke Persian with his parents and used both languages with his siblings at home. He was most comfortable speaking in Persian and writing in Swedish. Abtin thought it was difficult to use long sentences, to read and to spell in Persian, but that it was easier to create correct sentences in Persian compared to Swedish. During the interview, Abtin stated that he found it difficult to learn the sound of each letter (grapheme-

phoneme correspondences) in Persian but not in Swedish. Abtin believed it was easy to create long, correct sentences and to read and spell in Swedish.

Farid

At the time of the study, Farid was a 12-year-old boy in year 6 who was born in Afghanistan and came to Sweden when he was 9 years old, at which time he started attending school in year 3. He had attended school for two years in Afghanistan. The screening measures demonstrated that he had a MRD (according to Hoover & Gough, 1990; Tunmer & Greaney, 2010) as he achieved -1 SD below the mean on listening comprehension and word reading tasks in both languages. Farid was more comfortable speaking and writing Swedish compared to Persian.

The questionnaires showed that he spoke Dari (Persian) with his mother and with his family's friends and Swedish with his siblings. He reported that he had no problem using long and correct sentences in either language, but that it was easier for him to read and spell in Swedish than in Persian. Farid said he had no problem learning the sounds of letters (the grapheme-phoneme correspondences) in either language and no problem reading and understanding either oral or written language in both of the two languages.

Writing Tasks

The two participants wrote four texts, one descriptive and one narrative in each of the languages: Persian and Swedish. For the descriptive texts, they wrote about their dream presents in Swedish and their dream house in Persian. They were given 15 minutes to complete each descriptive task. Two similar frog stories, *Frog where are you?* (Mayer, 1969) and *A boy, a dog and a frog* (Mayer, 1967) were chosen for the narrative tasks. A pilot study with children of a similar age showed that the whole picture story was too long and made them tired. Thus, seven key pictures in each story were selected. The participants were asked to write about all the pictures within 30 minutes. They completed their four texts in the allocated time. During the writing sessions, if necessary, they were prompted to stay on task.

The Meaning-making and Writing Process Analyses

The participants were only used to writing by hand in Persian, not on a computer. Hence, all the texts were collected using the handwriting software Eye and Pen (EP) (Alamargot et al., 2006). EP was also utilized during the analysis process. This software was used to analyze the linguistic features and meaning-making in Abtin and Farid's texts across languages and genres in real time.

Some aspects of systemic functional linguistics (SFL) have been drawn on in order to understand how the writers' make meaning as they compose their texts. According to SFL, different meanings can be created and understood through a language's grammar (Halliday & Matthiessen, 2014). There are three metafunctions: *interpersonal*, *ideational* and *textual*. The interpersonal metafunction reflects the writers' attitudes and feelings; the ideational metafunction focuses on contents, ideas and reflects the writers' experience of the world; the textual metafunction

could reflect how well the text is structured in order to convey meaning (Halliday & Matthiessen, 2014). It can also be operationalized as rhetorical devices (e.g. listing technique) and text length (e.g. the number of words produced) (Lindgren et al., 2017).

In the narrative tasks, the interpersonal and ideational meaning were depicted in the pictures. The participants had to interpret the pictures' and characters' feelings, actions and settings and translate them into texts. In the descriptive tasks, the participants wrote about their feelings and attitudes, ideas, actions and experience of the world. The linguistic tools that help the writers create interpersonal meaning were examined through attitudinal epithets such as the adjectives the writers used to describe characters and their own feelings and attitudes (e.g. happy, beautiful) (Halliday & Matthiessen, 2014: 377). The ideational meaning was analyzed through circumstantial features, qualities, characters involved and verb processes. The circumstantial features were investigated through the circumstantial adjuncts that conveyed physical (e.g. house) and temporal (e.g. today) settings and manners (e.g. slowly). Experiential epithets (e.g. big, blue, new), which communicated qualities and the writers' ideas about size and color were investigated.

Different verb processes which were also related to the writers' internal and external experiences were analyzed in the texts. For example, internal experience refers to experiences in our minds and our conscious world such as perception and fantasy, while external experience concerns our experience of the external world. For instance, material verbs (e.g. run) are related to our external experience while mental verbs (e.g. think) are connected with our consciousness and internal experience. Relational verbs (e.g. is) help us connect two experiences (that can be both internal and external) together. Behavioral verbs (e.g. cry, sleep) indicate "outer manifestation of inner working", verbal verbs (e.g. say) are created in our consciousness and expressed, and existential verbs (e.g. to be) refer to all types of phenomena that exist (Halliday & Matthiessen, 2014: 214–15). The textual meaning was examined through the number of words, rhetorical devices (Lindgren et al., 2017; Thompson, 2013) and text structure (Halliday & Matthiessen, 2014).

The participants' writing processes such as bursts, pauses and revisions were examined with a particular focus on bursts. Bursts are defined as "a period of handwriting interruption" (Alves & Limpo, 2015: 379), i.e. chunks of texts written between pauses. Previous studies used a threshold of two seconds to define a pause (Chenoweth & Hayes, 2001; Strömqvist et al., 2006; Alves & Limpo, 2015) based on the assumption that this threshold is plausibly caused by cognitive activities involved in, for example, modifications of contents or spelling uncertainty. Thus, all pauses above two seconds were included in the analysis and shown in terms of their duration, frequency and location (e.g. within or between words, at the beginning or end of sentences, before or after punctuation).

In order to analyze the relationship between the writers' meaning-making and writing processes, a combination of the SFL framework and Hayes' (2012) writing model was used. This analysis could provide some knowledge on the meanings that were produced more (e.g. long bursts, less frequent pauses) or less (short bursts, more frequent pauses) fluently across the participants' languages and genres. Furthermore, the multi-competence perspective, which has not been addressed in research on bilinguals with RD, could help us understand whether the two participants could share some knowledge (e.g. genre knowledge) across their L1 and their L2.

The analysis was performed on the original texts written in Persian or Swedish. However, an English translation of the texts will be used here. The location and duration of pauses are also shown in the translated texts. As Persian grammatical order is different from English and the translation of the texts into English affected the location of pauses, the words were first translated in the same order as they were written in Persian so that the pauses were placed in the right order. Then, a more fluent translation was provided without pauses below each text. The texts have been divided into different sections and numbered so it is easier for the reader to follow the analysis. In order to keep the translation as close to the original texts as possible, errors, particularly spelling errors, were also translated and the correct versions are provided in parentheses.

Findings

Abtin

1. *I and my dog* <2.0> *we want to find a frag (frog)* <9.0>.
2. *We found one* <6.0>
3. *the (The) frag (frog) was in the wa*<6,0> *water* <18>
4. *we (We) jumpd (jumped) in* <28> *and we were close to take it*
5. *but (But) it went into the water* <7,0> *and we gave up* <3.0> *giv* <9.0> *up (give up)* <3.0>
6. *sa (So) ¶ I we were on the way home* <13> *and* <3.0> *I was upset that not we could take home the frag (frog)* <14>.
7. *When we came mom was angry* <2.0> *said go and bathe* <4.0>
8. *I will ok* <18.0>. <11.0>
9. *I tug (took) off the clothes and bathed with th (the) dog* <24>.
10. <4.0> *I saw frag (frog)* <2.0> *jump in the water and bathe with os (us)* <2.0>.
11. ¶ *I think that frag (frog)* <2.0> *Follwed (followed) myy (my)* <3.0> *Fot* <5.0> *stebs (footsteps)* <6.0>, *to my housee (house)* <4.0>.
12. <9.0> *And I tuk (took) careof (care of) the frag (frog)* <7.0> .

Abtin started his Swedish narrative text by introducing the main characters. He produced a burst writing about the characters' desire using a mental verb (*want*). In line 3, he mentioned the physical setting of *water*. He continued (line 4) writing about the characters' actions, *we jumped in*, and produced a long burst explaining what happened when they tried to catch the frog, using material (*take, went*) and relational (*was*) verbs, an experiential epithet (*close*) and a circumstantial adjunct (*water*). Abtin wrote *and we gave up*, as "gave up" in English, not Swedish (line 5). He noted his mixing of languages, deleted *gave up* and wrote the Swedish counterpart (*ge upp*) instead. In the next line (6), he produced seven words fluently describing one of the pictures. He developed the story further by producing a long burst and explaining the character's feelings through an attitudinal epithet *I was upset that not we could take home the frog*.

Abtin then introduced a new character, *mom*, and wrote about her feelings, using an attitudinal epithet *When we came mom was angry*, and described what the character asked the boy to do (line 7). Abtin wrote the boy's reply *I will ok*, then produced two long pauses. After that he produced eight words fluently (*took off* and *bathed*) to explain the characters' actions. Abtin made both grammatical (*hunde (th dog)* instead of *hunden (the dog)*) and spelling (*tuk* instead of *tog (took)*) errors when he produced the next sentence, neither of which he revised (line 9). Abtin went on to describe the situation and produced seven words fluently describing how the frog joined them in the bath, using mental (*saw*) and material (*jump, bathe*) verbs. At the beginning of the next sentence (line 11),

he produced frequent pauses and misspellings when writing *followed my footsteps to my house* using a material verb (*followed*) and a circumstantial adjunct (*house*). Abtin produced the last burst fluently *And I took care of the frog* (line 12).

1. *It was christmas (Christmas)* <4.0>
2. *we (We) had many presents* <3.0>.
3. *I had* <3.0> *Fiv*<3.0>*e (five)* <3.0>.
4. *I did not know what it was two were beg (big)* <7.0>.
5. <2.0> *I went* <10> *out with friends so I did not thi*<2.0>*n*<2.0>*d (think) about the presents.*
6. *When I came home it was* <2.0> *18 o'clock*
7. <3.0> *we should open* <4.0> *op*<5.0>*en* <21> *the presents* <6.0>.
8. *I opened* <8.0> *one and it was* <16> *an ipfon (iphone),* <2.0> *telephone it was* <4.0> <3.0>; *ifon (iphone), i* <4.0>, *Ipade (ipad)* <2.0> *i (I) became klad (glad)* <10>.
9. <2.0> *I opene (opened) present two* <5.0> *it was a ps4 and W game Fifa 17, batelFile (battle field) one* <6.0> *Watchdoggs (Watch dogs) two* <3.0>, *black up 3* <2.0>, <10> *mum 4,* <7.0>
10. *I* <3.0> *opened it drectly (directly) and satrted (started) playing*
11. *it (It) was* <2.0> *20:00 o'clock* <4.0>
12. *I stoppd (stopped) ta* <3.0> *to play and opend (opened) present* <2.0> *three* <7.0>.
13. *It was a moped K I became klad (glad)*
14. *i (I) we want to ride it but there was snow so I Had (had) to wait* <7.0>.
15. *present (Present) Four (four) was* <6.0> *a dat* <4.0>*a (computer)* <2.0> *and i (I) became klad (glad).* <10>
16. *And there last* <2.0> *was one present left*
17. *I opened it and it was 4 tickets to Spain* <6.0> *and hotl (hotel)* <3.0> *and became klad (glad) and that was all.*

Abtin started his Swedish descriptive text using a circumstantial adjunct (*Christmas*) to describe the temporal setting. He then produced seven words fluently speculating about the presents and their size using mental (*know*) and relational (*were*) verbs. He misspelled the experiential epithet (*ståra* instead of *stora* (*big*)) (line 4). In the beginning of the next sentence (line 5), he wrote about the character's action *I went*, then produced six words fluently. Abtin misspelled the mental verb *think*. He then produced seven words fluently explaining the character's action using material verbs (*came, open*) and physical and temporal settings using circumstantial adjuncts (*home, 18 o'clock*) (line 6). Abtin misspelled a material verb (*open*) (line 7). *Open* has a double consonant in Swedish (*öppna*). Abtin wrote it correctly in the next sentence (line 8) then went back and corrected the misspelling. He continued using a listing technique to write about his present. In line 8, Abtin produced some lexical and content changes. For example, he misspelled *ipfon*, deleted it, wrote *telephone it was ifon*, deleted *ifon*, wrote *I*, deleted it, went back, deleted *telephone it was* and wrote *Ipade*. Abtin wrote about his feelings using the attitudinal epithet *I became glad*.

In line 9, Abtin produced four words fluently. After that, he produced 11 words fluently describing his present. In the next line (10), he produced eight words fluently using material verbs (e.g. *opened*) to explain his reaction to the presents. In the following sentences, he produced 19 words fluently (lines 13 and 14) using material (*ride, wait*), mental (*want*), relational (*was*) and existential (*was*) verbs. In the next sentence (line 15), he used the existential verb (*was*) and introduced the fourth present. Abtin used the lexical substitute *data* instead of *dator* (*computer*). In line 16, after making a lexical change, he produced 14 words fluently (lines 16 and 17) describing his last present, using material (*open*), existential verbs (*was*) and a circumstantial adjunct (*Spain*). Abtin produced the last burst fluently (line 17) expressing his feelings once again through the attitudinal epithet (*glad*) *and became glad and that was all*.

1. *mother my* <5.0> *a* <13> *bro* <12> *b* (*frog*) <13>
2. *and it nightwas* (*night was*) <4.0> *I we*<5.0>*mt* (*went*) *slp* (*sleep*) <3.0>.
3. *in the mrning* (*morning*) <3.0> *whn* (*when*) *I wok* <3.0>*up* (*woke up*) <5.0>, *brob* (*frog*) *not was* <9.0>
4. *I and* <3.0> *dog my* <4.0> ~~*we*~~<3.0>~~*n*~~<5.0> *went for brob* <10> (*frog*) *l* <2.0>*okin*<4.0>*g* <7.0> (*looking*) *and lo* <10> *oking* *but* <3.0> ~~*w*~~ *we did not f*<6.0> *i*<3.0><7.0>*ynd* <2.0> (*find*) *it* <21>. <21>
5. *I and* <2.0> *dog my wa* (*were*) *goin* (*going*) *homm* (*home*) <4.0> *n* (*when*) *the b*<3.0>*rob* (*frog*) *we fond* (*found*) <8.0>.
6. *with frie*<4.0>*nt* (*friend*) *his* ~~*H*~~ *He plying* <3.0> (*was playing*) <14>.
7. ~~*I*~~ *I, brob* <2.0> (*frog*), *and d* <3.0>*og my* *we* <3.0>*nt homi* (*home*).
8. *I* <2.0><2.0> *a* (*at*) *the brob* <4.0> (*frog*) *ongri* (*angry*) *was* <4.0> *but* <3.0> *happ* (*happy*) *I was* <3.0> *tha* (*that*) *fond* (*found*) *him we ha* (*had*)

my mother a brob (frog) and it wasnight (was night) I went (went) slp (sleep).

whn (when) I wok up (woke up) in the mrning (morning), brob (frog) was not. I and my dog ~~wen~~ went loking (looking) and looking for brob (frog) but ~~w~~ we did not fynd (find) it. I and my dog wa (were) goin (going) homm (home) n (when) we fond (found) the brob (frog) ~~H~~ He plying (was playing) with his frient (friend).

~~*I*~~ *I, brob (frog), and my dog went homi (home). I was ongri (angry) a (at) the brob (frog) but I was happ (happy) tha (that) we ha (had) fond (found) him*

In the Persian narrative text, Abtin paused frequently and produced many short bursts. Abtin started his text by writing about a character, *mother*, and introduced the main character, *frog*, which he misspelled. In line 2, Abtin described the temporal setting and the boy's actions using a circumstantial adjunct (*night*) and material verbs (*went, sleep*) and made spelling (رفتم (went) instead of (went) رفتم), grammatical and morphological (بی خواب (slp) instead of بخوابم (*I sleep*)) errors. In the next few sentences (lines 3–4), he explained that the two main characters were searching for the frog the next day, using material verbs (*woke up, looking for*) and a circumstantial adjunct (*morning*). In the next sentence (line 5), Abtin wrote about the characters' actions and destination using a material verb (*go*) and a circumstantial adjunct (*home*). Then (lines 5 and 6) he wrote about how they found the frog, using material verbs (e.g. *find*) and made several spelling (خورباخ (*brob*) instead of قورباغه (*frog*)), lexical (ن (*n*) instead of وقتیکه (*when*)), morphological (*his friend* (دوسدش) instead of *his friends* (دوستانش)) and grammatical (*plying* (باز می کرد) instead of *was playing* (داشت بازی می کرد)) errors. In the next few sentences (lines 7 and 8), he misspelled words and explained his mixed emotions through attitudinal epithets (*ongri, happ*) in that situation using the relational verb (*was*). Abtin produced the last burst fluently (line 8) *tha we had fond him*.

1. *I lik* (*like*) *that* <4.0> *house my* <16> *ap*<2.0>*o*<3.0>*ol* (*a pool*) *to hav* (*have*) <4.0>. <3.0>
2. *house my biik* (*big*) *to b* (*be*)<7.0>. <8.0>
3. *beeh*<2.0>*ind* (*behind*) *house my* <5.0> *a* <11> *footba* <4.0> (*football*) *pch* (*pitch*) <2.0> *ha*<3.0>*v* (*have*)<10>, <7.0>
4. *kar* <2.0> *a* (*garage*) *biig* <8.0> (*big*) *hav* (*have*) . <19>
5. *close* <4.0> *to city b* (*be*) <6.0>. <28>
6. <3.0> *manhy* <12> (*many*) *roo* <12> *ch* <6.0> (*rooms*) *hav* (*have*) <7.0>.
7. *fuu*<2.0>*r*<4.0>*nah* <2.0> (*furniture*) *beautiphul* (*beautiful*) *hav* (*have*) <17>. <10>
8. *house my clean* *to be*<4.0>. <11>
9. ~~*and*~~<11> ~~*hi*~~<2.0>~~*vi*~~<5.0>~~*n*~~<5.0>.

I lik (like) that my house to hav (have) apool (a pool). My house to b (be) biik (big). beehind (behind) my house hav (have) a footba (football) pch (pitch), hav (have) a biig (big) kara (garage). b (be) close to city. hav (have) manhy (many) rooch (rooms). hav (have) beautiphul (beautiful) fuurnah (furniture). my house to be clean. ~~and livin~~.

In the Persian descriptive text, Abtin made frequent pauses and the majority of bursts were short. Abtin wrote *I*

like that fluently using a mental verb (*like*) (line 1). In the next sentence (line 2), Abtin used a relational verb (*be*) and an experiential epithet (*big*) to explain the characteristic (size) of his dream house. In the following line (3), he mixed language when he wrote the circumstantial adjunct *footbapan* (football pitch) in Swedish using the Persian alphabet. In lines 4 and 5, Abtin continued describing his dream house characteristics using experiential epithets (*big, close*), circumstantial adjuncts (*garage, city*) and relational verbs (*have, be*). In the next sentence (line 6), Abtin continued writing about how spacious his dream house is and misspelled some words (e.g. *many* and *rooms*). In the next line (7), Abtin misspelled *furniture* and used an attitudinal epithet (*beautiful*) to describe what his furniture looked like and he produced the next burst (line 8) fluently, once again describing another characteristic using the attitudinal epithet *my house to be clean*. Finally, he deleted the last two words before he finished.

Summary of Abtin's Texts

The interpersonal and ideational meaning-making analysis of Abtin's bursts showed similar patterns across languages and genres. An examination of the long bursts could provide information on the meaning that the participant was able to produce without much effort. It could reflect on higher linguistic, orthographic knowledge that was quite easily retrieved from the LTM. It could also show his greater cognitive capacity when he was producing that meaning.

For example, Abtin could fluently translate and transcribe his feelings into text when creating interpersonal meaning and unpacking characters and his feelings in his Swedish narrative and descriptive texts, as well as in his Persian narrative texts. In addition, he translated and transcribed some ideational meaning fluently in both languages. For example, in Swedish, when describing activities such as what he and the frog did at the water in the narrative text, thoughts about the characteristics of the presents, what he intended to do with the presents and what these presents were in the descriptive task. Similarly, in the Persian descriptive text, long bursts were evident when ideational meaning was created through, for example, describing the characteristics and qualities of his dream house.

The difficulty he had producing ideational meaning could be related to the limitation of the linguistic resources that were presumably stored in the LTM as well as his cognitive capacities. These linguistic and cognitive resources are important when writing and could perhaps disrupt writing fluency and the generation of ideas that need to be translated and transcribed into written text and result in the production of short bursts during this process. An analysis of these bursts could provide some information on the meaning that was more challenging to produce and that needed more effort. For example, in Swedish, when producing ideational meaning, he might have had problem retrieving words such as *give up* and struggled to transcribe some of his thoughts and ideas such as how the frog found them in the narrative text and deciding on a present in the descriptive text. Furthermore, in Persian, he had difficulty, for example, writing about searching for the frog in the narrative and ideas about the dream house's surroundings in the descriptive texts. The vocabulary, grammar and spelling uncertainties could have led to a sequence of pauses, grammatical and spelling errors. In one case, the Swedish descriptive text, these spelling errors also turned into an idea being changed (iPad instead of iPhone).

The textual meaning-making analysis showed both differences and similarities across languages. The differences were found regarding Abtin's text lengths. In both the narrative and descriptive texts, he produced more words in Swedish (100, 146) than in Persian (57, 42) respectively. Furthermore, an analysis of his writing processes demonstrated that his longest bursts in the Swedish narrative and descriptive texts contained more words (11, 19) than in the Persian narrative and descriptive texts (4, 4).

These differences could indicate that he was a more fluent writer in Swedish than in Persian. In other words, he probably had higher linguistic knowledge, such as vocabulary and grammar, in Swedish than in Persian. Thus, it was possibly easier to access them from the LTM and fluently transcribe them into words. Similarities were found when analyzing the rhetorical devices used across genres.

For example, in the Swedish descriptive text, he wrote chronologically using numerals such as *one, two, three* and used a listing technique to write about his dream presents. In the Persian descriptive text, he wrote in a list-wise manner. The listing technique could possibly be considered to be genre knowledge that is presumably stored in the LTM. This technique was used in both descriptive texts to convey meaning. However, this meaning was described more fluently in Swedish than in Persian. In addition, all texts across both languages and genres were coherent and easy to follow.

In general, the analysis showed many similar patterns across languages and genres when considering the interpersonal, ideational and textual meaning. However, these meanings were produced more fluently with fewer errors in Swedish than in Persian, which indicates that it was more challenging for Abtin to access, for example, linguistic knowledge that is presumably stored in the LTM when producing meaning in Persian than in Swedish.

Farid

1. *There was a boy anda (and a) dog <6.0>*
2. *the (The) dog <2.0> and <2.0> the boy want they bathe <4.0>*
3. *they (They) had <2.0> taken with them a buket <2.0> (bucket) FSo any <3.0> fish <2.0>or any frog <3.0> can <3.0> the boy <4.0> take it <10> .*
4. *the (The) boy <3.0> saw a frog <13> ~~sleep~~ (sleep) wh<2.0>o <4.0> was glad <6.0>.*
5. *dog (Dog) <4.0> sneaked (snuck) <10>*
6. *when (When) the dog h <13>add <2.0> dre<2.0>pped <2.0>(dipped) himself <3.0>the boy <3.0>jumped into the <4.0><6.0>water. <2.0>*
7. *the (The) frog was sca<2.0>red <10>*
8. *the (The) frog <3.0> jumped <3.0>on <2.0>a big stone <17>*
9. *the (The) frog was dsca<5.0>red <12>.*
10. *When <3.0>the boy and the dog <10> had gon <5.0>(gone) the frog went after them to check where the boy and the dog live <23>. <21>*
11. *The frog <3.0>come to ththeir (their) home*
12. *the (The) boy and <5.0>dog <17>had a poøll <8.0>(pool)*
13. *frog (Frog) sneak in<3.0>to <3.0> the <2.0> bath rooms (bathrooms)<2.0>*
14. *after (After) a <5.0>while <15>jumpd (jumped) the frog on the poll (pool)*
15. *the (The) boy <2.0>was <3.0> not sca <27> scared <30> the dog was <2.0>scared <9.0>.*

In the Swedish narrative text, Farid wrote the first sentence fluently (line 1), introduced two main characters and used an existential verb (was). In the next sentence (line 2), he produced four words fluently, expressing the characters' desire and action using mental (*want*) and material (*bathe*) verbs. In the following sentence (line 3),

he wrote a short burst *they had*, then produced five words fluently using a material verb (*taken*) and then misspelled *bucket*. Farid developed the story further by describing the boy's intentions with the bucket and he corrected misspellings (e.g. substituted an *F* with an *S* and produced *so*). In the next sentence (line 4),

Farid wrote *the boy*, then produced a short burst using the mental verb *saw*. He used the attitudinal epithet *glad* to explain the frog's feelings. Farid produced lexical changes and wrote about the character's feelings (*glad*) instead of the character's behavior (*sleep*). However, the picture showed a sad, not a happy frog. He made grammatical (e.g. *sneaked* instead of *snuck*) and spelling (*dipped*) errors when writing about the dog's reaction (lines 5–6).

In the subsequent sentences (lines 6–9), Farid wrote about the character's actions using material (*jumped*), relational (*was*) verbs, size using an experiential epithet (*big*) and explained the physical setting using circumstantial adjuncts (*stone*, *water*). He also wrote about the character's feelings using an attitudinal epithet (*scared*). In line 10, Farid produced 11 words fluently using material verbs (e.g. *went*, *check*) to explain why the frog followed them. In the following sentences (lines 11–12), he produced seven words fluently explaining the frog's action using a material verb (*come*) and the physical setting using a circumstantial adjunct (*home*). At the end of this sentence (line 12), he used the lexical substitute *pool* instead of *bathtub*. In line 14, Farid produced five words fluently explaining the frog's action and physical setting using a material verb (*jumped*) and a circumstantial adjunct (*pool*). In the last line, he wrote about the boy's feelings (*scared*).

1. *My dream*<12>
2. *my (My) dream present is that* <3.0>*I* <2.0>*will get a house*<6.0>.
3. *mine* <2.0>*(My) house looks like The white (White) House*<7.0>.
4. <3.0>*Then* <3.0>*after a awhile* <2.0>*i (I) change (change) the color* <13>*so I take white color and black*<15>. <15>
5. *yesterday (Yesterday)*<2.0> *the dream i (I) bought* <2.0>*a pa*<4.0>*he* <23> (*porsche*)
6. *i (I) bought This (this) moning* <4.0>*(morning)*.
7. *I* <2.0>*drove my cra (car)* <3.0>*to the bank*<13>.
8. *Then* <3.0>*aw*<5.0>*i* <2.0> *s aw (saw) a be*<4.0>*stfriendd (friend)* <2.0> *in the bank*<16>.
9. *My best friendd* <3.0>*(friend) had* <6.0>*five dogs with him*<11>. <6.0>
10. *When I had* <3.0>*ri*<2.0>*fullled (refuelled) the car* <8.0>*had* <20>*my* <3.0>*dog had* <2.0>*become disappear* <8.0>. <2.0>
11. *When i (I) called* <3.0>*the p*<5.0>*olice*<8.0>. <3.0>
12. *When the police* <5.0> *come then* <3.0>*i (I) hai*<3.0>*ned* <2.0>*(explained) how*<3.0> *it looks*<3.0> *like* <5.0>
13. *my (My) dog* <3.0>*was a* <3.0>*shufer* <5.0>*(shepherd) dog* <7.0>
14. *it (It) was* <3.0> *black in the back* <47>*and* <10>*brown* <8.0> *in the legs*<8.0>.
15. *When i (I) had found* <3.0>*my* <4.0>*dog* <3.0>*i (I) became glad*.
16. *So* <3.0>*was my rdre*<2.0>*am* <4.0>*was over*.

In the Swedish descriptive text, Farid began by writing the text's title *My dream* (line 1). After that, he produced *my dream present is that* fluently, realizing that he was supposed to write about his dream present not a dream. He then produced *will get a house* fluently. In the beginning of line 3, he made a grammatical gender error (*min* instead of *mitt*), then produced six words fluently describing that his dream house resembles the White House. In line 4, Farid produced seven words fluently describing colors using experiential epithets (*black*, *white*). He then changed the contents of the story and wrote about a dream. In the beginning of the next sentence (line 5), he wrote about the temporal setting using a circumstantial adjunct (*yesterday*) then produced four words fluently writing

about buying a Porsche (misspelled) using a material verb (*bought*). In the next sentence (line 6), he changed the story's temporal setting from *yesterday* to *this morning*. In the following sentence (line 7), he used a circumstantial adjunct (*bank*) to write about the physical setting. In the preceding sentence (line 8), Farid used a mental verb (saw) and produced a capitalization error (*i*). In the next sentence (line 9), Farid produced *five dogs with him* fluently. In the following lines (11–16), Farid misspelled a verbal verb (*explained*), used material (e.g. *called*, *came*), relational (*became*) verbs and experiential epithets (*black* and *brown*) to describe what the dog looked like. At the end of the story (lines 15–16), he described his feelings using an attitudinal epithet (*glad*) when he found the dog, and the dream was over.

1. *i a ch* <2.0> <5.0> (*child*) *wedr* <3.0> (*non-word*) *doy* (*dog*) <3.0> <3.0> *pl* <2.0> *yed* (*played*) <8.0>.
2. *Tha* <2.0> <3.0> *dog is* (*his*) *with* <2.0> *water* <4.0> *plaayed* <4.0> (*played*). <4.0>
3. <<3.0> *With* <3.0> (*Then*) *chivd* (*child*) *yll* (*ill*) *beecome* (*become*) <24>.
4. *From pehind* <3.0> (*behind*) *yl* <2.0> <5.0> *ness* <6.0> (*illness*) *f* <3.0> *kog* (*frog*) *his* <10> *isb* <6.0> (*escaped*). <2.0> *with ch* <3.0> *it* (*child*) *who* <6.0> *yll* <2.0> (*ill*) *was* <13>.
5. *Heo* <4.0> (*He*) *that* <22> *with w* <4.0> <7.0> *ith* *doy* (*dog*) *his* <3.0> *beehind* <10> (*behind*) *cha* (*child*) *went* <2.0> *with* <2.0> <4.0> *un* <2.0> (*non-word*) *f* <5.0> *kog* <4.0> <4.0> (*frog*) *f* <2.0> *rot* <7.0> (*in front*) *with head and* <3.0> *neck* <4.0> *ply* (*play*).

i a cho (*child*) *wedr* (*non-word*) *plyed* (*played*) *with dhis* (*his*) *doy* (*dog*). *That his doy* (*dog*) *plaayed* (*played*) *with water*.

<With (*Then*) *chivd* (*child*) *beecome* (*become*) *yll* (*ill*). *From pehind* (*behind*) *yllness* (*illness*) *his fkog* (*frog*) *isb* (*escaped*). *with chit* (*child*) *who was yll* (*ill*). *Heo* (*He*) *that* *went with with his doy* (*dog*) *beehind* (*behind*) *cha* (*child*) *with tun* (*non-word*) *fkog* (*frog*) *frot* (*in front*) *with head and neck ply* (*play*).

In the Persian narrative text (lines 1–2), Farid mainly produced short bursts and frequent pauses. He introduced two characters; *dog* and *child* and used a material verb (*play*) to explain their action. Farid misspelled *child* and *his*. In the next line (3), Farid used an experiential epithet (*ill*) and a relational verb (*become*) to write that the child became ill. He made grammatical, spelling (e.g. *become* instead of *became*) and lexical (*with* instead of *then*) errors when he produced this sentence. When Farid produced the next sentence (line 4), he used a material verb to explain how the frog escaped. At the beginning of the following sentence (line 5), after writing *Heo* (*He*) *that*, Farid wrote about the characters and their actions.

1. *House my* <3.0> *greeg* (*green*) *iz* (*is*) <3.0>
2. *we* <2.0> <3.0> (*very*) *i* <4.0> <2.0> *g* (*big*) *is* <3.0>.
3. *I* <10> *come* (*want*) *that in house my* <4.0> *water* <3.0> *hav* (*have*). *flowe* (*flower*)
4. *So I with water* <4.0> *play* <3.0>. <11>
5. *y* (*I*) <5.0> *a t* <3.0> *ole* (*a lot*) *with water* <5.0> *ply* <7.0> (*play*) <7.0>
6. *in* <2.0> *house my* <8.0> *d* <3.0> *flower hase* (*should*) <6.0> *hav e* (*have*). <62>
7. *In I liv* <3.0> *e I* <6.0> *i* <3.0> <10> *ve* <2.0> (*live*) *ful* (*full*) *phlower* (*flower*) *is*.

my house is greeg (*green*) *iz* (*is*) *wey* (*very*) *ibg* (*big*) *is*.

I come (*want*) *hav* (*have*) *water in my house*. *So I play with water*. *y* (*I*) *ply* (*play*) *a tole* (*a lot*) *with water in my house hase* (*should*) *hav e* (*have*) *dflower* (*flower*). *In I live I i ve* (*live*) *is ful* (*full*) *phlower* (*flower*).

Farid produced frequent pauses and short bursts throughout his Persian descriptive text. He described his dream house (lines 1–2) using experiential epithets (e.g. *green*, *big*), circumstantial adjuncts of place (*house*), manner (*very*) and a relational verb (*is*). In the beginning of the sentence (line 1), he misspelled *green*, *very* and *big*. In

line 3, he produced his longest burst in this text (five words) explaining what he wanted to have in his dream house and made a lexical error (*come* instead of *want*). In the next line (4), Farid wrote about what he wanted to do in the house using a material verb (*play*). *Water* can be a lexical substitute for *pool* or *bath tub*. The content of the next sentence (line 5) was very similar to the previous sentence except that he used a circumstantial adjunct of manner (*a lot*). Line 7 was also very similar to the previous line. Farid produced the last burst fluently *full flower is*.

Summary of Farid's Texts

The majority of bursts that Farid produced to create interpersonal, ideational and textual meanings across both languages were short. Limited linguistic (e.g. vocabulary, grammar), orthographic (spelling) and genre knowledge that was presumably stored in the LTM, as well as limited cognitive capacity (e.g. WM, attention span), may possibly have disrupted his writing fluency in both Persian and Swedish and resulted in frequent pauses and the production of short bursts while generating ideas, translating and transcribing them into written words.

Farid only produced interpersonal meaning in Swedish. He produced short bursts when describing his and the characters' feelings in the Swedish narrative and descriptive texts. The ideational meaning-making analysis showed both long and short bursts across languages and genres. In Swedish, long bursts were noted when he described the characters' activities such as the frog following the boy and the dog in the narrative text. In Persian, long bursts were observed when he described what he wanted to have in his dream house in the descriptive text. These long bursts show that it was probably rather effortless for Farid to retrieve these words from the LTM in order to write about these ideas fluently. However, the production of some ideational meaning seemed to require more effort, which led to short bursts, spelling and grammatical errors, as well as word finding problems. For instance, the characters' activities such as the dog's movement and the boy driving the car in the Swedish narrative and descriptive texts, as well as the child playing and the character playing with water in the Persian narrative and descriptive texts, respectively. Both similar and different patterns were seen across languages and genres when the participant described certain characteristics and qualities. For instance, Farid produced short bursts when he wrote about the size of the stone and the house in the Swedish narrative and the Persian descriptive texts. Different patterns across genres and languages were noted when colors were being described in the descriptive texts, which led to a long burst in Swedish and a short burst in Persian. This could mean that it was easier for him to retrieve words that describe colors from the LTM in Swedish than in Persian.

The textual meaning-making analysis showed both different and similar patterns across languages and genres. Different patterns were observed in the analysis of Farid's text lengths. His Swedish narrative (110) and descriptive (118) texts were longer than of his Persian narrative (44) and descriptive (39) texts. Furthermore, an analysis of his writing processes showed that longer bursts were found in his Swedish (11, 7) compared to his Persian (3, 5) narrative and descriptive texts, respectively. No specific rhetorical devices across genres were found, which could reflect his limited genre knowledge. The majority of texts across both languages and genres, particularly the Swedish descriptive and Persian narrative texts, were also difficult to follow.

In general, Farid struggled to create interpersonal, ideational and textual meaning fluently in both languages. Furthermore, he created these meanings less fluently and possibly with even more errors in Persian than in Swedish. This indicates that he was a more fluent writer in Swedish than in Persian and it was possibly easier for him to retrieve, for example, linguistic knowledge from the LTM and translate and transcribe meaning into written words in Swedish than in Persian.

Discussion

This study was set to explore interpersonal, ideational and textual meaning and writing processes of two bilingual bicultural children with RD, one with PWR and the other with MRD, across Persian and Swedish descriptive and narrative texts. The analysis of Abtin's (the poor decoder) final texts support the perspective that view bilinguals as multicompetent individuals and that some writing knowledge may possibly be integrated, merged and shared between languages; that bilinguals use their knowledge across both languages (e.g. Cook, 2016; DePalma and Ringer, 2011; Rinnert et al., 2015; Cummins, 2005). Abtin made use of his multicompetent knowledge to present himself similarly across genres considering interpersonal (e.g. describing his and the characters' feelings), ideational (e.g. characteristics such as size) irrespective of the language he used. In addition, he employed some textual meaning such as listing technique similarly across both languages and created coherent texts in both languages and genres.

These results are in line with studies showing that, for example, rhetorical devices such as a listing technique in one language can be used across languages not only by children and adults without PWR (Lindgren et al., 2017; Kobayashi & Rinnert, 2013), but also by children with PWR. A further examination of Abtin's final texts showed that while writing, he also made use of his linguistic repertoire. Abtin used the Swedish word *footbalsplan* (*football pitch*) in his Persian text, and he wrote *gave up* in English in his Swedish text, later revised into Swedish. He showed that he could choose from different languages and he also used them during the composing process, possibly as a planning tool in order to take the first word that came to mind to create meaning without losing momentum. This pattern was also observed among typically developing children (e.g. Lindgren & Stevenson, 2013).

The meaning-making analysis of the participant with MRD (Farid) showed a different pattern. Some similarities were found across both languages, for example, in creating some ideational meaning (e.g. characteristics such as size and colors). However, there were also some differences such as lack of producing interpersonal meaning in Persian. In some cases, he struggled to produce specific type of meaning (e.g. textual meaning such as using a particular rhetorical device and producing coherent texts) in both languages. Thus, in contrast to patterns that have shown that bilinguals with (the present paper) and without PWR (e.g. Lindgren et al., 2017) could be multicompetent writers, this pattern was not clearly observed in this bilingual student with MRD. Further research needs to include more children with MRD across different languages to confirm or contradict these results.

An examination of the relationship between meaning-making and writing processes showed similarities in both participants. In general, both Abtin and Farid produced their meaning more fluently (e.g. less frequent pauses,

longer bursts) and possibly more accurately (e.g. fewer spelling errors) in Swedish (L2) than in Persian (L1). This can be attributed to limited mother tongue instruction, reading experience and writing exposure and practice, which could lead to even less developed linguistic knowledge (e.g. vocabulary and grammar) in the Persian texts. Linguistic and cognitive resources are important during a writing activity (Hayes, 2012). Earlier research has shown that writing in L2 is more cognitively demanding than writing in L1 (e.g. Chenoweth & Hayes, 2001), which results in longer bursts and less frequent pauses in L1 writing than in L2 writing (Van Waes & Leijten, 2015; Lindgren et al., 2008). This is in contrast with findings from the writing processes and texts of the two participants who were more fluent and perhaps more accurate writers and produced more meaning in their L2 than in their L1.

The writing profiles of both participants across both languages were in line with monolinguals with similar difficulties (PWR and MRD). For example, individuals with word reading difficulties have mainly problems on a word level, which affects their fluency (e.g. frequent pauses, shorter bursts and texts) (Sumner et al., 2013; Beers et al., 2017) and accuracy (e.g. spelling errors) (Williams & Larkin, 2013; Sumner, 2013). This was observed in all of Abtin's texts across both languages and genres. However, these difficulties were more severe in Persian (L1) than in Swedish (L2). Screening tasks demonstrated that Abtin's listening comprehension was within the expected results across both languages. In line with studies that have worked with monolinguals with PWR but good linguistic comprehension (e.g. Williams & Larkin, 2013), the present paper showed that Abtin did not have difficulty on a text level in any of his languages as he produced well-structured and coherent texts across both the Persian and Swedish texts.

Farid's writing patterns in both languages were also in line with monolinguals with poor comprehension and DLD. For instance, these children have had difficulties on word, sentence and text levels (e.g. Connelly et al., 2012; Re & Carretti, 2016; Carretti et al., 2016; Mackie et al., 2013; Puranik et al., 2007; Gillam & Johnston, 1992). In these studies, difficulties were observed in the children's fluency (e.g. shorter bursts and texts), accuracy (e.g. spelling errors), writing composition (e.g. less coherent texts). These difficulties were noted across both of Farid's languages. However, they were probably more severe in Persian than in Swedish. For example, his Persian texts were less fluent, less accurate, more repetitive and less informative than his Swedish texts. Farid's underlying deficits of linguistic comprehension and possibly limited WM resources, which have been shown to be common among children with poor comprehension and MRD (e.g. Elwér et al., 2013; Nation et al., 2010; Re & Carretti, 2016; Westerveld et al., 2008), could have prevented him from creating coherent texts although he was prompted, for example, in the Swedish descriptive text to stay on task. In addition, he seemed to have difficulty finding the right word in both languages, which is common among children with poor comprehension (e.g. Brackenbury & Pye, 2005).

Dockrell and colleagues (2001) showed that children with word finding difficulty repeatedly produce semantic substitutions (e.g. *mug* instead of *cup*) in naming tasks. This was also found in Farid's texts in which he chose words that were semantically related to what he probably had in mind (*pool* instead of *bathtub*). In another case, he chose an antonym such as *glad* instead of *sad*. On other occasions, he wrote *come* instead of *want* so the choices were not semantically related in all the examples.

Writing has mainly been explored among typically developing bilinguals. These bilinguals seem to be capable of sharing their acquired knowledge across languages (Lindgren et al., 2017; Kobayashi & Rinnert, 2013). The analysis of Abtin's texts also provided some evidence to support this. However, if bilinguals could use some knowledge learnt across languages, what happens when they fail to acquire some knowledge because of their deficiencies? Dyslexia and DLD are considered to be language learning disabilities (Lyon et al., 2003; Bishop, 2009). The analysis demonstrated that Abtin had PWR and Farid had MRD (i.e. PWR and PLC) in both languages. The writing characteristics that are aligned with these difficulties on different levels were also observed in both languages and genres. In other words, as some bilinguals with and without RD could potentially share their multi-competence in L1 and L2, bilinguals with RD could perhaps share what could be referred to as a *multideficiency* in both languages. To put it another way, as bilinguals can share their "common underlying proficiency" across languages, children with RD could also potentially share their *common underlying deficiency* across both languages. It could be the case, as it was in this study, that these difficulties are more severe in one language than the other, which could be attributed to limited mother tongue instruction, little written exposure and practice, resulting in limited resources, such as linguistic and orthographic knowledge presumably being stored in the LTM, which is important for generating and translating ideas and transcribing them fluently in writing (Hayes 2012). In this case, these bilinguals with RD are even more vulnerable in that language.

However, the difficulties that may originate in underlying cognitive deficits such as poor phonological and/or linguistic comprehension are not only related to one specific language but are found in both languages (Marinis & Armon-Lotem, 2015; Hedman, 2009). Thus, it is also important to disentangle these two types of difficulties in order to differentiate between typically developing bilinguals and bilinguals with RD. Bilinguals without RD could perform less well in one language whereas bilinguals with RD show these difficulties in both languages even though they can struggle more in one language than the other. The results suggest that children with RD need to receive support in both languages at school. Future studies could include a larger number of participants and investigate both languages of bilingual children with language learning difficulties and analyze whether these proficiencies and deficits can be seen across both languages in their texts.

Conclusion

Overall, this paper suggests that bilingual children with RD present similar strengths and challenges across both languages. The poor word recognition and/or linguistic comprehension difficulties of bilinguals lead to specific writing characteristics that are observed across both languages and genres. Bilinguals have one mind; they use their knowledge about writing and share their linguistic, cognitive knowledge and possibly deficiencies across both languages in writing. The reader should bear in mind that the findings from the current paper are only based on two case studies. Thus, the results should be interpreted with caution. Future papers could include a greater number of bilinguals with RD and investigate their writing across both languages.

References

Alamargot, D., Chesnet, D., Dansac, C., & Ros, C. (2006). Eye and pen: A new device for studying reading during

- writing. *Behavior Research Methods*, 38(2), 287-299. <https://doi.org/10.3758/BF03192780>
- Alloway, T. P., Rajendran, G., & Archibald, L. M. (2009). Working memory in children with developmental disorders. *Journal of Learning Disabilities*, 42(4), 372-382. <https://doi.org/10.1177/0022219409335214>
- Alves, R. A., & Limpo, T. (2015). Progress in written language bursts, pauses, transcription, and written composition across schooling. *Scientific Studies of Reading*, 19(5), 374-391. <https://doi.org/10.1080/10888438.2015.1059838>
- Antoniou, M. (2019). The advantages of bilingualism debate. *Annual Review of Linguistics*, 5, 395-415. <https://doi.org/10.1146/annurev-linguistics-011718-011820>
- Beers, S. F., Mickail, T., Abbott, R., & Berninger, V. (2017). Effects of transcription ability and transcription mode on translation: Evidence from written compositions, language bursts and pauses when students in grades 4 to 9, with and without persisting dyslexia or dysgraphia, compose by pen or by keyboard. *Journal of Writing Research*, 9(1), 1. <https://doi.org/10.17239/jowr-2017.09.01.01>
- Bialystok, E. (2009). Bilingualism: The good, the bad, and the indifferent. *Bilingualism*, 12(1), 3. <https://doi.org/10.1017/S1366728908003477>
- Bishop, D. V. (2009). Specific language impairment as a language learning disability. *Child Language Teaching and Therapy*, 25(2), 163-165. <https://doi.org/10.1177/0265659009105889>
- Bloomfield, L. (1933). *Language*. New York: Holt, Rinehart and Winson.
- Brackenbury, T., & Pye, C. (2005). Semantic deficits in children with language impairments. *Language, Speech, and Hearing Services in Schools*. [https://doi.org/10.1044/0161-1461\(2005/002\)](https://doi.org/10.1044/0161-1461(2005/002))
- Carretti, B., Re, A. M., & Arfè, B. (2013). Reading comprehension and expressive writing: A comparison between good and poor comprehenders. *Journal of Learning Disabilities*, 46(1), 87-96. <https://doi.org/10.1177/0022219411417876>
- Carretti, B., Motta, E., & Re, A. M. (2016). Oral and written expression in children with reading comprehension difficulties. *Journal of Learning Disabilities*, 49(1), 65-76. <https://doi.org/10.1177/0022219414528539>
- Catts, H. W., Adlof, S. M., & Weismer, S. E. (2006). Language deficits in poor comprehenders: A case for the simple view of reading. [https://doi.org/10.1044/1092-4388\(2006/023\)](https://doi.org/10.1044/1092-4388(2006/023))
- Cenoz, J., & Gorter, D. (2011). Focus on multilingualism: A study of trilingual writing. *The Modern Language Journal*, 95(3), 356-369. <https://doi.org/10.1111/j.1540-4781.2011.01206.x>
- Chang, T.-S. (2020). Multicompetent EFL writers' use of language repertoire during the composing process across languages: A case study. *Lingua*. <https://doi.org/10.1016/j.lingua.2020.102822>
- Chenoweth, N. A., & Hayes, J. R. (2001). Fluency in writing: Generating text in L1 and L2. *Written Communication*, 18(1), 80-98. <https://doi.org/10.1177/0741088301018001004>
- Connelly, V., Dockrell, J. E., Walter, K., & Critten, S. (2012). Predicting the quality of composition and written language bursts from oral language, spelling, and handwriting skills in children with and without specific language impairment. *Written Communication*, 29(3), 278-302. <https://doi.org/10.1177/0741088312451109>
- Cook, V. (2016). Premises of multi-competence. *The Cambridge Handbook of Linguistic Multi-Competence*, 1, 25. <https://doi.org/10.1017/CBO9781107425965>
- Cook, V. (2003). Effects of the second language on the first (Vol. 3). *Multilingual Matters*. <https://doi.org/10.21832/9781853596346>

- Cook, V. J. (1991). The poverty-of-the-stimulus argument and multicompetence. *Interlanguage Studies Bulletin* (Utrecht), 7(2), 103-117. <https://doi.org/10.1177/026765839100700203>
- Cragg, L., & Nation, K. (2006). Exploring written narrative in children with poor reading comprehension. *Educational Psychology*, 26(1), 55-72. <https://doi.org/10.1080/01443410500340991>
- Cummins, J. (2005). Teaching for cross-language transfer in dual language education: Possibilities and pitfalls. In *TESOL Symposium on dual language education: Teaching and learning two languages in the EFL setting* (pp. 1-18). Estambul: Universidad BogaziciTurquía.
- DePalma, M.-J., & Ringer, J. M. (2011). Toward a theory of adaptive transfer: Expanding disciplinary discussions of "transfer" in second-language writing and composition studies. *Journal of Second Language Writing*, 20(2), 134-147. <https://doi.org/10.1016/j.jslw.2011.02.003>
- Dockrell, J. E., Messer, D., & George, R. (2001). Patterns of naming objects and actions in children with word finding difficulties. *Language and Cognitive Processes*, 16(2-3), 261-286. <https://doi.org/10.1080/01690960042000030>
- Elwér, Å., Keenan, J. M., Olson, R. K., Byrne, B., & Samuelsson, S. (2013). Longitudinal stability and predictors of poor oral comprehenders and poor decoders. *Journal of Experimental Child Psychology*, 115(3), 497-516. <https://doi.org/10.1016/j.jecp.2012.12.001>
- Fey, M. E., Catts, H. W., Proctor-Williams, K., Tomblin, J. B., & Zhang, X. (2004). Oral and written story composition skills of children with language impairment. *Journal of Speech, Language, and Hearing Research*, 47(6), 1301-1318. [https://doi.org/10.1044/1092-4388\(2004/098\)](https://doi.org/10.1044/1092-4388(2004/098))
- Flower, L., & Hayes, J. R. (1981). A cognitive process theory of writing. *College Composition and Communication*, 32(4), 365-387. <https://doi.org/10.2307/356600>
- Gentil, G. (2011). A biliteracy agenda for genre research. *Journal of Second Language Writing*, 20(1), 6-23. <https://doi.org/10.1016/j.jslw.2010.12.006>
- Gillam, R. B., & Johnston, J. R. (1992). Spoken and written language relationships in language/learning-impaired and normally achieving school-age children. *Journal of Speech, Language, and Hearing Research*, 35(6), 1303-1315. <https://doi.org/10.1044/jshr.3506.1303>
- Gough, P. B., & Tunmer, W. E. (1986). Decoding, reading, and reading disability. *Remedial* <https://doi.org/10.1177/074193258600700104>
- Halliday, M. A. K., & Matthiessen, C. M. (2014). *Halliday's introduction to functional grammar*. Routledge. <https://doi.org/10.4324/9780203783771>
- Halliday, M. A. K. (1998). Things and relations: Regrammaticising experience as technical knowledge. In J. R. Martin & R. Veel (Eds.), *Reading science: Critical and functional perspectives on discourses of science* (pp. 185-235). London: Routledge.
- Hayes, J. R., & Ann Chenoweth, N. (2007). Working memory in an editing task. *Written Communication*, 24(4), 283-294. <https://doi.org/10.1177/0741088307304826>
- Hayes, J. R. (2012). Modeling and remodeling writing. *Written Communication*, 29(3), 369-388. <https://doi.org/10.1177/0741088312451260>
- Hayes, J. R., & Berninger, V. (2014). Cognitive processes in writing: A framework. *Writing Development in Children with Hearing Loss, Dyslexia, or Oral Language Problems: Implications for Assessment and Instruction*, 3-15. <https://doi.org/10.1093/acprof:oso/9780199827282.003.0001>


- Hedman, C. (2009). *Dyslexi på två språk: En multipel fallstudie av spansk-svensktalande ungdomar med läs-och skrivsvårigheter*. (Doctoral thesis). Centre for Research on Bilingualism, Stockholm University, Sweden.
- Hoover, W. A., & Gough, P. B. (1990). The simple view of reading. *Reading and Writing*, 2(2), 127-160. Scopus. <https://doi.org/10.1007/BF00401799>
- Kobayashi, H., & Rinnert, C. (2012). Understanding L2 writing development from a multicompetence perspective: Dynamic repertoires of knowledge and text construction. *L2 Writing Development: Multiple Perspectives*, 101-134. <https://doi.org/10.1515/9781934078303.101>
- Kobayashi, H., & Rinnert, C. (2013). L1/L2/L3 writing development: Longitudinal case study of a Japanese multicompetent writer. *Journal of Second Language Writing*, 22(1), 4-33. <https://doi.org/10.1016/j.jslw.2012.11.001>
- Lahey, M., & Edwards, J. (1999). Naming errors of children with specific language impairment. *Journal of Speech, Language, and Hearing Research*, 42(1), 195-205. <https://doi.org/10.1044/jslhr.4201.195>
- Lindgren, E., Westum, A., Outakoski, H., & Sullivan, K. P. (2017). Meaning-making across languages: A case study of three multilingual writers in Sápmi. *International Journal of Multilingualism*, 14(2), 124-143. <https://doi.org/10.1080/14790718.2016.1155591>
- Lindgren, E., & Stevenson, M. (2013). Interactional resources in the letters of young writers in Swedish and English. *Journal of Second Language Writing*, 22(4), 390-405. <https://doi.org/10.1016/j.jslw.2013.09.001>
- Lindgren, E., Spelman Miller, K., & Sullivan, K. P. (2008). Development of fluency and revision in L1 and L2 writing in Swedish high school years eight and nine. *ITL International Journal of Applied Linguistics*, 156, 133-151. <https://doi.org/10.2143/ITL.156.0.2034428>
- Łockiewicz, M., & Jaskulska, M. (2016). Difficulties of Polish students with dyslexia in reading and spelling in English as L2. *Learning and Individual Differences*, 51, 256-264. <https://doi.org/10.1016/j.lindif.2016.08.037>
- Lyon, G. R., Shaywitz, S. E., & Shaywitz, B. A. (2003). A definition of dyslexia. *Annals of Dyslexia*, 53(1), 1-14. <https://doi.org/10.1007/s11881-003-0001-9>
- Mackie, C. J., Dockrell, J., & Lindsay, G. (2013). An evaluation of the written texts of children with SLI: The contributions of oral language, reading and phonological short-term memory. *Reading and Writing*, 26(6), 865-888. <https://doi.org/10.1007/s11145-012-9396-1>
- Marinis, T., and Armon-Lotem, S. (2015). "Sentence repetition," in *Assessing Multilingual Children: Disentangling Bilingualism from Language Impairment*, eds S. Armon-Lotem, J. de Jong, and N. Meir (Bristol: Multilingual Matters), 95-124.
- Mayer, M. (1967). *A boy, a dog, and a frog*. New York: Pied Piper Books.
- Mayer, M. (1969). *Frog where are you?* New York: Pied Piper Books.
- Miller, K. S., Lindgren, E., & Sullivan, K. P. (2008). The psycholinguistic dimension in second language writing: Opportunities for research and pedagogy using computer keystroke logging. *TESOL Quarterly*, 42(3), 433-454. <https://doi.org/10.1002/j.1545-7249.2008.tb00140.x>
- Nation, K., Cocksey, J., Taylor, J. S., & Bishop, D. V. (2010). A longitudinal investigation of early reading and language skills in children with poor reading comprehension. *Journal of Child Psychology and*

- Psychiatry, 51(9), 1031-1039. <https://doi.org/10.1111/j.1469-7610.2010.02254.x>
- Palladino, P., Cismondo, D., Ferrari, M., Ballagamba, I., & Cornoldi, C. (2016). L2 spelling errors in Italian children with dyslexia. *Dyslexia*, 22(2), 158-172. <https://doi.org/10.1002/dys.1522>
- Puranik, C. S., Lombardino, L. J., & Altmann, L. J. (2007). Writing through retellings: An exploratory study of language-impaired and dyslexic populations. *Reading and Writing*, 20(3), 251-272. <https://doi.org/10.1007/s11145-006-9030-1>
- Re, A. M., & Carretti, B. (2016). Further evidence of poor comprehenders' difficulty with expressive writing: Exploring the role of inferences. *Research in Developmental Disabilities*, 51, 145-152. <https://doi.org/10.1016/j.ridd.2016.01.004>
- Reilly, J., Bernicot, J., Olive, T., Uzé, J., Wulfeck, barbara, Favart, M., & Applebaum, M. (2014). Written Narratives from French and English Speaking Children with Language Impairment. In *Handbook of Writing Development and Instruction in Children with Language Difficulties*. <https://doi.org/10.1093/acprof:oso/9780199827282.003.0013>
- Rinnert, C., Kobayashi, H., & Katayama, A. (2015). Argumentation text construction by Japanese as a foreign language writers: A dynamic view of transfer. *The Modern Language Journal*, 99(2), 213-245. <https://doi.org/10.1111/modl.12210>
- Spelman Miller, K. (2000). Academic writers on-line: Investigating pausing in the production of text. *Language Teaching Research*, 4(2), 123-148. <https://doi.org/10.1177/136216880000400203>
- Strömqvist, S., Holmqvist, K., Johansson, V., Karlsson, H., & Wengelin, Å. (2006). What keystroke logging can reveal about writing. In K. Sullivan & E. Lindgren (Eds.), *Computer keystroke logging and writing: Methods and applications* (pp. 45-71). Amsterdam: Elsevier.
- Sumner, E. (2013). *Children with Dyslexia: Spelling as a Constraint on Writing Development*. (Unpublished doctoral dissertation). Oxford Brookes University, Oxford, UK.
- Sumner, E., Connelly, V., & Barnett, A. L. (2013). Children with dyslexia are slow writers because they pause more often and not because they are slow at handwriting execution. *Reading and Writing*, 26(6), 991-1008. <https://doi.org/10.1007/s11145-012-9403-6>
- Tardy, C. M., Sommer-Farias, B., & Gevers, J. (2020). Teaching and Researching Genre Knowledge: Toward an Enhanced Theoretical Framework. *Written Communication*, 37(3), 287-321. <https://doi.org/10.1177/0741088320916554>
- Thompson, G. (2013). *Introducing functional grammar*. London: Routledge.
- Tunmer, W., & Greaney, K. (2010). Defining dyslexia. *Journal of Learning Disabilities*, 43(3), 229-243. <https://doi.org/10.1177/0022219409345009>
- Van Waes, L., & Leijten, M. (2015). Fluency in Writing: A Multidimensional Perspective on Writing Fluency Applied to L1 and L2. *Computers and Composition*, 38, 79-95. <https://doi.org/10.1016/j.compcom.2015.09.012>
- Weinreich, U. (1953) *Languages in Contact*. The Hague: Mouton.
- Westerveld, M. F., Gillon, G. T., & Moran, C. (2008). A longitudinal investigation of oral narrative skills in children with mixed reading disability. *International Journal of Speech-Language Pathology*, 10(3), 132-145. <https://doi.org/10.1080/14417040701422390>
- Williams, G. J., & Larkin, R. F. (2013). Narrative writing, reading and cognitive processes in middle childhood:

What are the links? Learning and Individual Differences, 28, 142-150.
<https://doi.org/10.1016/j.lindif.2012.08.003>

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Appendices.

Appendix 1 – Screening Tests

Construct	Brief description	Tests in Persian	Tests in Swedish
WR	Single word reading	(Kormi-Nouri & Moradi, 2009)	LOGOS (Høien, 2007)
PD	Non-word reading in Swedish Non-word and pseudo-word reading in Persian	(Kormi-Nouri & Moradi, 2009)	LOGOS (Høien, 2007)
LC	Listen to the stories and answer the questions	(Kormi-Nouri & Moradi, 2009)	LOGOS (Høien, 2007)

WR = Word reading, PD = phonological decoding, LC = Listening comprehension

Appendix 2 – Survey

1. Personal information

First name

Surname

School

Location

Code (entered by researchers)

2. General information about you

How old are you?

Where were you born?

Your home language – (which means) which language or languages do you speak at home?

3. Do you speak Swedish?

Yes, fluently

Yes, a little

No, but I understand it

No

4. Do you speak languages other than Persian and Swedish?

Yes

No

If yes, which language(s)?

5. Which language are you most comfortable with?

6. Describe and explain why

7. How do you feel about speaking a language?



How do you feel when you speak Persian?

How do you feel when you speak Swedish?

Are you always happy about the way in which you speak Persian?

Are you always happy about the way in which you speak Swedish?

How do you feel when you cannot express yourself in Persian?

How do you feel when you cannot express yourself in Swedish?

8. Do you have difficulty in using long sentences ...

Always/Often/Sometimes/Rarely/Never

In Persian

In Swedish

9. Do you have difficulty in producing correct sentences ...

Always/Often/Sometimes/Rarely/Never

In Persian

In Swedish

10. Do you think that you speak ...

Much worse than others/A little worse than others/A little better than others/Much better than others/I don't know

Compared to a child of your age who lives in Iran/Afghanistan and only speaks Persian?

Compared to a child of your age who speaks Swedish as a native speaker?

11. Please, select here how often you speak ...

Always/Often/Sometimes/Rarely/Never

Persian with your mother

Persian with your father

Swedish with your mother

Swedish with your father

12. Do any other adults, for example, your grandparents, a babysitter, take care of you? Please clarify who

Yes, often

Yes, sometimes

No

13. If YES, which language(s) do you speak to the person (except your parents) who takes care of you?

Always/Often/ Sometimes/ Rarely/Never

Persian

Swedish

If there is another language, please state it here:

14. Which language(s) do you speak with your siblings – and how often?

Always/Often/Sometimes/Rarely/Never

Persian

Swedish

If there is another language, please state it here:

15. Which language(s) do you speak with your best friends – and how often?

Always/Often/Sometimes/Rarely/Never

Persian

Swedish

If there is another language, please state it here:

16. How often do you ...

Every day/At least once a week/Once a month/ Once a year/ never

Read (books, magazines, comic books, newspapers) in Persian?

Read (books, magazines, comic books, newspapers) in Swedish?

Watch (TV, films, programs) in Persian?

Watch (TV, films, programs) in Swedish?

Play games in Persian?

Playing games in Swedish?

Tell stories in Persian?

Tell stories in Swedish?