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*Für meine ehemalige Volksschullehrerin,
Marianne Schrattenecker,
und alle Pädagog*innen,
die Chancengleichheit leben.*

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TABLE OF CONTENTS

<i>Acknowledgments</i>	iii
Table of contents	iv
<i>List of figures</i>	vi
<i>List of tables</i>	vii
<i>List of abbreviations</i>	viii
1 INTRODUCTION	11
1.1 RELEVANCE OF THE TOPIC.....	11
1.2 BACKGROUND OF THE STUDY	13
1.3 RESEARCH QUESTIONS AND HYPOTHESES.....	15
1.4 STRUCTURE OF THE THESIS	19
2 BILINGUAL FIRST LANGUAGE ACQUISITION.....	21
2.1 ACQUISITION OF LEXICON, MORPHOSYNTAX AND NARRATION	21
2.2 EARLY BILINGUAL LANGUAGE ACQUISITION	23
2.3 SIMULTANEOUS VS. SUCCESSIVE BILINGUAL LANGUAGE ACQUISITION	26
2.4 LANGUAGE ACQUISITION OF THE HERITAGE LANGUAGE	29
2.4.1 CROATIAN AS FAMILY (HERITAGE) LANGUAGE IN AUSTRIA	30
2.4.2 ACQUISITION OF CROATIAN IN THE DIASPORA	32
2.4.3 LINGUISTIC IDENTITY AND LANGUAGE USE	33
2.5 CODE-SWITCHING AND CODE-MIXING	33
2.5.1 DIFFERENT CLASSIFICATIONS OF CODE-SWITCHING	34
2.5.2 CODE-MIXING AND THE <i>MATRIX LANGUAGE FRAME MODEL</i> (MLF)	35
2.5.3 CODE-MIXING VS. BORROWING	37
2.5.4 CODE-MIXING VS. INTERFERENCES	37
2.5.5 LANGUAGE CHOICES.....	38
2.5.6 DOMAINS OF LANGUAGE ACQUISITION	40
3 LINGUISTIC INPUT AND ITS ROLE IN LANGUAGE ACQUISITION	43
3.1 INPUT FACTORS FOR BILINGUAL LANGUAGE EXPOSURE.....	43
3.2 RELEVANCE OF MATERNAL INPUT.....	46
3.3 INPUT FROM OLDER SIBLINGS.....	47
3.4 CHILD DIRECTED SPEECH (CDS).....	48
3.5 FOSTERING EARLY LANGUAGE ACQUISITION IN PRESCHOOL	49
3.6 THE ROLE OF PEERS AND NATIVE SPEAKERS	50
4 THE SOCIOECONOMIC STATUS (SES)	51
4.1 HISTORIC OVERVIEW	51
4.2 MEASUREMENT OF SES.....	52

4.3	INFLUENCE OF SES	55
4.4	LIMITATIONS OF SES	57
5	METHODOLOGY	60
5.1	INTRODUCTION	60
5.2	PILOT STUDY	61
5.3	STUDY	63
5.3.1	PARTICIPANTS	63
5.3.1.1	LANGUAGE BACKGROUND OF CASE STUDY 1 – IVAN	65
5.3.1.2	LANGUAGE BACKGROUND OF CASE STUDY 2 – ANA	67
5.3.1.3	LANGUAGE BACKGROUND OF CASE STUDY 3 – MARKO	69
5.3.1.4	LANGUAGE BACKGROUND OF CASE STUDY 4 – FILIP	71
5.3.2	MATERIALS	72
5.3.2.1	LANGUAGE ASSESSMENT MATERIALS FOR GERMAN	73
5.3.2.2	LANGUAGE ASSESSMENT MATERIALS FOR CROATIAN	78
5.3.3	PROCEDURE	81
5.3.4	DESIGN OF DATA COLLECTION	84
6	RESULTS AND DISCUSSION ON SIMULTANEOUS BILINGUAL LANGUAGE DEVELOPMENT	86
6.1	INDIVIDUAL SIMULTANEOUS BILINGUAL LANGUAGE DEVELOPMENT	86
6.1.1	LEXICAL DEVELOPMENT	87
6.1.1.1	RESULTS OF CASE STUDY 1 – IVAN	88
6.1.1.2	RESULTS OF CASE STUDY 2 – ANA	89
6.1.1.3	RESULTS OF CASE STUDY 3 – MARKO	90
6.1.1.4	RESULTS OF CASE STUDY 4 – FILIP	92
6.1.1.5	COMPARATIVE ANALYSIS OF ALL FOUR CHILDREN	93
6.1.2	GRAMMATICAL DEVELOPMENT	96
6.1.2.1	RESULTS OF CASE STUDY 1 – IVAN	96
6.1.2.2	RESULTS OF CASE STUDY 2 – ANA	105
6.1.2.3	RESULTS OF CASE STUDY 3 – MARKO	111
6.1.2.4	RESULTS OF CASE STUDY 4 – FILIP	117
6.1.2.5	COMPARATIVE ANALYSIS OF ALL FOUR CHILDREN	124
6.1.3	NARRATIVE COMPETENCES	133
6.1.3.1	NARRATIVE COMPETENCES OF CASE STUDY 1 – IVAN	133
6.1.3.2	NARRATIVE COMPETENCES OF CASE STUDY 2 – ANA	149
6.1.3.3	NARRATIVE COMPETENCES OF CASE STUDY 3 – MARKO	163
6.1.3.4	NARRATIVE COMPETENCES OF CASE STUDY 4 – FILIP	173
6.1.3.5	COMPARATIVE ANALYSIS OF ALL FOUR CHILDREN	185
6.1.4	CODE-SWITCHING AND CODE-MIXING	187
6.1.4.1	CODE-MIXING OF CASE STUDY 1 – IVAN	187
6.1.4.2	CODE-MIXING OF CASE STUDY 2 – ANA	190
6.1.4.3	CODE-MIXING OF CASE STUDY 3 – MARKO	195
6.1.4.4	CODE-MIXING OF CASE STUDY 4 – FILIP	203
6.1.4.5	COMPARATIVE ANALYSIS OF ALL FOUR CHILDREN	206

6.1.5	GRADUAL INFLUENCE ON LANGUAGE DEVELOPMENT	208
6.1.5.1	CASE STUDY 1 – IVAN.....	208
6.1.5.2	CASE STUDY 2 – ANA	210
6.1.5.3	CASE STUDY 3 – MARKO.....	212
6.1.5.4	CASE STUDY 4 – FILIP.....	215
6.1.6	DISCUSSION	217
6.2	INFLUENCE OF SES ON SIMULTANEOUS BILINGUAL LANGUAGE ACQUISITION	220
6.2.1	VOCABULARY SKILLS AND SES	220
6.2.2	GRAMMAR SKILLS AND SES	222
6.2.3	NARRATIVE SKILLS AND SES.....	225
6.2.4	CODE-SWITCHING, CODE-MIXING AND SES.....	226
6.2.5	DISCUSSION	228
6.3	LANGUAGE USE OF THIRD GENERATION IMMIGRANT CHILDREN.....	231
6.3.1	LANGUAGE USE OF IVAN	231
6.3.2	LANGUAGE USE OF ANA.....	232
6.3.3	LANGUAGE USE OF MARKO	233
6.3.4	LANGUAGE USE OF FILIP.....	234
6.3.5	DISCUSSION	235
7	CONCLUSION	239
8	REFERENCES.....	246
APPENDIX A: ITEMS OF THE SHORT VERSION OF GERMAN PLURAL ELICITATION TASK (LAAHA ET AL. 2006), FORM B		267
APPENDIX B: ITEMS OF CROATIAN PLURAL ELICITATION TASK, ADAPTED FOR CROATIAN ACCORDING TO LAAHA ET AL. (2006)		268
APPENDIX C: QUESTIONNAIRES FOR THE MAIN CARETAKERS AT HOME FROM 1ST TO 4TH TIME POINT.....		269
APPENDIX D: QUESTIONNAIRES FOR MAIN CARETAKERS IN PRESCHOOL FROM 1ST AND 3RD TIME POINT.....		311
APPENDIX E: CONSENT FORM		324
ENGLISH ABSTRACT.....		326
DEUTSCHE ZUSAMMENFASSUNG		327

List of figures

Figure 1 Hierarchy design of research questions	16
Figure 2 Family domain for simultaneous bilingual families	42
Figure 3 Most frequently used word classes in code-mixing of Ivan at age 3	190
Figure 4 Most frequently used word classes in code-mixing of Ivan at age 4	190
Figure 5 Most frequently used word classes in code-mixing of Ivan's mother (Ivan age 3)	190
Figure 6 Most frequently used word classes in code-mixing of Ivan's mother (Ivan age 4)	190
Figure 7 Most frequently used word classes in code-mixing of Ana at age 3	194
Figure 8 Most frequently used word classes in code-mixing of Ana at age 4	194
Figure 9 Most frequently used word classes in code-mixing of Ana's mother (Ana age 3)	194
Figure 10 Most frequently used word classes in code-mixing of Ana's mother (Ana age 4)	194
Figure 11 Most frequently used word classes in code-mixing of Marko at age 3	202
Figure 12 Most frequently used word classes in code-mixing of Marko at age 4	202
Figure 13 Most frequently used word classes in code-mixing of Marko's mother (Marko age 3)	202
Figure 14 Most frequently used word classes in code-mixing of Marko's mother (Marko age 4)	202
Figure 15 Most frequently used word classes in code-mixing of Filip at age 3	205
Figure 16 Most frequently used word classes in code-mixing of Filip at age 4	205
Figure 17 Most frequently used word classes in code-mixing of Filip's mother (Filip age 3)	206
Figure 18 Most frequently used word classes in code-mixing of Filip's mother (Filip age 4)	206
Figure 19 Raw scores of the Croatian PPVT-III-HR of all four children at age 3 and 4	221
Figure 20 Raw scores of the German research version of PPVT-4 of all four children at age 3 and 4	221
Figure 21 Raw scores of Croatian TROG-2:HR of all four children at age 3 and 4	223
Figure 22 Raw scores of German TROG-D of all four children at age 3 and 4	223
Figure 23 Code-switching and mixing of children and parents at age 3	227
Figure 24 Code-switching and mixing of children and parents at age 4	227
Figure 25 Factors influencing simultaneous bilingual language acquisition	244

List of tables

Table 1 Parental socioeconomic status (SES) according to education and occupational status	54
Table 2 Language assessment materials used in the pilot study	62
Table 3 Child participants and their sex, SES, age, number of siblings	63
Table 4 Ivan's family background	66
Table 5 Ivan's background information on preschool	67
Table 6 Ana's family background	68
Table 7 Ana's background information on preschool	69
Table 8 Marko's family background	70
Table 9 Marko's background information on preschool	70
Table 10 Filip's family background	71
Table 11 Filip's background information on preschool	72
Table 12 Language assessment materials used for German and Croatian	73
Table 13 Referential devices and their meaning in the German Frog Story	77
Table 14 Croatian plural suffixes of the 21 test items for plural elicitation	79
Table 15 Referential devices and their meaning in the Croatian Frog Story	81
Table 16 Design of data collection	84
Table 17 Ivan's results on PPVT for Croatian and German at age 3 and 4	88
Table 18 Ana's results on PPVT for Croatian and German at age 3 and 4	90
Table 19 Marko's results on PPVT for Croatian and German at age 3 and 4	91
Table 20 Filip's results on PPVT for Croatian and German at age 3 and 4	92
Table 21 Overview of PPVT results for Croatian at age 3 and 4	93
Table 22 Overview of PPVT results for German at age 3 and 4	94
Table 23 Ivan's results on TROG for Croatian and German at age 3 and 4	97
Table 24 Ivan's elicited plural results at age 3 and 4 for Croatian and German	98
Table 25 All plural forms Ivan produced in Croatian PET in both time points (in parentheses correct target forms)	99
Table 26 All plural forms Ivan produced in German PET in both time points (in parentheses correct target forms)	101
Table 27 Ivan's results on spontaneous and elicited plural production at all four time points (TP) for Croatian and German	103
Table 28 Ana's results on TROG for Croatian and German at age 3 and 4	106
Table 29 Ana's elicited plural results at age 3 and 4 for Croatian and German	107
Table 30 All plural forms Ana produced in Croatian PET in both time points (in parentheses correct target forms)	108
Table 31 All plural forms Ana produced in German PET in both time points (in parentheses correct target forms)	109
Table 32 Ana's results on spontaneous and elicited plural production at all four time points (TP) for Croatian and German	110
Table 33 Marko's results on TROG for Croatian and German at age 3 and 4	112
Table 34 Marko's elicited plural results at age 3 and 4 for Croatian and German	113
Table 35 All plural forms Makro produced in Croatian PET in both time points (in parentheses correct target forms)	113
Table 36 All plural forms Marko produced in German PET in both time points (in parentheses correct target forms)	115
Table 37 Marko's results on spontaneous and elicited plural production at all four time points (TP) for Croatian and German	116
Table 38 Filip's results on TROG for Croatian and German at age 3 and 4	118
Table 39 Filip's elicited plural results at age 3 and 4 for Croatian and German	119
Table 40 All plural forms Filip produced in Croatian PET in both time points (in parentheses correct target forms)	120
Table 41 All plural forms Filip produced in German PET in both time points (in parentheses correct target forms)	121
Table 42 Filip's results on spontaneous and elicited plural production at all four time points (TP) for Croatian and German	123
Table 43 Overview of TROG results for Croatian at age 3 and 4	125
Table 44 Overview of TROG-D results for German at age 3 and 4	125
Table 45 Overview of additional plural case markings found in Croatian spontaneous speech of all	

four children	127
Table 46 Overview of all Croatian error types obtained on PET and spontaneous speech recordings at all four time points	129
Table 47 Overview of all German error types obtained on PET and spontaneous speech recordings at all four time points	130
Table 48 Ivan introducing characters in the Croatian Frog Story	134
Table 49 Ivan maintaining characters in the Croatian Frog Story	135
Table 50 Ivan switching characters in the Croatian Frog Story	136
Table 51 Ivan's Frog Story in Croatian regarding (co)referential elements, textual and grammatical correctness.....	137
Table 52 Ivan introducing characters in the German Frog Story	142
Table 53 Ivan maintaining characters in the German Frog Story	142
Table 54 Ivan switching characters in German Frog Story	143
Table 55 Ivan's Frog Story in German regarding (co)referential elements, textual and grammatical correctness.....	143
Table 56 Ivan's results obtained on the Frog Story in Croatian and German for textual and grammatical correctness, MLUw and SD	147
Table 57 Ana introducing characters in the Croatian Frog Story	149
Table 58 Ana maintaining characters in Croatian Frog Story	150
Table 59 Ana switching characters in Croatian Frog Story	150
Table 60 Ana's Frog Story in Croatian regarding (co)referential elements, textual and grammatical correctness.....	151
Table 61 Ana introducing characters in the German Frog Story	154
Table 62 Ana maintaining characters in the German Frog Story	155
Table 63 Ana switching characters in the German Frog Story	155
Table 64 Ana's Frog Story in German regarding (co)referential elements, textual and grammatical correctness.....	156
Table 65 Ana's results obtained on the Frog Story in Croatian and German for textual and grammatical correctness, MLUw and SD	160
Table 66 Transcript of spontaneous speech recording at home – Ana (age 4;6) retelling the Little Red Riding Hood	161
Table 67 Marko introducing characters in the Croatian Frog Story	163
Table 68 Marko maintaining characters in the Croatian Frog Story	164
Table 69 Marko switching characters in the Croatian Frog Story	164
Table 70 Marko's Frog Story in Croatian regarding (co)referential elements, textual and grammatical correctness.....	165
Table 71 Marko introducing characters in the German Frog Story	167
Table 72 Marko maintaining characters in the German Frog Story	168
Table 73 Marko switching characters in the German Frog Story	168
Table 74 Marko's Frog Story in German regarding (co)referential elements, textual and grammatical correctness.....	169
Table 75 Marko's results obtained on the Frog Story in Croatian and German for textual and grammatical correctness, MLUw and SD	172
Table 76 Filip introducing characters in the Croatian Frog Story	173
Table 77 Filip maintaining characters in the Croatian Frog Story	174
Table 78 Filip switching characters in the Croatian Frog Story	174
Table 79 Filip's Frog Story in Croatian regarding (co)referential elements, textual and grammatical correctness.....	175
Table 80 Filip introducing characters in the German Frog Story	179
Table 81 Filip maintaining characters in the German Frog Story	180
Table 82 Filip switching characters in the German Frog Story	180
Table 83 Filip's Frog Story in German regarding (co)referential elements, textual and grammatical correctness.....	181
Table 84 Filip's results obtained on the Frog Story in Croatian and German for textual and grammatical correctness, MLUw and SD	185
Table 85 Overview of textual and grammatical correctness obtained on the Frog Story in Croatian and German	186
Table 86 Correctness rate obtained on narrative elicitation of the Frog Story in Croatian and German	225
Table 87 Number of introduced, maintained and switched characters elicited in the Frog Story for Croatian and German	226

List of abbreviations

2L1	simultaneous bilinguals
ADS	adult-directed speech
B/C/S	Bosnian/Croatian/Serbian
CS	child speech
CDS	child-directed speech
decl.	declension
EL	embedded language
fem	feminine gender
HSES	high SES
HL	heritage language
L1	first language
L2	second language
LSES	low SES
masc	masculine gender
ML	matrix language
mos.	months
neu	neuter gender
pl	plural
SES	socio-economic status
sg	singular
tp	time point

1 INTRODUCTION

1.1 RELEVANCE OF THE TOPIC

During the last recent decades, bilingual research had its focus on second language acquisition of bilingual children – at least in countries with a vast number of immigrants. These kinds of studies focused on immigrant children being exposed to a majority language at school and a minority language at home. Skutnabb-Kangas (1981), for example, studied children from Finish immigrants in Sweden, examining their first (L1) and second language (L2) acquisition at school age. She (ibid.) used the term *submersion*, referring to immigrant children using only the majority language at school, where the minority language was not instructed. These kind of studies during the 70s and 80s were strongly influenced by Cummins' threshold hypothesis or hypothesis on interdependence, stating that *Cognitive Academic Language Proficiency* (CALP) skills are interdependent in L1 and L2 and that they can empirically be distinguished from *Basic Interpersonal Communicative Skills* (BICS) in L1 and L2 (Cummins, 1981). Numerous studies (e.g. Romaine, 1995; Tracy, 2009) in bilingual language acquisition have proven that there is no such interdependence between a high proficiency in L1 and L2: bilingual children don't necessarily need a high proficiency level in their L1 to achieve high proficiency in L2. Their L2 can become the dominant language without CALP skills in their L1. Furthermore, CALP skills need much longer time to be acquired than BICS skills (Cummins, 2000).

From the 1980s onwards, an increasing number of studies (e.g. Arnberg & Arnberg, 1992; De Houwer & Meisel, 1996; Genesee, 1989; Meisel, 2001) started to focus on simultaneous acquisition of two languages, and specifically to the question of language differentiation. By now it has been ruled out that children have a unitary, undifferentiated language system (Genesee, 1989; Libben et al., 2017), they can on the contrary differentiate between their languages from very early childhood (Meisel, 2001).

Moreover, the interaction between the two languages of bilinguals has drawn more attention to this field of research in the past two decades, especially within the bilingual mental lexicon (e.g. Libben et al., 2017). In that regard, Libben et al. (ibid.) mention "that bilingualism results in an expanded single mental lexicon rather than

separated lexical stores” (p. 2). Furthermore, the authors (ibid.) discuss the two constructs, dynamicity and integration, to be key components of bilingual lexical processing, which is of great interest to this research as well.

The language differentiation question became furthermore particularly popular because of inevitable mixed utterances appearing in bilingual speech, which ultimately instigated this line of research. Thus, language mixing became a topic of interest, and until the late 1980s, mixing within an utterance was considered as some kind of language confusion or lack of competence. However, these theories were equally dismissed by now. Nevertheless, processes of early bilingual language acquisition are still a field of interest in psycholinguistic research and still not fully understood (Hoff et al., 2012). Parental input, which is subject to chapter three of this thesis, has proven to be an important factor in acquiring two languages from early childhood on. Yet, other factors that may influence the simultaneous outcome in a child’s two languages regard equally other factors: SES, language combination, peer groups, family structure, and other internal and external aspects.

Consequently, this semi-longitudinal study intends to investigate different factors that may influence the simultaneous bilingual language acquisition of Croatian- and Austrian German-speaking children with an immigration background, taking into consideration third-generation immigrant children¹ and their language development at home and in preschool. The children in this study are furthermore divided according to their SES and measured equally in both languages using the same measurements (language assessment, spontaneous speech recordings). This should draw a relatively holistic picture of the development of the children’s two languages. Concurrently, this study provides an insight into the Croatian-speaking language community in Austria, and can be compared to the results of the Turkish-speaking community investigated in the INPUT project with the same methodology (e.g. Korecky-Kröll, Czinglar, et al., 2016; Korecky-Kröll, Uzunkaya-Sharma, et al., 2016a; Korecky-Kröll, Dobek, et al., 2018).

Ultimately, the aim of this study is first language and foremost to contribute to research on simultaneous bilingual children’s language acquisition in the context of immigration, focusing on Croatian and Austrian German in Vienna. The motivation for this project is also a personal one since I grew up with these two languages myself.

¹ Bilingual literature uses the term “third-generation immigrant children”, even though it can be perceived as a contradictory term, since the children didn’t immigrate themselves. However, it refers to children with a family immigration background, where at least one parent is born in Austria (second generation immigrant), but the grandparents generation emigrated to Austria (first generation immigrants).

Consequently, the first aim is to discuss possible factors influencing the children's individual language development in both of their languages. Bearing in mind that this dissertation seeks to describe the semi-longitudinal development of four simultaneously bilingual children within their two languages, regarding lexicon, grammar, narration, and their language use in general, specifically when it comes to code-switching. Therefore, language use at home, as well as in preschool², will be evaluated over a period of 18 months, starting between the ages 3;0–3;3. Furthermore, the research aims to determine the extent to which the socioeconomic status (SES) plays a role in bilingual language acquisition of these children, and whether it becomes visible in the results of the different linguistic domains. The last aim of this study is to explore, from a socio-linguistic perspective, the use of the heritage language as well as the majority language in third-generation immigrant children living in Austria.

1.2 BACKGROUND OF THE STUDY

In order to explain the development of children's Croatian and German skills, it is necessary to look into the main resources of language input for both languages, which is for one the home environment as well as the preschool environment at the age range between 3;0 to 4;6 years. Case studies, like this one, are a very common approach in psycholinguistic research, especially when considering the longitudinal development of children (Bhatia & Ritchie, 1999, 2006).

The following exploratory-descriptive qualitative research similarly focuses on the semi-longitudinal language acquisition process of four simultaneously bilingual children. The first research design of this dissertation focused on children with Croatian as L1 and German as L2 (successive bilinguals). Yet, no preschoolers could be found that started acquiring German only from age 3 onwards. Based on the outcome, the research design was adapted in regard to the participants (simultaneous bilinguals). On that behalf, the definition of bilingualism changed, namely simultaneous bilingual language acquisition (2L1). After having changed these requirements, I contacted a former colleague and a Croatian-speaking preschool teacher I knew, to ask for their help. They finally managed to help me find five participants that I examined during my research. However, for reasons of counterbalance in high vs. low SES children, only four children were accounted as part of the main research. To my knowledge, no

² The term *preschool* is chosen for this purpose to refer to schools for children aged between 3 and 5 years, the British English equivalent would be *nursery school*.

further studies are available that reflect the language acquisition process of Croatian-speaking preschoolers in Austria.

This study follows the methodology from the INPUT project (e.g. Czinglar et al., 2015; Korecky-Kröll, Czinglar, et al., 2016; Korecky-Kröll, Uzunkaya-Sharma, et al., 2016b). The INPUT project (*Investigating Parental and Other Caretakers' Utterances to Kindergarten Children*) was financed by the Vienna Science and Technology Fund (WWTF) from 2012 to 2017 and supervised by Wolfgang U. Dressler from the Department of Linguistics of Vienna University. This psycholinguistic project investigated 48 Viennese preschool children, both monolingual and bilingual, who either spoke Austrian German as their L1; or Turkish as their L1 and German acquired as L2 in preschool. Initially, data was collected from 61 children; however, some children were excluded from the sample due to better comparability. The two groups of monolingual and bilingual children were furthermore subdivided into further groups according to their parental socioeconomic status (SES), in a high-SES or low-SES group. The children were investigated at four time points beginning at the age of approximately 3;0 years, over a period of 18 months. The methodology followed a mixed-method design and involved spontaneous speech recordings at home and in preschool, interviews with caretakers, and language assessments – for the bilingual group in both of their languages.

Even though this study follows the methodology as devised in the INPUT project, different language assessment materials were considered more suitable for eliciting bilingual language acquisition of Croatian and German. However, identical types of materials were used in both projects for testing receptive vocabulary, plural production, and narrative competences. Furthermore, matching assessment materials for German and Croatian were used at two time points to investigate the course of development in each language and to make them comparable (see chapter 5.3.2). The language assessment for Croatian was undertaken at home and for German in preschool. The four bilingual children from this sample were, in contrast to the Turkish bilingual group from the INPUT project, already exposed to German in an institutional context before the age of three years since all of them attended preschool from age two and were additionally exposed to German at home to some degree.

1.3 RESEARCH QUESTIONS AND HYPOTHESES

This qualitative research design includes some quantitative aspects and comprises children of first- and second-generation immigrants to Austria, who speak both languages at a relatively high level. First-generation immigrants are people, who were born abroad and live in Austria, whereas second-generation immigrants are already born in Austria, but their parents are from another native country (UNECE, 2015, p. 136). The children are therefore considered third-generation immigrants to Austria since in three cases of this study, the mother is second-generation and the main caretaker. In one participant (Ivan) both parents are first-generation immigrants, which will be considered separately when describing his results. Nonetheless, all subjects form an interesting focus group when considering the maintenance of heritage language in the diaspora. The children in this study are observed at home and in preschool, focusing on their individual bilingual language development.

The study will focus on **three main areas of research** each with separate research questions: **(1)** on the individual simultaneous bilingual language development of each child considering specific aspects of linguistics, **(2)** on the influence of SES on bilingual language acquisition, and **(3)** on a socio-linguistic perspective about the use of two languages in third-generation immigrant preschoolers in Austria.

The superordinate question regarding the first area of research will be, whether higher scores in the receptive vocabulary of one language result in better grammar knowledge of the same language – since a large body of research (e.g. Borovsky et al., 2016; Gagarina et al., 2017; Swanson et al., 2008) suggests that lexicon is a prerequisite for morpho-syntactic development – and consequently in better narration competences, and likewise to code-switch less between the languages. Therefore, a hierarchical approach will be postulated, where the linguistic domains are considered as steps providing each other with necessary critical mass for reaching the next step of language competence. The following hierarchy design in Figure 1 represents the estimated gradual influence of these linguistic domains on each other and will be analyzed in a parallel way for both languages. Subsequently, the two groups of high vs. low SES children will be evaluated separately, to see whether this variable shows any influence on the children's language development during the investigated period regarding the same linguistic areas. Ultimately, the language use of third-generation immigrant preschool children will be described regarding their use of the heritage language vs. use of the majority language.

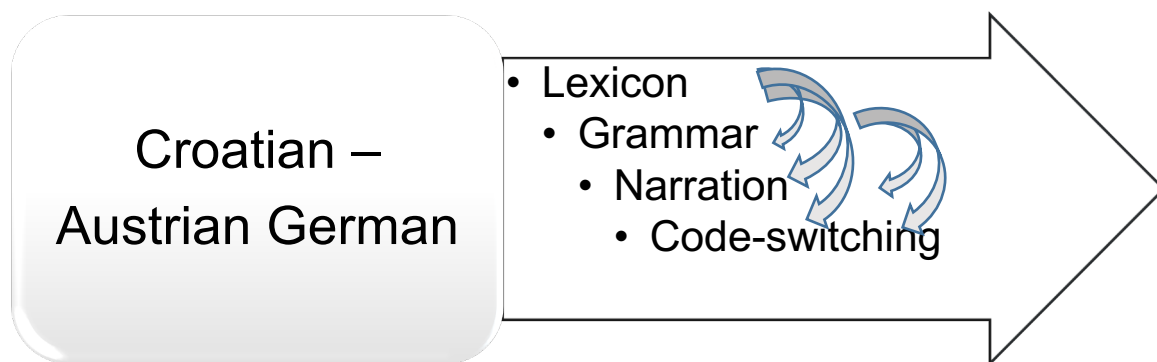


Figure 1 Hierarchy design of research questions

The **research questions** (A–F) on the three main areas of research (1–3) are listed below, including their hypotheses for each question:

(1) Individual simultaneous bilingual language development

Lexical development

A) Are the receptive vocabulary skills of each child higher in one language than the other at both time points?

Children exposed to two or more languages need to distribute their time among two languages, and it is very likely that they are more exposed to one language than to the other, which should be reflected in their linguistic outcome and skills in specific domains (Pearson et al., 1997; Thordardottir, 2011). Therefore, it can be hypothesized that they achieve greater results in one language than the other.

Grammatical development:

B) Are the receptive and productive grammar skills of each child higher in one language than the other at both time points?

Scholars (e.g. Gathercole, 2002a, 2002b; La Morgia, 2011; Unsworth, 2013a) have found differences in acquiring different morpho-syntactic features among simultaneously bilingual children, which can lead to the assumption that children achieve higher scores in one language than the other in standardized testing. Furthermore, lexical skills have shown to influence on grammar skills of bilinguals (e.g. Davidson et al., 2017; Gagarina et al., 2017, p. 127).

C) Do the results obtained in the formal task of plural formation vs. in spontaneous production diverge?

Testing situations have shown to be less ideal in gathering a holistic picture of the linguistic competences of children (Korecky-Kröll, Sommer-Lolei, et al., 2018a). Therefore, it can be hypothesized that children produce a more accurate outcome of their actual skills in spontaneous production than in eliciting tasks.

Narrative competences:

D) Are the narrative competences of each child in one language more elaborate than in the other, and do book reading habits at the home influence the narrative competences of children?

Evidence suggests that children whose parents read to them regularly foster their children's language and literacy skills (e.g. Cristofaro & Tamis-LeMonda, 2012; Patterson, 2002). The same can be concluded for further elaborate use of lexicon and grammar (e.g. Hoff, 2006; Hoff-Ginsberg, 1991; Snow & Dickinson, 1990). Therefore, it can be hypothesized that the children develop better narrative competences in one language than the other unless the children are exposed to reading activities in both of their languages. Following that line of literature, it can be assumed that children who are not exposed to book reading at home, will have more difficulties in producing a picture-based story.

Code-switching and code-mixing:

E) Do different kinds of code-switching appear in CS, CDS, and ADS at home?

Language mixing requires a great deal of language proficiency in both languages (Auer, 2009; Muysken, 2012), and since preschoolers are still in a developmental stage of language acquisition, it can be hypothesized that language alternation diverges in child speech and adult speech. As was claimed by Snow (2019), parents will adapt their CDS to their children's language skills, which seems plausible regarding code-switching as well. This so-called *fine-tuning* may, therefore, appear in code-switching and mixing of parental CDS, especially when children become more proficient in the majority language, making switches possible.

F) Are nouns the most frequently used word classes in code-mixing?

When it comes to embedding single words to a sentence structure of another language, nouns seem to be the word class most frequently used, due to their syntactic flexibility compared to other word classes (Myers-Scotton & Jake, 2000; Romaine, 1995).

Therefore, it can be hypothesized concerning code-mixing, nouns are assimilated more often than other word classes (Muysken, 2012).

Finally, the complementary research question that subsumes the previous ones, shall be stated:

G) Do better vocabulary and grammar skills result in better narrative competences and in less need to code switch at home?

A vast number of research (e.g. Davidson et al., 2017; Gagarina et al., 2017; Rohde & Thompson, 2007) has attested children's vocabulary size to be a predictor for academic achievement and literacy, which can ultimately be hypothesized to result in better morpho-syntactic structures and narrative competences. Another line of research has claimed that higher language proficiency results in less of a need to code-switch (e.g. Bernardini & Schlyter, 2004; Gawlitzek-Maiwald & Tracy, 1996; Ribot & Hoff, 2014). Consequently, it can be postulated that better results in vocabulary and grammar result in less of a need to code-switch.

(2) Influence of SES on simultaneous bilingual language acquisition

A) Are the vocabulary skills of high SES children higher than of low SES children and in both languages and both time points?

Several lines of evidence suggest that children from high SES families achieve better results in standardized testing of receptive vocabulary than their low SES peers (e.g. Hoff, 2003; Hoff, Burridge, et al., 2018; Hoff-Ginsberg, 1991; Korecky-Kröll, Uzunkaya-Sharma, et al., 2016b; Rowe, 2008, 2012). Therefore, it can be postulated that high SES children will score higher in standardized vocabulary testing.

B) Are the grammar skills of the high SES children higher than of low SES children and in both languages and both time points?

In line with the literature on SES and receptive vocabulary, it can be hypothesized that the same holds for grammar skills.

C) Are the narrative competences of high SES children higher than of low SES children and in both languages?

Higher educated parents tend to display a more elaborate narrative style (Peterson et al., 1999; Zadeh et al., 2010), which is positively related to their productive vocabulary

and their CDS. Therefore, it may affect their children's narration skills (Patterson, 2002).

D) Do high SES children use less code-switching and code-mixing in their home spontaneous speech than low SES children at all time points?

Assuming that high SES children receive stronger encouragement to achieve academic and linguistic goals (D'Angiulli et al., 2004), it can be hypothesized that low SES children tend to switch more when talking in their less dominant language (Bernardini & Schlyter, 2004; Lanza, 1997; Yip & Matthews, 2007).

(3) Language use of third-generation immigrant children

A) Do third-generation immigrant children deteriorate in their heritage language skills?

Becoming bilingual is not set in stone, even if children grow up in a potentially bilingual environment. Numerous factors influence their language development, which might be traced back to individual (family) factors like, for example, maintenance of heritage language in CDS, number of native speakers communicating with the investigated children, aspiration for the education of children, and quality and quantity of input, as a vast number of studies shows (e.g. De Houwer, 2007; Gathercole & Thomas, 2009; Hoff, Quinn, et al., 2018; Pearson, 2007; Pearson & Amaral, 2014). Therefore, it can be hypothesized that third-generation immigrant children deteriorate in heritage language skills with age.

1.4 STRUCTURE OF THE THESIS

This thesis is divided into two main parts, the theoretical and the empirical part. Apart from the introduction, which is described in chapter one, the theoretical part is divided into three further chapters. Chapter two deals with bilingual first language acquisition, taking into consideration the different linguistic domains investigated in this study, followed by different topics emerging from simultaneous bilingualism, such as the acquisition of heritage language after immigration or language alteration through code-switching or code-mixing. The third chapter focuses on language input and its role in language acquisition, describing how different sources of input (i.e. parents, siblings, peers, other native speaker interlocutors of L1 vs. L2) influence child language acquisition and how they interact with each other. Additionally, chapter four describes

the socioeconomic status (SES), which is one key variable investigated in this research. SES is viewed from a historic as well as a critical point of view, mentioning its influence and limitation in child language acquisition. Lastly, before moving on to the empirical part, chapter five emphasizes on depicting the methodology used in this research project. Chapter six, ultimately, explains the results of the present study and discusses all three main areas of research including their research questions. The thesis completes with a conclusion and an outlook in chapter seven, mentioning the necessity to verify the results discussed here on a larger cohort.

The children in this sample will be referred to as Austro-Croatian children. However, this does not imply that Austrian German is the first language or that this implies any linguistic preference. It simply refers to children growing up in Austria, who have a Croatian family background. The same terminology was used in the INPUT project for the group of bilinguals having Turkish as their L1 and German as L2. Those Austro-Turkish children must be classified as successive bilinguals since they started acquiring their L2 German from age 3 onwards, whereas the Austro-Croatian children started earlier and are therefore classified as simultaneous bilinguals.

2 BILINGUAL FIRST LANGUAGE ACQUISITION

2.1 ACQUISITION OF LEXICON, MORPHOSYNTAX AND NARRATION

The following section will focus on describing the development of lexicon, morphosyntax and narration of children of the specific age-range relevant to this thesis; specifically, for children aged 3 to 5 years. Ehlich, Bredel, and Reich (2008) give a precise overview of the different linguistic domains (*Basisqualifikationen*) for German L1 and L2 speakers in terms of developmental stages at different ages. The literature on early stages of language acquisition in German is quite broad, whereas there is no notified literature (thus far) on acquisition stages of Croatian as a heritage language in German speaking countries. Therefore, this section will have its focus on German, even though some developmental stages can be considered independent of language.

Firstly, the lexical acquisition is very individual from age 3 onwards (Kauschke, 2000). It is estimated that children between two and six years add 14 new words to their receptive vocabulary per day and 3;5 new words to their productive vocabulary (Füssenich, 2002; Osburg, 2002). The use of onomatopoeic – words that sound like the sound they refer to – decreases noticeably at age 3. No word form is taking up more than 25% of the child's speech, however, verbs are the most represented with around 20%. (Kauschke, 2000)

According to Kauschke (2003), it is important to mention that in spontaneous interactions with mothers, children in early stages of speech production are usually required to produce more nouns than verbs, so that the mother can react to the child's needs. Verbs, on the other hand, are used by adults to describe a task that a child has to complete. Consequently, the receptive knowledge of verbs is very well established, but productively they are not so strongly represented. Furthermore, children at the age of three tend to compensate for a lack of vocabulary with neologisms by creating new compounds and derivations. This phenomenon can also be found in adult speech; however, it gives an insight into the children's abilities of new word creations. (ibid.)

In German, compounds are preferred for creating new words by 3-year-olds (Clark, 1993); the older the children, however, the more derivations they produce instead of compounds (Komor, 2008, p. 62). For the subsequent acquisition of morphosyntax, a critical mass of lexicon is necessary (Davidson et al., 2017; Gagarina

et al., 2017). However, it is difficult to estimate the exact amount of vocabulary that is necessary for acquiring morpho-syntactic skills.

Secondly, when looking into the morpho-syntactic acquisition, it is clear that receptive skills are acquired much earlier than productive skills. How those two skills interact with each other, and what amount of receptive skills is necessary for production, is not fully explained so far. In matters of morpho-syntactic acquisition, research focuses more and more on acquisition strategies and time of onset of different child language *transitional systems* (Übergangssysteme) and less on what is already acquired in the target language. Those *transitional systems* are individual developmental stages that eventually lead to mastering a language. Therefore, overgeneralizations and divergent child-specific forms might be steps towards acquiring a language feature. (Kemp & Bredel, 2008, p. 77–78)

Children start to utter three or more-word sentences at the age of around 2;0 until approximately 4;0 years. Moreover, complex syntax emerges from the age of three; however, the acquisition process is very individual. Some children show complex syntax, where they connect two or more sentences with each other, already at the age of two as Tracy (2001) illustrates with some examples; whereas, in other children's speech, complex syntax can appear at the age of four, with a significantly higher frequency, however. All of these individual appearances in child speech are, according to research (e.g. Kemp & Bredel, 2008, p. 93–94), in a normal developmental range. Children acquire their language(s) at their speed and also in their way. Current research focuses therefore on acquisition strategies that children use to acquire certain aspects of grammar. (Kemp & Bredel, 2008)

Ultimately, the development of narrative competence will be described briefly. Research on children's narrative competences (e.g. Bamberg, 1987, 1994; Hickmann, 2003) implies that discourse competences have matured to a certain extent before children start telling stories. Beginning with the age of three, children start to produce utterances that can be considered as precursors of narration (Nelson, 1996). However, it is difficult to say, what level of narrative competences children need to acquire at a certain age; these are very individual and diverge among children. Some scholars claim that children between four and five years already possess well-established narrative skills, whereas others might complete their narrative abilities in puberty. (Bamberg, 1987, 1994; Hickmann, 2003) Nonetheless, narrative competencies are required in later school contexts and for literacy skills; and can be fostered from early on (Dobek et al., 2018). Studies on narrative competences of children are to a great

extent of experimental nature, and therefore to be considered with caution, as they can only partially give insight to age-specific narrative competences of authentic situations (Guckelsberger, 2008, p. 113–114). Yet, some literature on the narration of young children in their L2 German in Austria has already been gathered (e.g. Dobek et al., 2018; Kauschke et al., 2015; Schmölzer-Eibinger et al., 2018; Schwabl, 2015).

According to Reich (2008, p. 166) the different acquisition stages of German as a second language (L2) are very well described on a morpho-syntactic level, whereas heritage languages of immigrants, at least in German-speaking countries, are investigated only for a few languages (e.g. Dirim, 1998; Ehlich et al., 2008). Keeping that in mind, children undergo different levels in the acquisition process, the so-called *degrees of competence* (Kompetenzstufen). Studies on grammar acquisition of German (e.g. Grieshaber, 1999; Parodi, 1998; Wegener, 1998) revealed that independently of the age of onset for learning German as L2 in childhood, learners experience the same order of morpho-syntactic acquisition experiencing consequently different *degrees of competence*. Other linguistic domains, as the lexicon for example, are not following any specific order, as the lexicon is more domain-specific. Phonological competences on the other hand are considerably more influenced by the age factor, as phonological acquisition mechanisms decrease with age (Butler & Hakuta, 2004; Meisel, 2004). There is a broad consensus among linguists that the acquisition process of morphosyntax in bilinguals proceeds similarly to those of monolinguals for the same language (e.g. De Houwer, 2005; MacWhinney, 2005). Taken together, these studies support the notion that the acquisition of the heritage language in an immigration context follows the same order as growing up in a monolingual environment (Reich, 2008, p. 167).

2.2 EARLY BILINGUAL LANGUAGE ACQUISITION

Over the last decades research on early child language acquisition focused on answering crucial questions on the differentiation of monolingual and bilingual language acquisition. Meisel (2001) for example gives a precise overview of research conducted on the language development of bilinguals during the 80s and 90s. He focused on children under the age of five, who acquired two or more languages simultaneously, arguing that children go through the same developmental steps of grammar acquisition as their monolingual peers. This was confirmed by other scholars

as well (e.g. De Houwer, 2005; MacWhinney, 2005). Furthermore, Meisel (2001) pointed out that there is little research happening on the comparison of simultaneous to successive bilingualism, which this thesis will look into by comparing data from Austro-Turkish successive bilinguals of the INPUT project with the Austro-Croatian simultaneous bilinguals of this dissertation.

However, the main question that was discussed broadly during the 80s and 90s in the bilingual context was, whether one or two grammatical systems are operating in bilinguals. Overall, an extensive number of researchers support the *differentiation hypothesis*, stating that children can differentiate between two language systems as soon as they acquire grammatical knowledge (e.g. De Houwer & Meisel, 1996; Meisel, 2001). Owing to this, Genesee (2000) gives evidence that bilingual children can differentiate between their two languages from very early on: infants of only a couple of weeks can differentiate between phonetic distinctions in languages and are even able to show preferences to the family language (Mehler et al. 1986, quoted in Genesee 2000, p. 337). Poulin-Dubois and Goodz (2001) offer a further indication of infant distinction between phonetic differences of two linguistic systems. Similarly, the study of Genesee, Nicoladis and Paradis (1995) displays that children at the age from 1;10 to 2;2 years were capable of using the 'right' language when speaking to their English or French speaking parents.

The one-parent-one-language approach (Ronjat, 1913), however, is not even necessary for the child's bilingual development, according to Bhatia and Ritchie (1999, p. 588). Moreover, it "may create a socially unnatural setting for language use" (idib.), that can consequently have negative effects on the pragmatic competence of a child. Data from several studies (e.g. Czinglar et al., 2017; Hoff & Rumiche, 2012; Place & Hoff, 2011) suggest that adequate input from different speakers and appropriate exposure to both languages is crucial for one's language development. Thus, research has not yet agreed on the exposure time needed for bilinguals to develop native competences in both of their languages (see also chapter 3.2).

As for many years, the discussion on language separation was the focus of scientific discourse in bilingualism, it eventually altered with the beginning of the millennium. The discussion went towards a more specific analysis of how languages interact with each other on a cross-linguistic level. Much research was carried out in the past decade on cross-linguistic influence with various language combinations. Studies on cross-linguistic influence in bilingual first language acquisition showed that specific interactions may appear at the syntax-pragmatic interface, as some

researchers claim (e.g. Müller & Hulk, 2001; Serratrice et al., 2004). Müller and Hulk (ibid.), for example, have shown that object omission was higher in Romance languages due to a Germanic language influence. Serratrice, Sorace, Filiaci, and Baldo (2012) evaluated the influence of pronoun using of postverbal pronouns in English by Italian speakers and found postverbal pronouns twice as often in bilinguals when using Italian, where those pronouns exist in fact, but are far less frequent. Another study of Serratrice, Sorace, and Paoli (2004) indicates that English-Italian bilinguals tend to use overt pronominal subjects in Italian, where monolinguals would rather use a null subject; which suggests a cross-linguistic influence in their findings. In Italian, the pronominal subjects are a marked option, whereas in English they represent the default option. Consequently, it becomes clear that when confronted with two possibilities, “the bilingual child might optionally select the pragmatically unconstrained option available in English”, as Serratrice, Sorace, and Paoli (2004, p. 188) point out.

Coming back to the question of bilingual research and what that entails nowadays, we certainly need to clarify at what point someone can be considered a bilingual. Usually a person is considered bilingual once s/he has a productive use of both grammars. Yet, bilinguals tend to have one dominant language and consequently a weaker one. They can however be balanced in oral performance, but dominant for literacy skills in either one language or the other. (Pearson, 2009, p. 380) Similarly, the age factor and consequently the age of onset of a second language is another point that plays a significant role in the assignment of bilingual speakers. Whether someone learns two or more languages in childhood or later on, makes a huge difference in the mechanism of language acquisition. Usually puberty is described as a crucial point in time for language development, especially when native competences are in question. (Unsworth, 2016; Unsworth et al., 2014)

However, when taking into consideration the different language domains, learners can achieve native competences in vocabulary or pragmatics of discourse also in adulthood, whereas other domains like phonology are much easier to acquire on a native level in very young years (Pearson, 2009). In a lot of cases, children who start acquiring their L2 in preschool age, the L2 eventually becomes the dominant language. Pearson et al. (1997) indicate that acquiring a majority language is easier than a minority language. A minority language requires more exposure for the same

degree of competence and often sufficient conversational partners are lacking for the minority language.

The idea that heritage or minority languages are acquired incompletely was claimed very recently by Montrul (2008, 2011). The term heritage language is used for immigrant communities, where heritage speakers use a different language at home than the majority language and will be treated identically to family or minority language in this study (for terminological discussion see also Meisel, 2013). In her findings Montrul (2008, 2011) addresses the issue of differences between monolinguals and bilinguals (heritage speakers) and states that the latter acquire their heritage language incompletely. She argues that the input is the motive for incomplete language acquisition and finds evidence in tense, aspect, modality, differential object marking and gender, which is acquired very early on by monolinguals. These claims have been contested by Hager and Müller (2015), who raised doubts about the concept of incomplete acquisition when it comes to certain grammatical phenomena they explored in their scientific research. The article of Hager and Müller (*ibid.*) looked at three grammatical domains according to Uriagereka (2007), that are systematically different in the two languages spoken by their simultaneous bilingual test subjects (German-Romance). As for one, the Core-Parameters of OV in German and VO in Romance was chosen. Secondly, the Sub-Case-Parameter which was represented by the Null-Subject was analyzed; as well as the Peripheral Variation in terms of dative case/gender marking in German. They (Hager & Müller, 2015) found that there is no “incomplete acquisition” in terms of Core-Parameters or Sub-Case-Parameters of the bilingual subjects’ languages, however, Peripheral Variation of dative case/gender marking in German was affected by language imbalance. Yet, this phenomenon can equally arise in the monolingual acquisition and is not to interpret as a bilingual shortcoming.

2.3 SIMULTANEOUS VS. SUCCESSIVE BILINGUAL LANGUAGE ACQUISITION

In bilingual child language acquisition different kinds of classifications of bilingualism are used; depending on age and exposure to the child’s languages. Children growing up with two languages from birth or from very early on, are classified as simultaneously bilingual (MacLeod et al., 2013). Genesee and Nicoladis (2006) use the term bilingual first language learners or simultaneous bilinguals and refer to children growing up with

two languages from birth to the age of approximately four years. Mecheril (2010, p. 18) and also Rothweiler (2007) use the term early bilinguals or successive bilinguals when children start acquiring their L2 at age 3; with the beginning of preschool. Those children can refer to an already existing (language) system, therefore L2 acquisition differs from a monolingual (and simultaneous bilingual) acquisition. Other scholars (e.g. Genesee et al., 2004; MacLaughlin, 1978) have used the diverging line of age 3 to differentiate between simultaneous and successive bilinguals. The term, sequential bilinguals, is also common among many researchers (e.g. Hoff & Rumiche, 2012; Thordardottir, 2019) for referring to successive bilinguals. However, a particular time frame that would divide simultaneously from a successive bilingual is arbitrary (Hoff & Rumiche, 2012, p. 304).

In the case of this thesis, the four research participants will be referred to as simultaneous bilinguals since those children are exposed to both languages from very early on: they start attending preschool at the age of two years and both languages are used at home to a different extent; depending on older siblings and the use of both languages by their parents.

Numerous studies (e.g. Meisel, 2001; Pearson et al., 1993; Poulin-Dubois & Goodz, 2001) have evaluated the simultaneous acquisition of two or more languages, and their disproportionality to monolingual first language acquisition; concluding that monolingual and simultaneous first language acquisition act very similar in their acquisition process. On the other hand, plenty of studies have also shown that bilingual children have smaller vocabularies than their monolingual peers; referring to larger-sample studies (e.g. Bialystok et al., 2010; Hoff et al., 2012; Thordardottir et al., 2006).

Studies comparing simultaneous (2L1) with successive (L2) bilingual language acquisition, however, are scarce. As Meisel (2001, p. 13) states in his work, this needs much further research, primarily to show the influence of the other language in the case of 2L1 to L2, which he believes is diverging. Consequently, Meisel (ibid.) assumes that the influence of the heritage language in successive bilingualism is way more visible in the developmental process than in 2L1. The differentiation between simultaneous and monolingual language acquisition would thus be a distinctive acquisition mechanism due to maturation, but not due to the existence of a further language. This thesis will address this question, comparing the simultaneous bilingual acquisition of the four children in this study with successive bilingual children from the

INPUT project that focuses on Turkish L1 and German L2 speaking children, when discussing the results (see chapter 6).

Some studies, however, have met the need to differentiate between simultaneous (2L1) and successive (L2) bilingual language development. The following part of this paper moves on to describe in greater detail some of these studies. Nonetheless, the review of Paradis (2008) should be mentioned in this context since she (*ibid.*) gives a precise overview of studies of simultaneous and sequential (successive) bilinguals and discusses possible similarities. However, more recent research has been conducted on that topic, which will be reviewed more thoroughly in this section. Gagarina, Posse, Gey, Golcher, and Topaj (2017), for example, investigated groups of simultaneous and successive bilinguals (55 Turkish-German, 39 Russian-German), examining the influence of age of onset and SES on the productive and perceptive lexicon. They (*ibid.*) found that the age of onset negatively affects the productive lexicon and interestingly, no effect of SES was found for lexical development in German. Unsworth (2016), on the other hand, compared simultaneous with successive bilinguals and found no difference between English-Dutch bilinguals of the age groups between 1–3 years and 4–7 years in verb morphology, verb placement, vocabulary, and direct object scrambling. Furthermore, Unsworth, Argyri, Cornips, Hulk, Sorace and Tsimpli (2014) examined English/Greek and English/Dutch bilinguals in the acquisition of grammatical gender in Greek and Dutch and found that in Greek, age of onset suggests a difference between simultaneous and successive bilinguals, but not in Dutch. The difference between the two languages is explained by the delayed acquisition of grammatical gender attested in monolingual Dutch children.

However, the amount of input is claimed to be more important than the age of onset for the acquisition of grammatical gender. Worth mentioning is also the listed studies on comparison of L1, 2L1, early successive L2, and L2 of Dutch and Greek in the article of Unsworth et al. (2014). One additional study on simultaneous vs. successive bilinguals is to be mentioned: Namely, the study of Lemmerth and Hopp (2017) on the difference between 2L1 and early successive L2 in predictive gender processing for German nouns; gender processing was predictive only for lexically congruent nouns in successive bilinguals of Russian/German.

Research on simultaneous vs. successive bilinguals has found diversified results in the language abilities of these two groups, as the studies mentioned above attest. This leads to the conclusion that further research is necessary on this topic. In order to clarify the different outcomes of this comparison, one should distinguish

between the different definitions of simultaneous and successive bilinguals and the vast number of individual internal and external factors on language acquisition.

2.4 LANGUAGE ACQUISITION OF THE HERITAGE LANGUAGE

Children growing up in a linguistic environment other than the one spoken at home represent a very common phenomenon in Western European countries. This specific acquisition process cannot be described thoroughly without taking into consideration the social context in which the language is embedded (Bialystok, 2007, p. 394).

If we take Austria as an example, we see a country that has been influenced by immigration for centuries. Yet, its political and sociolinguistic view on migration is a controversial one. Even though Austria has several public policy initiatives, as fostering early language acquisition in the preschool for example (see *Art. 15a B-VG zwischen dem Bund und den Ländern über die Elementarpädagogik für die Kindergartenjahre 2018/19 bis 2021/22*)³ or specific German courses for school children (see *Deutschförderklassen und Deutschförderkurse*)⁴, migration is also used as a political instrument to make migration a polarizing topic. While in public discussions, especially since PISA (Nusche et al., 2016, p. 53), the mutual canon is that children from low-income migrant families lag behind in their educational achievements – compared to monolingual peers – they are still not granted equal opportunities as children from higher-income families.

Children with immigration background experience a lag of social diversity, especially in bigger cities like Vienna, wherein some areas over 80 % of children attending primary school speak another first language than German (Statistik Austria, 2017, p. 26). Consequently, their chances of attending better schools later on decreases, compared to children attending primary schools in other demographically favorable districts. From a linguistic point of view these specific socio-economic and furthermore socio-cultural facts need more attention in scientific research, focusing on integration and education of bilingual or multilingual children.

³ The Austrian government passed a bill that all nine federal states signed to foster language acquisition in preschool for all children between three and six years, as long as they require language fostering according to a language screening.

⁴ BMBWF. (2019). Deutschförderklassen und Deutschförderkurse. Leitfaden für Schulleiterinnen und Schulleiter. Wien: BMBWF. [online] Available at: <https://www.bmbwf.gv.at/Themen/schule/schulpraxis/ba/sprabi/dfk.html>.

2.4.1 Croatian as family (heritage) language in Austria

Speakers of Croatian represent one of the largest groups of bilingual speakers in Austria. According to *Statistik Austria* (2017, online) around 73,000 people in Austria have Croatian citizenship, which is the sixth-largest group of foreign citizens living in Austria. People with Croatian origin are estimated to be around 100,000.

During the 15th and 16th century a large number of people from parts of the former Yugoslavia migrated to the eastern part of Austria also known as Burgenland, due to the Ottoman expansion into the Balkans. Today they are called Burgenland Croats, who also speak their own language, the so-called Burgenland Croatian, which is a minority language with official status in Austria. Later on, in the late 1960s the *Gastarbeiter* (guest workers) movement made people from Ex-Yugoslavia and other southern European countries move to Austria, as it was in desperate need of foreign workers during that period of time. The last emigration wave of Croats to Austria was during the war in Yugoslavia in the 1990s. (Medienservicestelle, 2015)

Croatian language in Austria is for that matter very interesting, as the latest big emigration wave took place during the war in former Yugoslavia in the early 1990s, which led to the separation of its former countries into independent states. Moreover, it led to a separation of the “official language” that was called either “Serbo-Croatian” or “Croato-Serbian” into Bosnian, Croatian, Serbian, and Montenegrin. However, even though the political intentions in the Socialist Federal Republic of Yugoslavia (SFRY) went towards a unified language, it was never one official language for that matter. (Katičić, 2008)

The *Novosadski dogovor* (Novi Sad Agreement) from 1954 however, was one attempt of unification and declared that the language of Serbs, Croats, and Montenegrins has two pronunciations: *ekavian* and *ijekavian*; and two writing systems: Latin and Cyrillic – that are equal (Barić et al., 1997, p. 35).

Yet, the linguistic reality was a different one, also due to the different pronunciations, the regional dialects, the different languages spoken on the Yugoslavian territory (e.g. Slovenian, Macedonian), and the historical context (Katičić, 2008). After the war in former Yugoslavia, however, language policy in the successor states went toward issuing their own grammar and orthographic manuals. First- and second-generation immigrants in Austria, for that matter, were less exposed to those linguistic changes (Voß & Jusufi, 2013, p. 190). Their language was based either on the *ekavian* or *ijekavian* pronunciation and/or a regional dialect that on the national

territory of today's Croatia can strongly vary among each other (Jelaska, 2013). It is of interest, to what extent these people are influenced by the Croatian standard language, and what their language used to look like since one can assume that people living outside the native country were less exposed to post-war linguistic purism in Croatia.

As for the parents of the children in this study, language acquisition of German started in most cases in early childhood with preschool or in some cases in puberty, which made language development of their Croatian *idiom* (Jelaska, 2013) more interesting. The early sequential or successive bilingualism that regards learning a new language in preschool age, as described by Pearson (2009), can be seen parallel to native speakers' language skills (see chapter 2.3).

The Croatian language is highly inflected, while German is less. Its complex morphological system is especially interesting in early child language, which Kovacevic, Palmovic, and Hrztica (2009) point out in their case study research on monolingual upper-middle-class children in Zagreb. Their (ibid.) research suggests that morphological case marking in a highly inflected language like Croatian encourages children to use markers instead of non-marking nouns, due to its complexity. However, for children growing up simultaneously with Croatian and a less inflected language like German, acquisition stages might look different.

Research shows that children exposed to two or more languages from early childhood, or even from birth, usually receive less input in each language than monolingual children (e.g. Bialystok et al., 2010; Hoff & Core, 2013; MacLeod et al., 2013; Pearson et al., 1993; Thordardottir, 2011). This is particularly interesting in the case of simultaneously bilingual children, who acquire besides Croatian another language, which raises the question of a belated acquisition of the inflectional system compared to monolinguals. Montrul (2008, 2011) argues, for that matter, that heritage languages are acquired incompletely due to less exposure to these languages since they are mostly limited to the family domain. Yet, this has been viewed critically (see chapter 3.2).

It is in fact a challenge to maintain both languages in an officially monolingual country: in some cases majority language simply wins over, and in other cases parents are not able to provide adequate support to children in the minority language (Hoff & Core, 2013).

2.4.2 Acquisition of Croatian in the diaspora

At the beginning of data collection, the main focus of this study was to accumulate data from children at the age of three, whose parents define Croatian as their native or heritage language. Yet, people who declare themselves as Croats, according to their ethnic background, and call Croatian their mother tongue might originally come from the national territory of Bosnia and Herzegovina (Greenberg, 2004, p. 19), as it is the case of some of the participants in this study.

The different ethnic groups that are represented across the national territory of former Yugoslavia are represented in basically all successor states and not divided by national borders formed after the dissolution of Yugoslavia (Bugarski, 2012). Yet, when those ethnic groups migrated to other countries, before or during the war in Yugoslavia in the late 80s and early 90s, they were certainly not as much affected by the language policy introduced after the war. Language policy shifted toward using Croatian⁵ as the official national language. It is important to mention that during the time of the Socialist Federal Republic of Yugoslavia (SFRY) attempts were made to use a unified language amongst all ethnic groups, the so-called Serbo-Croatian or Croato-Serbian language that in that sense actually never existed, as it was more an attempt of language planning of the political elite in SFRY, to construct a unified language for the different ethnic groups. (Katičić, 2008) Serbo-Croatian was rather used as a 'generic' term as Hlavač (2006) would put it, and less a linguistically justified concept. The paper of Stolac (2014) underlines furthermore the importance of the designation of Croatian as a component for collective and personal identity and explains legitimations on the EU initiatives towards using “Bosnian/Croatian/Serbian” as a collective term.

Heritage language has certainly a different status in the diaspora than it has in the native country, when considering societal and institutional support in the acquisition process that is available for monolinguals in the native country. This leaves families in the diaspora with the responsibility to offer their children sufficient linguistic support in acquiring the heritage language. However, with the beginning of school, this support becomes more difficult, as children are far more exposed to the majority language (Reich, 2008, p. 164).

⁵ *The Constitution of the Republic of Croatia*, article 12.

2.4.3 Linguistic identity and language use

A bilingual is always twofold: a multilingual individual with a dynamic language system and a person, who uses strategies of multilingual communication (i.e. code-mixing, switching) (Riehl, 2018, p. 29). Moreover, a bilingual child in an immigrant community is simultaneously confronted with an immigrant identity. Identities, however, are likewise dynamic and can shift over time or develop multiple identities (Walters, Armon-Lotem, Altman, Topaj & Gagarina, 2014). Walters et al. (ibid., p. 46) describe identities depending on various aspects, listing SES to be part of economic identity, nationality, and ethnicity to be part of political identity, preschool and social activities to be part of cultural identity. These identities, however, interact with the children's language use and their linguistic identity. Walters et al. (2014, p. 58) investigated the components of identity that are strongly linked to language proficiency and found that the 'host society' in Germany and Israel offers different circumstances among Russian-speaking immigrants. The authors (ibid.) showed that preschool children in Germany indicated a bicultural identity, while a comparable group of children in Israel shifted towards an Israeli identity. Several explanations were discussed in the paper, mentioning differences among the two countries in facilitating government service as well as opportunities for social interaction. However, this is only one explanation. Identity shifts can be influenced by various *contexts*. (Walters et al., 2014)

Nonetheless, language prestige shall be mentioned in this regard as well, since it can function as an identity marker and influence maintenance of the heritage language (Riehl, 2018, p. 41). Consequently, especially in immigrant communities the loss of heritage languages and cultural assimilation tendencies are likely if the majority language and culture don't offer a nurturing environment for minority languages (Eilers et al., 2002). Many scholars (e.g. Eilers et al., 2002; Grosjean, 1982; Ritter, 2014) describe the phenomenon of possible language loss from third-generation onwards.

2.5 CODE-SWITCHING AND CODE-MIXING

Psycholinguistic research focuses in many ways on the linguistic choices of bilinguals and the processes of these choices in specific situations. This implies the question, whether bilingual speakers preferably use one language or the other, or simply switch between those two languages back and forth. Assuming the latter, research wants to understand what rules these switching activities follow, especially when two or more

languages are involved during one conversation. This contact phenomenon of two or more languages is generally described with the term *code-switching*, even though different terminologies are used by different researchers and various definitions can be found for that phenomenon. In this chapter the focus lies on the different terminologies for these different switching activities, especially considering the group of Croatian-German bilinguals in this study.

Even though the Croatian-speaking immigrant group in Austria can be compared to the Bosnian and Serbian immigrant group due to its linguistic parallels, and consequently capture an even bigger immigrant group, there has only been little research focusing on the language use of people with Bosnian/Croatian/Serbian background in Austria. The most recent work on code-switching is the thesis of Mikić (2017) on the code-switching of second-generation immigrants with Bosnian or Croatian language background. Further current research on this topic was conducted by Schlund (2006), Stanisavljević (2010) and Zagoričnik (2014).

2.5.1 Different classifications of code-switching

This chapter will give an overview of different classifications for language alternation that are relevant for the group of children discussed in this thesis. The term *code-switching* appears very often in bilingual contexts and marks switching activities between sentences or also within sentences and represents a common term for language alternation. Yet, several different terms are used by researchers for describing switching activities between languages, even though most of them are only terminological. (Schmidt, 2015)

As for one, Poplack (1980) used the distinction between inter-sentential and intra-sentential code-switching, which numerous researches agree on. Inter-sentential switching refers to switches between sentences, whereas intra-sentential describes the switch within a sentence. The latter is also referred to as code-mixing by many linguists (e.g. Ritchie & Bhatia, 2004), which will be applied in this case as well. Consequently, the distinction between inter- and intra-sentential will be referred to as code-switching for switches between sentences, versus code-mixing for switches within sentences. Code-mixing requires a great deal of language proficiency in both languages since the sentence includes two or more languages. Thus, it is the more complex and also most studied type of switching, and therefore will be described more thoroughly in the sections below.

Other researchers, however, define code-switching in a more general way. Li Wei (2000) exemplifies code-switching by stating the following: “when a bilingual talks to another bilingual with the same linguistic background and changes from one language to another in the course of conversation” (p. 16). Likewise, Poplack (2000) describes code-switching as “the alternation of two languages within a single discourse, sentence or constituent” (p. 224). Similar definitions can be found by other scholars (e.g. Grosjean, 1982; Hamers & Blanc, 1989; Milroy & Muysken, 1995).

2.5.2 Code-mixing and the *matrix language frame model* (MLF)

When it comes to intra-sentential code-switching the assumption is that two grammars are involved. Myers-Scotton and Jake (2000) describe the meaning of code-mixing by referring to the two languages as matrix language (ML) and embedded language (EL). The ML provides the grammatical frame and the EL is embedded in that frame. Myers-Scotton (1993) calls this the *Matrix language frame model (MLF)* that is organized through *morpheme order* and *system morpheme principles* of this model:

The morpheme order principle: In ML + EL constituents consisting of singly occurring EL lexemes and any number of ML morphemes, surface morpheme order (reflecting surface syntactic relations) will be that of the ML.

The system morpheme principle: In ML + EL constituents, all system morphemes that have grammatical relations external to their head constituent (i.e. participate in the sentence’s thematic role grid) will come from the ML. (p. 83)

This model was used by numerous scholars in bilingual research to account for different languages in contact (e.g. Auer, 2014; Auer & Muhamedova, 2005; Hakimov, 2016; Muysken, 2012; Myers-Scotton & Jake, 2000). However, limitations regarding the MLF model should not stay unmentioned (e.g. Gardner-Chloros, 2009; Gardner-Chloros & Edwards, 2004; Muysken, 2000). Nonetheless, to the extensive number of studies that applied the MLF, one recent study should not stay unmentioned, which proposes a different perspective for the code-mixing phenomenon. Namely, the study by Quick, Lieven, Carpenter, and Tomasello (2018) that offers a dense sampling on one bilingual child. The authors (Quick et al., 2018) claim that “the concept of a ‘matrix language’ acting as the ‘syntactic glue’ [...] is difficult to maintain” (p. 496). According to them (ibid.) “code-mixing is influenced by levels of entrenchment and abstractness”.

Concluding that code-mixing is possibly less a combination of functional and lexical elements, but more of a construction of partially schematic units. These constructions are influenced by different factors such as the frequency of input and usage. Yet, more research on other languages would be needed to investigate if a high proportion of code-mixes might be traced back to fixed chunks or partial schemas as suggested by Quick et al. (2018).

The notion of grammar in CS

The involvement of two grammars is often mentioned in bilingual code-switching. Muysken (2012) states that mixing requires a high proficiency of both grammars and that most complex mixing activities have been recorded in second-generation immigrants. Auer (2009) even uses the term *meta-grammar* that implies universal and language specific features used by bilinguals and thereby emphasizes their competences. Furthermore, Poplack (1980) gave evidence that bilinguals show a great deal of competence especially when using intra-sentential code-switching. Yet, this discussion is often led by the notion of two monolingual grammars interacting in bilingual speech, which Alvarez-Cáccamo (1998) finds difficult to grasp considering the following:

research should first convincingly prove that (a) speakers who code-switch possess two (or more) identifiable linguistic systems or languages, each with its identifiable grammatical rules and lexicon; and (b) “code-switched” speech results from the predictable interaction between lexical elements and grammatical rules from these languages. None of these assumptions, I believe, is proven yet. (p. 36)

The notion of grammar in code-switching is very well described in Gardner-Chlores and Edwards (2004). In a subsequent paper, Edwards and Gardner-Chlores (2007) focus on the grammatical knowledge involved during code-mixing of compound verbs. They found that especially idiolect, metalinguistic knowledge and community norms are relevant to switching procedures. The authors (ibid., p. 75) underline the necessity of a ‘mixed code’ since the notion of monolingual grammars is insufficient for bilinguals, bearing in mind that not all code-switching appearances can be explained based on monolingual grammars. This conclusion simultaneously implies the shortcomings of the *Matrix language frame model* of Myers-Scotton (1993).

2.5.3 Code-mixing vs. borrowing

As mentioned above, the term code-mixing will refer to switches within a sentence – what is described as intra-sentential switching (Poplack, 1980). This can entail a single word switch or switches of short phrases within a sentence. *Borrowing* on the other hand, describes a very similar concept. It implicates a lexical item, most frequently a noun, that is borrowed from one language and embedded into another. The distinction between those two terms is a difficult one since both (can) operate on a lexical level. *Borrowing* however, inherits characteristics of the matrix language throughout phonological, morphological and syntactic assimilation of the borrowed word. Therefore, it becomes part of the target language, whereas code-mixing on the contrary, is not phonologically assimilated to the target language. (Halmari, 1997)

Halmari (ibid., p. 170) points out that in some cases the distinction between code-mixing and borrowing lies in the investigator's intuition, whether choosing one category or the other seems appropriate. Most scholars, however, agree that borrowed words necessitate assimilation at all levels.

In addition, Poplack (1988, p. 221) speaks of frequency as a distinguishing marker for borrowings or loanwords. More specifically, she argues that when a word is frequently used by numerous bilingual speakers in a phonologically and morphologically assimilated form of the matrix language, one can consider that a borrowed word and not code-mixing. Similarly, Myers-Scotton (1990, p. 103) refers to speakers and the frequency of using borrowed words, which she claims are accessible to numerous speakers, whereas switches are not. Hence, Halmari (1997, p. 169) emphasizes that code-mixing can only occur in bilingual speech, which implies a certain language proficiency, while borrowing can appear in monolingual speech as well, and is accessible to more people (Gardner-Chloros, 2009).

2.5.4 Code-mixing vs. interferences

Muysken (2012) gives a well-defined overview of the differences between code-mixing and language interferences. As already mentioned above, code-mixing entails lexical material from two languages, as well as morpho-syntactic structures from both languages. Interference, on the other hand, describes the influence between a

bilingual's two languages, but only on a morpho-syntactic level, while the lexicon is given from only one language.

To be more concrete, here is an example from Cerron-Palomino (1972, p. 155-6 quoted in Muysken, 2012) from Quechua and Andean Spanish interference:

(a) *De mi mama en su casa estoy ye-ndo.*

GE 1sg.POSS motherLO 3sg.POSS housebe.1sg go - ing

I go to my mother's house

(GE = genitive; 1sg = first person singular; POSS = possessive; LO = locative;
3sg = third person singular)

(b) *Voy a la casa de mi mama.* (p. 194)

Example (a) shows the Quechua word order in the Spanish sentence, while (b) shows the standard version of the Spanish word order of the same content.

Interference is as a matter of fact a scarcely studied phenomenon. This is due to its opaque noticeability, and therefore its difficulty to be analyzed, compared to code-mixing. Code-mixing is much easier to notice since it entails lexical items, contrary to grammatical interference. Yet, it remains unclear whether interference is less frequent than code-mixing in bilingual conversation (Muysken, 2012). Gardner-Chloros (2009) points out that many code-mixing utterances attest to grammatical interference as well. In the work of Matras (2009) numerous examples of interferences, and other forms of language contact can be found.

2.5.5 Language choices

One focus of bilingual research is the attempt to determine the reasons for code-switching. Some scholars (e.g. Ribot & Hoff, 2014) claim that code-switching can appear in bilingual speech due to a lack of terminology. Others (e.g. Genesee et al., 1995; Poulin-Dubois & Goodz, 2001) indicate that some expressions are clearer in one language than the other. Hamers and Blanc (1989) even used the term *incompetence code-switching* for code-switching by immigrants that acquired their L2 insufficiently and have to compensate with their L1. Code-mixing activities were seen as 'deficiencies' of linguistic competence by some researchers up until the late 1980s. Skutnabb-Kangas (1981) defined the term *semilingualism*, indicating an insufficient linguistic development especially within immigrant speakers. This led to the fact that numerous bilinguals rejected mixing/switching activities in their communication and

especially when talking to their children, to minimize possible negative outcomes of language competence. Theories of that kind have been ruled out by now, indicating a rule-governed language usage and pragmatic and grammatical knowledge (Cenoz & Genesee, 2001; Milroy & Muysken, 1995).

Poplack (2000) and other scholars even emphasize that bilingual alternation needs a high language proficiency in both languages especially when it comes to code-mixing. The non-proficient bilingual speakers on the other hand prefer using switches between sentences or so-called *tag-switches* (discourse markers) as Poplack (2000) concludes since they are “freely moveable constituents” (p. 231) and less likely to interfere with grammatical rules. Zentella (1998) states in her research that non-proficient bilinguals hardly use switching or mixing for compensating purposes; they do, on the contrary, use their languages for creative reasons. Furthermore, Genesee, Nicoladis, and Paradis (1995) have found evidence that bilingual children tend to use more language mixing when not using their dominant language. Therefore, language mixing usually does not occur when talking to parents in their dominant language. Other studies (e.g. Lanza, 1997; Mishina, 1999) indicate that code-switching activities of parents echo the code-switching activities of their children. Likewise, a recent very study by Adamou and Shen (2019) suggests that language switching costs depend on the frequent use of code-switching and mixing in bilingual communities. Ribot and Hoff (2014) evaluated Spanish-English simultaneous bilinguals at age 2 ½ and found that children preferably switched to English when talked to in Spanish than the other way around. This correlated with their expressive vocabulary skills in English even though receptive vocabulary in both languages showed similar results. Balanced bilinguals, however, showed less need to code-switch between their languages.

According to Myers-Scotton (2006), language choices can be summed up as marked and unmarked choices of bilingual speakers. That implies that speakers know what language choice is appropriate in certain situations. An unmarked choice is something that is expected in an interaction, as can be participants, topic or setting for example, whereas marked choices entail unexpected actions. Consequently, there is a broad consensus among researchers that code-switching is not arbitrary or functionless, it is on the contrary, a functional and normal communicative strategy. It is furthermore a way of expressing cultural identities that in the case of bilingual speakers often includes multiple cultural backgrounds that they feel part of. (Schmidt, 2015, p. 34–35)

Ritchie and Bhatia (2012) defined four significant factors that influence language choices of bilinguals: “social roles and relationships of participants (1); situational factors: discourse topic and language allocation (2); message-intrinsic considerations (3); and language attitudes including social dominance, and security (4)” (p. 378).

(1) Social roles and relationships of bilingual speakers are based on “unconscious agreement or disagreement of language choice” between bilinguals (Ritchie & Bhatia, 2012, p. 378).

(2) Situational factors indicate a more suited language for certain situations (social groups, settings, or topics). Very often a distinction is made due to public vs. private interactions. This is also known as the so-called ‘they code’ for public language vs. the ‘we code’ for private language. Social class, religion, gender, and age are further factors that can influence language choices among bilinguals. Age is one factor that is particularly important among second-generation immigrants. (ibid.)

(3) Message-intrinsic considerations embed linguistic and pragmatic functions such as quotations, reiteration or paraphrasing, message qualification, topic-comment function, hedging, and interjections. (ibid.)

And finally, (4) language attitudes show an overlap between positive attitudes toward bilingualism, and cultural and social identification with language mixing or switching and consequently a higher use of mixing/switching. (ibid.) Negative attitudes toward bilingualism on the other hand, as shown by Grosjean (1982) for Flemish and French bilinguals in Belgium, indicate low patterns of switching or mixing between those two languages.

2.5.6 Domains of language acquisition

Language choices in bilingual families are a very common topic in recent bilingual research. Especially when bilingual families don’t apply a one-person one-language approach, where one parent speaks one language with the child and the other parent speaks the other language. Rather they use both of their languages while speaking to each other or their children. From a linguistic point of view, those preferences of using either one language or the other between speakers with a high proficiency require further examination (Fishman, 2000; Schmidt, 2015).

According to Fishman (2000, p. 90–91) bilinguals choose their language depending on linguistic and social factors like the group and the relationship to the participants of that group, the specific situation, and the topic and function of discourse.

Fishman (ibid.) viewed code-switching from a sociolinguistic perspective and focused on domains of language choice.

Little is known about language shift or language maintenance in bilingual contexts and it is not clear what factors are relevant for individuals to choose one language or the other while talking to other bilinguals. One attempt in this thesis is to draw a broader picture of the bilingual setting at home by focusing on domains of language use. Schmidt-Rohr (1963, quoted in Fishman, 2000) was the first who suggested establishing domains for language behavior for different language settings. Those were the following: “the family, the playground and street, the school (subdivided into language of instruction, subject of instruction, and language of recess and entertainment), the church, literature, the press, the military, the courts, and the governmental administration” (p. 93).

Other researchers either added further domains if necessary or narrowed them down to domains fitting their purpose. If we consider the specific linguistic situations of bilingual families and their communicative patterns, we find numerous interferences, cross-linguistic influences, switches between languages, and other similar phenomena. Schmidt-Rohr’s family domain could, therefore, be extended to describe a family’s multilingual situation more thoroughly. Hence, it is desirable to describe the crucial role-relations within a group in a multilingual setting. Two approaches are described in the literature (e.g. Fishman, 2000, p. 95) in regard to the family domain. One focuses on family members and the other on dyads within the family: i.e. mother-father, mother-child, father-child, mother-sibling, father-sibling. Although only the latter relates to role-relations within the family and can give insight into differentiation in multilingual family settings.

This thesis will address the family domain in the last research question (3A), which will be elaborated in chapter 6.3, and specifically the role-relations: mother-child or father-child, focusing on the language shift taking place in different situations within this domain. Fishman (ibid.) points out that multilingual settings are effective, once the domain of language behavior – which is the family domain in this case – is combined with “domains at the level of socio-psychological analysis” developed by Barker (1947, quoted in Fishman, 2000, p. 94) and Barber (1952, quoted in Fishman, 2000, p. 94), who distinguish between *intimate*, *informal*, *formal* and *intergroup* domains. Fishman (2000, p. 97), on the other hand, describes these classifications as situational

variances, where switching between languages may occur due to the degree of more formal versus intimate situations.

The parental interviews of this study will, therefore, include questions regarding linguistic domains (Appendix C) to make switching activities in bilingual families comprehensible, considering the fact that all family members are speakers of both languages. Therefore, the family domain will be divided into family interactions of public and private life, which can also be linked to intimate or informal domains or situations as mentioned above. This classification is considered coherent as this thesis is focusing on child-directed speech (CDS) and how bilingual families use their languages in everyday life. Other domains are excluded from this attempt as I am focusing on child language and how multilingual settings are chosen by bilingual speakers within the family.

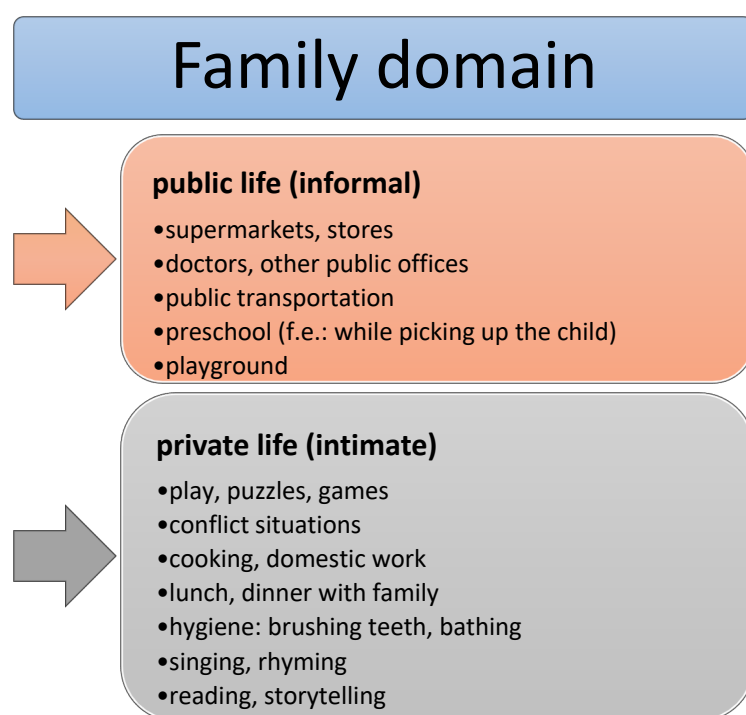


Figure 2 Family domain for simultaneous bilingual families

One approach of getting a clearer picture of language shifts within the family domain is through interviews with parents, by trying to make them self-reflect their language choice and systematize the situations, where language shifts can occur while talking to children. Considering that, different situations in private and public settings were listed to elaborate under what circumstances parents address which language to their children (see Figure 2).

3 LINGUISTIC INPUT AND ITS ROLE IN LANGUAGE ACQUISITION

3.1 INPUT FACTORS FOR BILINGUAL LANGUAGE EXPOSURE

Children exposed to two languages do not necessarily become bilingual when they are spoken to in a minority language at home and a majority language by their surroundings (Gathercole & Thomas, 2005, 2009; MacLeod et al., 2013). In that regard, input has shown to be a key factor in bilingual families to make children acquire both languages. In most cases of bilingual research, studies describe samples where a minority language is spoken at home and the majority language by the surrounding (e.g. De Houwer, 2007; Hoff, 2006; Pearson, 2007; Pearson et al., 1997). De Houwer (2007), for example, collected data from 1,899 bilingual families in the Netherlands, where at least one parent spoke another language than the majority language Dutch. Results showed that only 75% of those children aged between six and ten years produced utterances in both of their languages, and ultimately 25 % didn't use the minority language at all. Thus, the minority language input in the families correlated with the child's use of both languages.

There are of course diverse settings of bilingualism. This particular thesis, however, is mainly focusing on simultaneous bilinguals with both parents being native speakers of Croatian, where Croatian as the minority language is spoken at home and German as the majority language outside of the family context.

To determine the effects of successful bilingualism, Pearson (2007) describes five factors that are relevant for bilingual linguistic proficiency: *input; language status; access to literacy; family language use; and community support*. Whereas, some literature points out a *threshold* concerning input and language exposure. Gathercole (2002b), and Gathercole and Hoff (2007), for example, emphasize that there is a *critical mass* of input, which indicates an age-specific necessity to accumulate a quantified amount of linguistic input to fully acquire a language. Moreover, other possible environmental factors may influence child language acquisition that should not stay unmentioned, as for example genetic or other health-related dissimilarities in children, differences in home environments, and different experiences in language-learning

(Hoff, 2003, p. 1368). The socioeconomic status (SES) as one other relevant variable in child language development will be discussed in a separate chapter (see below).

Children growing up simultaneously with two languages obtain, on the one hand, less language input to each language compared to monolingual peers (Huttenlocher et al., 1991). On the other hand, they receive a miscellaneous input of linguistic structures and a diverse number of concepts (Gagarina et al., 2017). Sirén (1995) found that a caregiver who uses both languages with the child decreases the chances of a child becoming actively bilingual. Whereas the chances of becoming bilingual increased by speaking only the minority language with children. Place and Hoff (2011) indicate that a child is more likely to acquire a language if both parents are speakers of the same minority language spoken at home. Therefore, the parent's dedication to using a minority language at home has a huge impact on a child's linguistic development of becoming bilingual.

Not in all cases of a bilingual environment children become speakers of two languages, especially once they enter school and receive main exposure in the majority language. Yet, the amount of input to a minority language that children would need to become bilingual is not completely clear so far (MacLeod et al., 2013). Gathercole and Thomas (2009) studied English-Welsh speaking children in Wales and concluded that there is a direct correlation of proficiency in Welsh to input at home and at school. Furthermore, the maintenance of Welsh in adulthood is dependent on continuous exposure. Thordardottir (2011), however, shows in her study on simultaneously bilingual 5-year-old children acquiring French and English that an exposure time of 40–60% to a language shows the same results on receptive vocabulary as with monolinguals.

Hoff and Core (2013, p. 220) on the other hand, mention an input rate of 60–80% in one language to obtain the same language development as monolingual children in productive vocabulary skills. Likewise did Barreña, Ezeizabarrena, and García (2008) with their study on Spanish/Basque bilinguals, who showed similar results to monolinguals on early lexical and morpho-syntactic development, and even significantly better results in Basque than bilinguals (with less exposure), when their exposure time to the language was more than 60%. De Houwer (2019) gives an overview of the matter of reduced input in bilingual children postulated by numerous scholars (e.g. Genesee, 2010; Montrul, 2008; Sorace, 2005) and lists various papers supporting the notion of very individual variations that appear in bilingual settings and

emphasizes that bilingual input can equal or surpass the input of monolinguals (De Houwer, 2009, p. 120).

Ultimately, input appears to be a relevant aspect of child language acquisition. Unsworth (2014, p. 769) points out the complex nature of bilingual settings and underlines the input quantity that is often mentioned in bilingual contexts. However, according to her (*ibid.*), input quantity is strongly connected to other factors as for example “input quality, parental education, SES and age of onset” (p. 769). In one of her studies (Unsworth, 2013a), she indicates, moreover, a connection of input to the acquisition of grammatical gender by Dutch/English bilinguals when acquiring definite determiners in Dutch, but not when acquiring gender agreement of adjectives. Unsworth (*ibid.*) explains this with the complex gender system of Dutch nouns that have only a few cues for neuter for example, whereas gender agreement of adjectives is solely a morpho-syntactic agreement and once those rules are acquired, the input is not an issue. Finally, Unsworth (2013b, 2016) gives a comprehensive overview of the relevance of input in bilingual child language acquisition.

In this regard, it is also important to mention that there is a difference in the quality of input (Hoff & Core, 2013). Several studies (e.g. Hoff, 2006; Huttenlocher et al., 2010; Rowe, 2012) suggest a positive effect on language development by using rich vocabulary, different syntax, and a decontextualized language use within child-directed speech. A study by Cartmill, Armstrong, Gleitman, Goldin-Meadow, Medina, and Trueswell (2013) on monolingual 14- to 18-month-old children indicates that the quality of parental speech has an effect on the vocabulary outcome three years later. By the quality of input the authors listed parental referential transparency, when talking about certain contexts and referring to them with gestures. Those kinds of behaviors foster the child’s vocabulary acquisition.

In general, only few studies refer to the quality of input of bilingual children (Grüter & Paradis, 2014). Bilingual research focuses mainly on some aspects of input, namely the number of different people talking in each language, the input that comes from native speakers, and how much mixing of those two languages is taking place. Nonetheless, the latter, to what extent code-mixing influences language acquisition, is not clarified yet (Hoff & Core, 2013, p. 221). Hoff, Welsh, Place, and Ribot (2014) point out that even though code-mixing is not a problem for bilinguals, it may not be beneficial for language acquisition in the very early stages of vocabulary development, as their finding suggests. Equally, the input of non-native speakers appears not to be as helpful for language development as input from native speakers. Hoff et al. (2014,

p. 131) explains that phenomenon due to a less diverse vocabulary of the parents while using their second language. However, these findings require further analyses.

3.2 RELEVANCE OF MATERNAL INPUT

Hoff (2006, p. 59) reviewed the literature on communicative interaction between adults and prelinguistic children in different cultures and found cultural differences in how adults interact linguistically with their children. Western middle-class mothers seem to address verbal language to their children more directly than Walpiri of Australia or Mayan of Mexico does. Therefore, some independent reports of studies suggest that children acquire language faster when they are addressed directly. Additionally, Hoff (2006) points out that cross-cultural comparisons are difficult to undertake as some literature suggests the limitations to such comparisons, due to the fact that cultures have distinctive expectations on children's linguistic outcomes.

Other studies on maternal input from low vs. high SES mothers in the US indicate, however, that children scored differently at especially lexical development tests on behalf of different input they receive from either upper-middle-class or working-class mothers (e.g. Gathercole & Hoff, 2007; Hoff, 2003, 2006; Huttenlocher et al., 2010). The widely cited study from Hart and Risley (1995) found that the quantity of input children from high SES parents receive was on average three times higher than from parents from low socioeconomic backgrounds in the US.

Yet, over the past decades more and more studies have focused on the amount of language input children receive, as an important indicator for lexical growth (e.g. Hoff & Naigles, 2002; Huttenlocher et al., 1991; Korecky-Kröll, Uzunkaya-Sharma, et al., 2016a; MacLeod et al., 2013; Pearson et al., 1997; Thordardottir, 2011). Unsworth (2016) even claims that there is a critical period of the role of input that ends with early childhood. The quantity and quality of input have thus been an important subject in numerous studies of child-directed speech and bilingual development (e.g. Hoff, 2003, 2006; Huttenlocher et al., 2010; Rowe, 2012). Especially time spent on literacy activities, such as book reading and parent-child conversations, have proven to be very efficient for improving the lexical skills of children (Auer, 2009; Hoff, 2006, p. 70).

Those kinds of events provide children with a diverse set of linguistic features. Patterson (2002) accounted for the frequency book reading situations and exposure to each language of bilinguals as an important factor for expressive vocabulary. Moreover, a diversified linguistic setting that offers children lexical richness and

grammatical complexity accounts positively to their language acquisition process (e.g. Hoff-Ginsberg, 1991; Huttenlocher et al., 2002; Tietze, 2013).

A few studies have also observed exposure to television as a possible indicator of linguistic growth and found no significance (Hoff, 2006; Patterson, 2002). Leseman, Scheel, Mayo, and Messer (2009, p. 292) point out that educational television programs indicate the possibility of lexical learning at a very young age, whereas other television programs seem to have the opposite effect to a child's language development. In line with this study is also the one conducted by Linebarger and Walker (2005). Very often those kinds of activities, that are more literacy-centered, require a certain degree of education in most cases and therefore occur more frequently in families from a high socioeconomic background. Subsequently, the factor time appears to play an important role within bilingual children, considering the input they get in both of their languages.

A very recent study of Hoff, Burrige, Ribot, and Giguere (2018) accounts for another variable regarding the mother's education to be relevant for bilinguals language skills, namely the language the mother achieved the highest degree in. The researchers (ibid.) found a positive effect on the language skills of either Spanish or English when the mother had her degree in the same language. The mother's education level, however, was not related to the language skills of the child's other language. Hence, if the mother finished her degree for example in Spanish, it only affected the results of the child's Spanish skills, but not the English skills and the other way around.

3.3 INPUT FROM OLDER SIBLINGS

School-aged siblings appear to have a strong effect on the language development of children. A study conducted by Hoff, Welsh, Place and Ribot (2014, p. 133) on Spanish-English bilinguals in the US showed that school-aged siblings increased their mother's English use by using it themselves, compared to those mothers who had only one child. Therefore, the overall exposure to English at home increased because of older siblings and mothers using English more frequently at home. Likewise, Barton and Tomasello (1994) emphasize that older siblings affect the language acquisition of young children by requiring mothers to talk in a more complex way to toddlers when older siblings are present. Older siblings were furthermore found to use the majority

language more than other family members when talking to toddlers (Bridges & Hoff, 2014a).

3.4 CHILD DIRECTED SPEECH (CDS)

The linguistic input children receive or, more precisely, the speech caretakers address directly to their children, child-directed speech (CDS), is an important variable in child language acquisition, as mentioned in the chapter above (chapter 3.2). However, this can vary enormously among caretakers. The study of De Houwer (2015) indicates diverging individual results in mother's speech to their children: Even though no difference was found between groups of monolingual vs. bilingual mothers, great differences among individuals were noticeable. Likewise, findings of Weisleder and Fernald (2013) verify the same assumption, namely, that toddlers of low SES Spanish-speaking families in Miami are exposed to very individual amounts of speech – from 670 to 12,000 words recorded during an all-day parent-infant interaction of ten hours – and had larger expressive vocabularies than children exposed to less CDS.

Rowe (2008) similarly examined child-directed speech in spontaneous speech recordings with parents from different socioeconomic backgrounds (education and income) in the US. She found that at the age of 2;6 years, CDS is a predictor for vocabulary skills one year later. Furthermore, she discusses the influence of parental knowledge of child development that is usually linked to SES, which consequently might result in different ways to communicate with children. Cristofaro and Tamis-LeMonda (2012) emphasize in their research on mother-child interactions, the importance of a diverse set of communication, to promote children's future school achievements. Quantity, lexical richness, and syntactic complexity has also proven to be nurturing in the lexical development of 2-year-olds (Hoff & Naigles, 2002).

Likewise, Hoff-Ginsberg (1991) investigated different communicative settings and found differences in CDS of the different communicative situations within families, as she did in different social classes of 'working-class' and 'upper-middle-class' mothers of her study. Consequently, CDS offers a vast possibility of investigating different settings in communication, yet at the same time it appears to be an important variable in child language development.

3.5 FOSTERING EARLY LANGUAGE ACQUISITION IN PRESCHOOL

Numerous factors influence the language acquisition of children, as becomes evident from the previous chapters. However, one must keep in mind that many children spend a certain amount of time in preschools or other day-care facilities, which has simultaneously an impact on their language acquisition process. According to Korecky-Kröll, Uzunkaya-Sharma, and Dressler (2018) the longer attendance of bilingual Austro-Turkish children to a German-speaking preschool suggests positive effects on the children's L2 vocabulary.

Due to different socio-cultural and linguistic backgrounds in urban areas in Austria, especially in the bigger cities, (pre)schools are confronted with a vast number of heterogeneous groups of children. Schools have a pivotal role in compensating for social and linguistic disparities, which is of course difficult to achieve. The Austrian National Report on Education (Bruneforth et al., 2016) attests much lower results to children with an immigration background in all domains of PIRLS and TIMSS, as well as in the testing of educational standards of mathematics. The report expresses furthermore the relevance of socioeconomic background of children on their educational achievements. Children with an immigration background, and another first language than German, are in general in a disadvantaged position according to the report (*ibid.*, p. 26). Therefore, preschools and child-care facilities play an important role in early language support, and consequently in later academic achievements.

Other input factors that shall not stay unmentioned in this regard are the ones described by Czingler, Rüdiger, Korecky-Kröll, Uzunkaya-Sharma, and Dressler (2017) regarding successive bilinguals of the INPUT project. The scholars of that study emphasize the significance of L1-German-speaking peers, of hours spent in preschool, and the quality of preschool to the results of receptive vocabulary. It remains beyond dispute that an early attendance of preschool promotes the acquisition of the majority language (e.g. Becker, 2006; Mashburn et al., 2008; Tietze, 2013). Furthermore, the input children hear, as mentioned in the chapters above, holds likewise for preschools. Numerous scholars (e.g. Albers, 2009; Huttenlocher et al., 2002; Oller & Eilers, 2002) have focused on the quality of input in schooling contexts and found correlations between teachers' input, and effects on different linguistic domains of children. Hence, high-quality preschool programs can be one way to overcome educational disadvantages in early childhood (Hair et al., 2006; K. A. Magnuson et al., 2004). A study conducted by Baumeister, Rindermann, and Barnett (2014) in Austria attested

early preschool attendance had a positive effect on children's IQ and social-emotional and motor skills.

3.6 THE ROLE OF PEERS AND NATIVE SPEAKERS

The older children get, the stronger the influence of peers becomes, especially once they start attending childcare facilities. Children start picking up new phrases and words from other peers and are not anymore solely influenced by parental input (Hoff, 2006, p. 70). Labov (2014) emphasizes that the influence of peers overtakes from the age of 6 years. Similar paths were observed by Downer and Pianta (2006). Yet, also in preschool, peers become an important source in child social and linguistic development (Harris, 1995; Mashburn et al., 2009).

However, when it comes to bilingual children, and this concerns especially countries with large immigrant communities, peer influence is an important factor for majority language acquisition and therefore, also the number of native-speaking peers in preschool or other child care facilities (Czinglar et al., 2017; Oller & Eilers, 2002). Studies, like the one by Czinglar, Rüdiger, Korecky-Kröll, Uzunkaya-Sharma, and Dressler (2017), indicate a high correlation between the number of native-speaking peers in preschool and the vocabulary skills of L2 German speaking children. Furthermore, the amount of input by native speakers as well as the number of native speakers in general seems to have a positive effect on bilingual children and their language skills (Place & Hoff, 2016).

4 THE SOCIOECONOMIC STATUS (SES)

The term socioeconomic status has historically denoted the relative position of individuals, families, or groups in stratified social systems where some societal values (e.g., occupational prestige, education, economic resources, power, information) are not uniformly distributed. The complex processes of social stratification, in turn, hierarchically classify people according to their access of those values. (Bornstein & Bradley, 2012, p. 2).

This definition describes the complex structure of the socioeconomic status (SES). To be precise, the SES is a variable that can include multiple components, as for example education, occupation, the income of individuals, which simultaneously are not static, but can include different combinations of components.

4.1 HISTORIC OVERVIEW

Numerous studies (e.g. Bradley & Corwyn, 2002; Campbell & Ramey, 1994; Hart & Risley, 1995; Schiff & Ravid, 2012) of the last decades have shown that the SES of caretakers is an important variable when it comes to child development. In the 1960s the awareness of social inequalities in North America and Western Europe initiated a new trend in research regarding disadvantaged children and their socioeconomic background. However, by the end of the following decade the interest in SES almost vanished in child development research. This decline of interest can be explained by several factors. For one, it was rather unpopular to blame low SES parents for their children's shortcomings in development. Second, ethnic background and race were associated with SES and it was rather difficult to divide issues of race from those of low SES parenting. (Bornstein & Bradley, 2012) Furthermore, research focused in general on a more universal explanation of development than looking into variations in development (Hoff et al., 2002). By the 1980s, the effect of SES was consequently hardly considered in child-parenting research. Ensminger and Fothergill (2012) evaluated the impact of including SES in studies of child development and parenting, and found that studies published in the 80s, scarcely included the class composition of subjects in their research.

Simultaneously, excluding the factor SES in child development research, ignores social diversity that exists in every society. MacPhee, Kreutzer, and Fritz

(1994) found a lack of low-income, and ethnically diverse participants in previous studies on child development and family background, which consequently reduces the validity of studies. Other reviews on studies conducted in the 80s to early 90s fail to offer information on the background of research participants (e.g. Hagen & Conley, 1994; Smith & Graham, 1995). In general, little standardization was found on SES in literature before the 1990s. When SES was included in the research, however, the Hollingshead scale (1975) was the most frequently used standard measure, while the mother's education was the most frequently used component for SES measure.

The *Hollingshead Four-Factor Index of Social Status* (HI; Hollingshead, 1975) was the one standard measure most frequently used in the literature of child development up to the 1990s (Bornstein et al., 2012). The HI is based on education and occupation of individuals, and both are ranked according to a point scale, where the HI is obtained by the sum of scores of both scales. A new version of the HI (Hollingshead, 2011) was published recently, which embodies more updated occupational categories used for coding of the scale.

However, due to a distinct demographic and economic situation on the job market in Austria, this US-specific index is hardly applicable for Austrian purposes. Similarly, another index that was used rather often for measuring the occupational prestige – *Socioeconomic Index of Occupations* (SEI) updated by Nakao and Treas (1992) from Duncan's version of the *Socioeconomic Index* (1961). Yet, it is difficult to relate to occupational situations from other countries to the Austrian job market. However, the *International Socio-Economic Index of Occupational Status* (ISEI; Ganzeboom et al., 1992) is an international measure and includes all three components (education, occupation, income) for measuring SES. The index is used in international studies like PISA for example. ISEI scores are calculated according to occupations and the prestige that comes with those occupations, as well as the necessary education. Nevertheless, due to gender specific differences in prestige, education takes up a more important role for ISEI scores (Bornstein et al., 2012).

4.2 MEASUREMENT OF SES

A vast number of different approaches to measuring the SES are mentioned in research contexts (Bradley & Corwyn, 2002). When it comes to child development, the most frequently used indicator for measuring SES is education (Gottfried et al., 2012). Especially maternal education has proven to be correlating with quantity and quality of

input children receive (e.g. Friend et al., 2017; Hoff, 2003; Hoff, Burrridge, et al., 2018; Zadeh et al., 2010). However, different components can be used to measure SES. The most common ones are, as mentioned above, education, but also income, and occupational status. SES can be measured by using one component alone or in combination (Bornstein & Bradley, 2012).

Entwislea and Astone (1994) recommend using different resources for measuring SES and to use different indicators of human, financial, and social capital. Formal education can be viewed as one indicator of human capital that can affect parent-child interactions. Other indicators can be intellectual flexibility, verbal communication, and decision-making. Studies have shown that parents who have obtained a higher formal education are more likely to offer a more stimulating home learning environment for their children (e.g. Hill, 2006; Luster et al., 1989; Menaghan & Parcel, 1991).

The occupational situation is furthermore a key indicator of human capital since job characteristics shape skills that can equally be transferred to other parts of people's lives, as are decision-making or self-direction for example, which can be viewed as features of high prestigious jobs (Duncan & Magnuson, 2012, p. 90). High prestigious jobs are furthermore the ones that are better paid, at least in most cases. Better financial outcomes simultaneously have an enormous effect on children's development since parents can offer better schooling, more books, and other educational materials. Financial capital is traditionally associated with income, which is certainly perceived as sensitive information and therefore challenging to gather. Income should preferably be pre-coded in categories and asked later on in a questionnaire. (Entwislea & Astone, 1994, p. 1526)

Finally, social interactions and the people the child is surrounded by are an essential aspect of the child's development, these connections are referred to as 'social capital'. Social capital is measured according to Entwislea and Astone (1994) throughout household members and family structure, especially by extracting the number of parents, stepparents, and grandparents living in the same household.

Measuring the parental SES

The notion of SES is taken here to be the parental formal education and their occupational status. According to Czinglar, Korecky-Kröll, Uzunkaya-Sharma, and Dressler (2015, p. 213) the line between high and low SES was drawn by using the

highest formal education of parents, codified with the *International Standard Classification of Education* (ISCED; UNESCO Institute for Statistics, 2012a) and specifically the mapping for Croatia and Austria (UNESCO Institute for Statistics, 2012b) to make the accomplished education in either country comparable. The dividing line between high and low SES was set at level 354 of the ISCED 2011, to make formal education comparable to the INPUT project and to the census on a representation basis of Vienna in 2008 (Schneeberger & Petanovitsch, 2010). Levels of education below 354 (3a according to ISCED-1997) comprise compulsory school degrees, apprenticeship, or intermediate technical and vocational school degrees, and are categorized as low SES. All levels higher than 354 of ISCED-2011 are categorized as high SES.

To determine the occupational status – which represents the second component of SES – the International Labor Organization (ILO) created the *International Standard Classification of Occupations* (ISCO-08) that was adapted for the Austrian labor market (ÖISCO-08; Zeller, 2010) and is available for occupational classifications in Austria (Statistik Austria 2016, online). To compute the occupational classification of the parents in this study, the ISCO-08 code, and the ÖISCO-08 code were gathered and listed in table 1 below.

Table 1 Parental socioeconomic status (SES) according to education and occupational status

CHILD	PARENT	CODE ISCED- 2011 (ISCED-A, 3 DIGITS)	ÖISCO-08 ⁶	ISCO-08 ⁷	SES
IVAN	Mother	354	5223	33	low
	Father	354	7119	34	low
ANA	Mother	354	4222	40	low
	Father	254	7231	38	low
MARKO	Mother	550	4312	43	high
	Father	550	8322	36	high
FILIP	Mother	760	2643	66	high
	Father	550	5153	30	high

⁶ Statistik Austria. (2016). ÖISCO-08. Einführung, Grundstruktur, Erläuterungen. Wien: Statistik Austria. [online] Available at: http://www.klassifikationsdatenbank.at/KDBWeb/kdb_DownloadsAnzeigen.do?KDBtoken=ignore [Accessed 2018-12-10]

⁷ Ganzeboom, Harry B.G. (2010). Occupational Status measures for the new International Standard Classification of Occupations ISCO-08; with a discussion of the new Classification. [online] Available at: <http://www.harryganzeboom.nl/isol/isol2010c2-ganzeboom.pdf> [Accessed: 2016-11-04]

In case of a higher occupational status and a diverging classification regarding SES compared to the highest education, the parent can be upgraded to high SES, however, all participants ended up with the same classification in education and occupational status.

According to Gottfried, Gottfried, Bathurst, Wright Guerin, and Parramore (2012), SES is usually stable from infancy through adolescence (1–17 years). When now addressing the fact that two of the fathers in this study are brothers and shared the same SES background for 17 years, the grandparent generation may be another component influencing the children's developmental outcome, as was described in the study by Brizić (2007) as well, however, with the difference that the grandparent generation used Kurdish as their home language while mentioning Turkish as their L1 in school questionnaires in Austria.

4.3 INFLUENCE OF SES

Hart and Risley (1995) found a remarkable difference in the input and the quality children receive in high SES families compared to low SES families, which had a huge impact on subsequent psycholinguistic research. Numerous scholars investigated the effects of SES on bilingual language acquisition, and especially the studies by Hoff (2003, 2006, 2013; Hoff-Ginsberg, 1991) and her colleagues (e.g. Hoff, Burridge, et al., 2018; Hoff et al., 2002, 2012; Hoff & Core, 2013) are widely cited in regard to the family socioeconomic background in child language acquisition. Concluding that especially maternal education has proven to be a very important variable in the children's linguistic outcome.

An extensive number of studies (e.g. Bornstein et al., 2012; D'Angiulli et al., 2004; Hindman & Morrison, 2012; Seyfried & Chung, 2002; Stull, 2013; Zhan, 2006) has revealed that parents with higher education, set higher standards for their children's school education, and consequently are more involved in academic achievements of their children. A study by Galindo and Sheldon (2012) on a nationally representative sample of kindergartners in the US found that parental involvement and their academic expectations for their children resulted in better outcomes in reading and math of those children. Furthermore, early attendance of preschool was linked to the school readiness of immigrant children (Magnuson et al., 2006). Likewise,

emergent literacy in preschoolers has proven to be related to SES (D'Angiulli et al., 2004; Foorman et al., 2006). Analogously, Rowe (2012) found that high SES parents offer a better quality of input to their children and furthermore SES may also have an influence on parental L2 proficiency (e.g. Oller & Eilers, 2002).

Not only differences in quality and quantity of input can be found between high and low SES mothers (Hoff, 2006; Hoff-Ginsberg, 1991, 1998; Huttenlocher et al., 1991), different studies have also found disparities in the child-rearing values among different socioeconomic groups, where high SES parents offer more verbal stimulation, more play materials and more encouragement for their children to reach developmental milestones (Bornstein et al., 2012, p. 30). Parents from different SES rear their children differently, which can be due to different living environments or simply because of the different characteristics of people and their interactions with others. Comparing parental values to their children's developmental milestones showed SES-related differences among cultures (e.g. Hoff et al., 2002). Nevertheless, the impact of culture, ethnicity, and SES are still matters of research interest (e.g. Harkness & Super, 2002; Harwood et al., 1996; Sigel et al., 2014).

Yet, the variable SES has shown to gather distinctive outcomes within different ethnic groups. While the study by Lambert and Taylor (1996) indicated that mothers of Cuban heritage in the US behaved differently regarding their SES and the support towards L1 or L2: high SES mothers focused on supporting their school-aged children's L1, and low SES mothers supported the L2; whereas Oller and Eilers (2002) obtained contrary results. They (*ibid.*) found that high SES children achieve better results in their L2 (English) while there is no difference in L1 between high and low SES children. Armon-Lotem, Walters and Gagarina (2011, p. 293) assume that high SES parents rate L1 culture higher than low SES parents, yet, support L2 more intensely at home, while low SES parents seem to value L2 as an important factor for academic achievement without supporting it at home. In their own study, Armon-Lotem et al. (*ibid.*) found a positive correlation between SES and L1 maintenance in Russian-German bilinguals.

Nonetheless, the variable SES has to be used with caution when looking into bilingual speaker's abilities and their influence on SES. In a study gathered by Gagarina, Posse, Gey, Golcher, and Topaj (2017) on immigrant (simultaneous and successive) preschoolers with their L1 either being Russian or Turkish, no effect of SES was found on the children's receptive or productive lexical development in their L2 German. Gagarina et al. (*ibid.*) suggest that this can be due to the intensive and

very early exposure to German in preschool and therefore minimizing a negative effect of low SES. However, Korecky-Kröll, Uzunkaya-Sharma, Czinglar, and Dressler (2016b) among many others have found a difference between monolingual and bilingual (immigrant) children in their influence of family SES on receptive vocabulary. SES appears to be a more influential variable for children without than those with an immigrant background regarding their educational attainments, however, this field of research needs more comparable data.

4.4 LIMITATIONS OF SES

All the studies reviewed so far, however, suffer from the fact that SES is measured from different groups of either extremely low-SES groups to mid-SES groups or midrange groups to higher-range groups, often missing the comparison between very low-SES groups and very high-SES groups where differences are more probable. Hoff, Laursen, and Tardif (2002) underline that “SES does not necessarily capture a continuum of experience, there may be parenting phenomena specific to particular groups that are not linearly related to SES” (p. 242). Identifying meaningful effects of SES is rather difficult in terms of quantifying assumptions regarding SES and parenting. If we take, for example, the widely cited study by Hart and Risley (1995), their sample diverged regarding the SES, given that on the one hand the high SES group consisted of professionals, while the low SES group was represented by people receiving welfare. This shows a discrepancy compared to the Croatian sample in this thesis.

The study by Hart and Risley (1995), however, had a major impact on the following studies regarding the influence of SES in child development research as mentioned above. The evaluation of a rather small number of US American children concluded that the SES of parents is an important factor for children’s cognitive development. Yet, a more recent study by Rindermann and Baumeister (2015) re-evaluated the data from Hart and Risley and combined it with a larger sample from Hoff (2003), and found that the parental educational behavior (mean length of utterances of maternal speech) had a much larger influence on children’s verbal outcomes than SES. The authors conclude that this impact might even be more accentuated in European countries than in the US – where the samples have been collected – due to larger wealth differences in the US.

Overall, there seems to be some evidence to indicate that SES does not necessarily determine the children's linguistic abilities, but parental educational behavior, their parenting styles, their involvement in book reading activities, their selection of high-quality schools and their effort to create a learning environment does (e.g. Evans et al., 2010; Protzko et al., 2013; Rindermann et al., 2011). In the same vein, Fuligni (1997) as well as Strand (2014a, 2014b) note that SES is not as relevant to immigrant students' higher grades than is a strong academic aspiration shared by parents, school colleagues and peers.

Measuring SES with the usual components as occupation, education, and income is quite common. However, numerous researchers point out that using multiple components separately, rather than combined, leads to a more accurate outcome (Bornstein & Bradley, 2012). The study by Smith and Graham (1995) on family research, for example, shows that one SES component may attribute one specific outcome, while another may attribute a different outcome, which means that they are not highly correlated. Smith and Graham (ibid.), as well as Ensminger and Fothergill (2012, p. 25), conclude that social stratification for family life is missing in that regard. Especially in communities with a large number of immigrants, it becomes difficult to set equal standards for highest achieved education for example, which is one key component in measuring SES.

A gap between students with and without immigrant background was attested by scholars in England. Lenkeit, Caro, and Strand (2015), for example, underline the lack of comprehensive investigation of SES constructs among groups of different immigrant backgrounds. They (ibid.) found a difference in the structure of family SES and different expectations towards educational achievement. The authors (ibid.) conclude that family economic (1), cultural (2), and social capital (3) can better predict the educational outcomes than SES and that variables measuring the family background have to be selected with caution. (1) Economic capital involves the highest education and current occupation, (2) cultural capital describes numbers of books, visits to concerts and museums, and frequency of reading newspapers, whereas (3) social capital embeds parental expectations, interest in achievement, parental encouragement and positive feedback. Hence, SES and ethnicity are insufficient to account for educational achievement, yet other factors as parental and students' own educational aspirations and their commitment to schoolwork and studying seem to have a higher impact on academic success (Strand, 2014b).

Similarly, other scholars (e.g. Chiu & McBride-Chang, 2006; Schiff & Ravid, 2012) indicate that families with more family capital, that includes besides education (human capital) and wealth (financial capital) also the social connections (social capital), can offer a better learning environment to their children. That entails richer countries with better school systems and a welfare system that provide more opportunities for children's achievement.

All of this leads to the conclusion that the different operationalizations of SES make associations between studies rather difficult, therefore a clear definition and precise measures are needed for understanding child developmental mechanisms (Rindermann & Baumeister, 2015). The abovementioned findings imply furthermore that culture has a strong influence on parenting and should, therefore, be a subject of narrower investigation (Harkness & Super, 2002; Hoff et al., 2002) since there is evidence that culture can moderate the impact of SES (e.g. Harwood et al., 1996).

5 METHODOLOGY

This dissertation follows a case-study design, with an in-depth analysis of four children, which for that matter seems to need further explanation, as quantitative research on a larger population is the more used approach in the linguistic discipline. A case study in most cases means a single-case study that regards one subject, nonetheless, it can include more than one participant and many studies have four to six participants, which increases the variation among cases. Some researchers refer to them as multiple-case studies or collective case studies. (Duff, 2008, p. 36)

Likewise, case studies can have quantitative elements and do not necessarily need to be purely qualitative in nature, as applies to this study as well. Nevertheless, case studies imply that individual factors can be considered and described comprehensively, and a more holistic picture of an individual's language development can be achieved. Studies like this can help understand small languages in contrast to other languages and contribute to psycholinguistic as well as sociolinguistic research in an immigration context.

Furthermore, a small number of children can illuminate language acquisition in immigrant children and their acquisition process. This exploratory approach of case studies can generate theories or hypotheses in this regard, which can be replicated on a larger population. It follows the purpose to understand the complex and dynamic circumstances of the individual's surroundings, behavior, experience, and difficulties. In addition, longitudinal research gives insight into the developmental process of different stages of language acquisition. It usually follows an inductive approach of data analysis and is furthermore data-driven (Duff, 2008).

5.1 INTRODUCTION

The following chapter will describe the methodological approach of this dissertation. First, a pilot study will be summarized briefly, which was conducted in order to well prepare the language assessment procedure. Successively, the main study will be outlined in the following subchapter by describing participants, test instruments, procedure, design of data collection, and data analyses. All materials and standardized tests used in the pilot study, as well as the main study, will be described thoroughly in the subchapter of the main study, and only mentioned briefly in the pilot study.

5.2 PILOT STUDY

Prior to data collection, one girl from a high SES family was investigated in a pilot study. Data was conducted in a northern region of Upper Austria, while the child was between 3;4–3;6 years old. Data collection was organized at home for Croatian, and in preschool for German. The main focus of the pilot study was to decide on language assessment materials suitable for both languages. The language assessment materials will be described in detail in the chapters below, however, the materials used in the pilot study are the following:

- For German six language assessment materials were used for examining the language skills. For one, the receptive vocabulary was tested with *Peabody Picture Vocabulary Test* (PPVT-4 research version according to Lloyd M. Dunn & Dunn, 2007), participle perfect forms were assessed with the *Verb test*⁸ (developed by Wolfgang U. Dressler and Sabine Laaha for the INPUT project), plural production with the *Plural elicitation task* (Laaha et al., 2006), comprehension and production with the so-called *Linguistische Sprachstandserhebung - Deutsch als Zweitsprache* (LiSe-DaZ, Schulz & Tracy, 2011), phonological working memory for non-words with the subtest PNG of SETK3-5 (Grimm, 2001), and adjectives with the *Adjective gradation test* (Kamandulytė-Merfeldienė et al., 2010).
- For Croatian only two assessment materials were applied since other standardized tests were not available by the time the pilot study was conducted, namely, a researcher-developed adaption of the German *Verb test* (developed by Wolfgang U. Dressler and Sabine Laaha for the INPUT project) and an adaption of the *Plural elicitation task* (Laaha et al., 2006) was conceptualized together with Wolfgang U. Dressler for this purpose (see Appendix B). For Croatian plurals 30 test items were elicited in the pilot study, before deciding on 21 test items for the main study.

⁸ Even though the assessment material is called 'Verb test', it is not a norm-referenced test per se, yet, simply a name chosen by the authors. The same holds for the adapted Croatian version, as well as for the 'Adjective gradation test'.

Table 2 Language assessment materials used in the pilot study

German	Croatian
PPVT-4 (research version)	Verb test for Croatian
Verb test	Plural elicitation task for Croatian
Plural elicitation task	
LiSe DaZ	
PNG of SETK3-5	
Adjective gradation test	

It was difficult to decide on appropriate language assessment materials, as only a few standardized tests are available for Croatian for this specific age group. Yet, it seemed necessary to apply similar instruments for the acquisition of both languages to make the process comparable. Therefore the only assessment material certain for the evaluation was the *Peabody Picture Vocabulary Test* (PPVT-III-HR, Dunn et al., 2009; PPVT-4 research version according to Dunn & Dunn, 2007) for both languages since PPVT is a standardized test available for numerous languages and was used in the INPUT project (e.g. Czinglar et al., 2015; Korecky-Kröll, Czinglar, et al., 2016; Korecky-Kröll, Uzunkaya-Sharma, et al., 2016b) as well. The PPVT-III-HR for Croatian, however, was not conducted during the pilot study. Nevertheless, testing a child's vocabulary is a very common task when testing the influence of SES on language acquisition (e.g. Hoff, 2003, 2006; Korecky-Kröll, Uzunkaya-Sharma, et al., 2016b; MacLeod et al., 2013). The *Plural elicitation task* that was used during the INPUT project (Korecky-Kröll, Sommer-Lolei, et al., 2018a), was adopted for Croatian as mentioned above; using Croatian plural markers (see chapter 5.3.2.2). Likewise, the *Verb test*, testing the past participle in German, was adapted for Croatian to examine likewise the past participle production. This instrument, however, was excluded from the main study.

The German language assessment materials listed above were all used during the pilot study. The purpose of applying them all was to decide on the ones fitting the profile of simultaneously bilingual children. In conclusion, the materials showed hardly any successful outcomes in the pilot study. In other words, some tasks seemed inadequate for a 3-year-old, e.g. the *Verb test* for both languages, the *Adjective gradation task*, and finally the so-called Lise-DaZ (Schulz & Tracy, 2011); as there is no equivalent available for Croatian. Therefore, only the PPVT-III-HR and the German research version of PPVT-4; the *Plural elicitation task*; and the subtest PNG (SETK3-5, Grimm, 2001) seemed appropriate for this purpose. Even though the subtest PNG

was part of data collection, it was excluded from analysis, due to a different approach in the research questions. Finally, interviews with parents and preschool teachers, as well as spontaneous speech recordings were moreover conducted during the pilot study as they are a main part of the methodology.

5.3 STUDY

5.3.1 Participants

This study focuses on language acquisition of four simultaneously bilingual children growing up in Vienna; two of them from high SES and two from low SES families. However, data was conducted from five children in case of drop out, and yet, one girl eventually dropped out from the evaluation during the third time point, due to private family issues. Nonetheless, the following is a very small sample of research participants and therefore, it was difficult to achieve overlaps in different categories (e.g. age, sex, number of siblings, older or younger siblings) – especially when it comes to the order of siblings: the two low SES children have older siblings, whereas the two high SES children have younger siblings. This could of course have an effect on the children's linguistic acquisition that will be discussed separately in the following chapter.

Table 3 Child participants and their sex, SES, age, number of siblings

Child ⁹	Sex	SES	Starting age	Starting preschool (age)	Siblings (age)	Note
Ivan	M	Low	3;3	2;5	2 (11 & 1 year)	
Ana	F	Low	3;0	2;2	2 (11 & 13 years)	
Marko	M	High	3;0	1;10	1 (1 year)	
Filip	M	High	3;1	2;0	1 (1 year)	
Lara	F	Low	3;1	2;1	1 (1 year)	Dropped out!

The children were spread out in different preschools in Vienna. Three preschools were preschools of the MA10 – *Wiener Kindergärten*, that are under the township of Vienna and the fourth was a private Catholic preschool. The evaluation period lasted from June 2016 to May 2018.

⁹ The children's names were changed for reasons of anonymity, and they were given different names according to the list of 10 most frequently used names in Croatia from 2015 (Ministarstvo uprave Republike Hrvatske, 2016, p. 7)

All children from this sample were classified according to the family SES as devised in the INPUT project (e.g. Czinglar et al., 2015; Korecky-Kröll, Uzunkaya-Sharma, et al., 2016a) and described in chapter four; To gather a full picture of the child's language development during the data collection period, it is essential to describe the child's personality, motivation during the evaluation, and the main caretakers' impression on the child's language acquisition; as well as the family background, SES, and the daily routine (e.g. hours spent in preschool, contact to native speakers, daily activities). These analyses will be mostly descriptive since every child will be examined individually and simultaneously for both languages.

It is important to bear in mind the complex structure of parental background, and the socioeconomic status, especially regarding the two fathers of Ana and Filip. The fathers of the two children are brothers, however, they achieved different educational statuses, which appoints Ana's father to a low SES and Filip's father to a high SES. Yet, the family background of those two families is somewhat overlapping and shall be taken into account.

In the following all four children shall be described in regard to their language background and their home and preschool environment. Data collection in preschool will give insight into German language use in an institutional setting. Yet, due to the parental German use at home, exposure to German might differ within families. Therefore, an attempt was made to illustrate the exposure to both languages on a daily basis. According to MacLeod, Fabiano-Smith, Boegner, and Fontolliet (2013, p. 136) the amount of exposure was calculated based on a 12-hour-day.

The hours spent in preschool were accounted for exposure to German, whereas the exposure at home varied from using German and/or Croatian, or for using a mix of both languages. Consequently, the amount of exposure to German at home was extracted from interviews with parents. The second and third time points – that are one year apart – were used to demonstrate the amount of exposure to both of the children's languages since those two are the more accurate ones, according to the questions asked in the interviews. To be precise, parents were asked to estimate the time they spend with their children doing certain activities in either one language or the other: e.g. book reading, watching TV, talking to children, and other activities. Weekends were also measured with the same number of hours for using German at home as on weekdays, as illustrated in the table above. This was done because the families indicated that they tend to spend more time with Croatian-speaking people on the

weekends, and therefore the children might also be exposed rather to Croatian than to German during those two days. Hence, weekends seem to be somewhat important to obtain the minority language, as all families indicate that they spend most weekends with native Croatian-speaking people. However, the calculated percentage doesn't necessarily mean that the hours spent being surrounded by one language, correspond to the quantity of speech children hear during that time (Hart & Risley, 1995).

Carroll (2017) suggests in her article on exposure and input that time might even be an unsuitable measure for exposure since studies (e.g. De Houwer, 2015; Weisleder & Fernald, 2013) have shown that the amount of speech parents address to their children varies individually, is difficult to estimate reliably, and is not automatically linked to input. Notwithstanding, the exposure time that will be illustrated in the following is an attempt to demonstrate, to a certain extent, the development of the child's surrounding to the majority language, and at the same time the tendency of bilingual families to adapt to the child's growing use of the majority language by using more German at home.

5.3.1.1 Language background of case study 1 – Ivan

Ivan is a boy from a low SES family, living with his parents, one older sister (10 years), and one younger brother (one year) in a middle-class apartment in Vienna. The mother used to work in a bakery before she went on maternity leave, which she was on during the time of data collection. However, she completed a vocational education program of four years in Croatia and moved to Austria when she was 20 years old. The father came to Austria when he was 11 years old and completed an apprenticeship for motor mechanics. After some time, he changed occupation and worked in construction, where he had a work accident and is ever since unable to work. Both parents started learning German rather late, the mother in adulthood, and the father in late childhood. The parents come from Slavonia, a region in eastern Croatia and they speak Stokavian dialect. Ivan's parents are first-generation immigrants to Austria, which makes him second-generation. Therefore, this is one discrepancy, which shall be considered in chapter 6 during the discussion, as the other children (third-generation) all have at least one Austrian-born parent (second-generation).

Table 4 *Ivan's family background*

Child	Sex	SES	N° of siblings		
			older	younger	
Ivan	M	Low	1	1	
PARENTS					
Mother's education	Mother's occupation	In Austria from age	Father's education	Father's occupation	In Austria from age
Vocational education programs within regular education system in duration of four or more years, that enable access to labor market or entry to university	Baker (on maternity leave)	20	Apprenticeship	Unemployed (unable to work)	11

Data collection at age 3 includes the first and second time point (3 months apart) and can differ from the succeeding data collections (third and fourth time point) one year later in regard to the hours spent in preschool, as well as the group constellation. The data from Table 5 below was extracted from interviews with preschool teachers that were held at the second and third time points. As visible from the table, Ivan started attending preschool at age 2;5. During the second data collection at preschool he had already spent 13 months in preschool. His group at preschool consisted of 20 children of whom five spoke either Bosnian, Croatian or Serbian (B/C/S) as their heritage language at home; these three languages were treated as one group in preschool.

The following year 11 out of 20 preschoolers spoke either B/C/S as their heritage language at home. Furthermore, two of the preschool teachers speak Croatian as their first language, which may be an influential factor in Ivan's exposure to Croatian at preschool. In both preschool years, Ivan spent 6.5 hours a day at preschool. Yet, his language exposure is difficult to determine, since German also became more dominant in different home activities. It is important to highlight that the language use in preschool among the children as well as teachers is difficult to determine, as many children speak the same heritage language and it is not clear how children speak among each other or if the Croatian-speaking teachers use their heritage language as well (even if they denied that in the interview). Yet, the exposure

time was calculated according to interviews with parents, and the time spent in preschool as the time exposed to the German majority language.

Table 5 Ivan's background information on preschool

Starting preschool (age)	Age at 2 nd time point	Months spent in preschool at 2 nd tp	N° of children with B/C/S background	Age at 3 rd time point	Months spent in preschool at 3 rd tp	N° of children with B/C/S background
2;5	3;6	13	5/20	4;6	25	11/20
German exposure						
	HOURS/DAY SPENT IN PRESCHOOL AT AGE 3		6.5	HOURS/DAY SPENT IN PRESCHOOL AT AGE 4		6.5
	Exposure to German on weekdays 2 nd time point	Average exposure to German/day ¹⁰ 2 nd time point		Exposure to German on weekdays 3 rd time point	Average exposure to German/day ⁷ 3 rd time point	
	71%	55%		79%	64%	

Exposure time, as mentioned above, was accounted for based on a 12-hour-day, contemplating the hours spent in preschool and being exposed to German, and the hours spent at home using either one language or the other for the different activities.

5.3.1.2 Language background of case study 2 – Ana

Ana is a girl from a low SES family, living with her parents and two older siblings in a middle-class apartment in Vienna. The mother was born in Austria and completed an intermediate technical and vocational school in Vienna, where she works as a call-center agent for a municipal authority. The father immigrated to Austria at age 15 and completed a vocational education program that lasted one year in Bosnia. He is currently working as bar bender.

Ana has two older siblings, one brother (10 years) and one sister (11 years). She is related to one boy from this study, Filip. The two fathers of the children are brothers, who achieved, however, different socioeconomic status according to their highest education. Yet, the family background of these two children in this sample is overlapping and shall be considered in the analyses. Both parents speak Stokavian

¹⁰ Including weekends.

dialect, but the father is from Croatian ethnicity in Bosnia and Hercegovina and the mother's family (grandparents) is from a town called Bjelovar in central Croatia.

Table 6 *Ana's family background*

Child	Sex	SES	N° of siblings		
			older	younger	
Ana	F	Low	2	-	
PARENTS					
Mother's education	Mother's occupation	In Austria from age	Father's education	Father's occupation	In Austria from age
Intermediate technical and vocational school	Call-center agent	0	Vocational education programs within regular education in duration of one year, that enable access to labor market	Bar bender	15

Preschool is considered to be a domain where children are most exposed to the German language. Ana started attending preschool at age 2;2, where she was exposed to German in an institutional setting for 13 months at the time of second data collection. She spent eight hours a day at preschool, which reflects the rather high exposure to German as listed in Table 7 below. However, in regard to German exposure in preschool, the number of children with either B/C/S as their heritage language spoken at home have to be taken into account, especially because among Ana's best friends, two out of three girls speak either Bosnian or Croatian at home. At the second time point, 8 out of 19 spoke B/C/S, whereas one year later 13 out of 20 children spoke B/C/S. During the four time points at preschool, it became evident that the girls used both languages, German as well as their heritage language (Bosnian or Croatian) when talking to each other. Nonetheless, it was not possible to determine how much the girls used either one or the other language and whether there was a linguistic preference in their peer communication.

Table 7 Ana's background information on preschool

Starting preschool (age)	Age at 2 nd time point	Months spent in preschool at 2 nd tp	N° of children with B/C/S background	Age at 3 rd time point	Months spent in preschool at 3 rd tp	N° of children with B/C/S background
2;2	3;3	13	8/19	4;3	25	13/20
German exposure						
	HOURS/DAY SPENT IN PRESCHOOL AT AGE 3	8		HOURS/DAY SPENT IN PRESCHOOL AT AGE 4	8	
	Exposure to German on weekdays 2 nd time point	Average exposure to German/day 2 nd time point		Exposure to German on weekdays 3 rd time point	Average exposure to German/day 3 rd time point	
	83%	67%		88%	71%	

The exposure to German was estimated to be rather high compared to the peer groups' use of their heritage languages, because the mother, as well as the older siblings, used German rather frequently in their every-day communication, which became evident from the spontaneous speech recordings and the interviews with the mother.

5.3.1.3 Language background of case study 3 – Marko

Marko is a boy from a high SES family, living with his parents and one younger brother (one year) in a middle-class apartment in Vienna. The mother completed a business high school with a diploma and works as a bank clerk in Vienna. The father completed a school for foremen and building workers, followed by a diploma for a taxi business, as he works as a taxi driver and plans to open his own taxi business. Both parents have been living in Austria for most of their lives; the mother was born in Vienna and the father came to Austria as a 3-year-old. Consequently, both of them were exposed to German from early childhood, but at home the family's daily life differed slightly from when Marko was three, to when he was four years old.

At age 3 his mother was on maternity leave since the younger brother was still a baby at that time. Marko spent six hours a day at preschool, which was rather difficult at the beginning since he had a hard time staying away from his mother. By the age of four, he and his brother stayed nine hours a day at preschool, as both parents were working full-time. Both parents speak the Stokavian dialect, yet the mother's family has Croatian ethnicity from the Brčko district in northern Bosnia and Herzegovina at the border to Croatia, whereas the father's family has Croatian ethnicity from Bosnia and Herzegovina.

Table 8 Marko's family background

Child	Sex	SES	N° of siblings		
			older	younger	
Marko	M	High	-	1	
PARENTS					
Mother's education	Mother's occupation	In Austria from age	Father's education	Father's occupation	In Austria from age
Business high school diploma (HAK)	Bank clerk	0	School foremen for building workers	Taxi driver (diploma for taxi business)	3

Preschool exposure at age 3 (first and second time point) showed a different picture than the following data collections (third and fourth time point) one year later. First of all, Marko spent more time in preschool at age four, the group constellation was a different one, and ultimately his exposure to German increased (83% on regular weekdays). Even though the group constellation shows that 8 out of 22 children in his group spoke either B/C/S as their home language, Marko showed a clear preference towards German in both of his recordings at age four. Marko's preschool teacher emphasized in the interview that he preferred to play alone or with the teacher rather than with other children. The preference for German became also visible in his language use at home. At age 4;4 his home recording revealed a German use of 71% during the spontaneous speech interaction, and at age 4;7 it increased to 95%; compared to 11% and 16% at the previous two recordings one year earlier.

Table 9 Marko's background information on preschool

Starting preschool (age)	Age at 2 nd time point	Months spent in preschool at 2 nd tp	N° of children with B/C/S background	Age at 3 rd time point	Months spent in preschool at 3 rd tp	N° of children with B/C/S background
1;10	3;3	17	2/15	4;4	30	8/22
German exposure	HOURS/DAY SPENT IN PRESCHOOL AT AGE 3		6	HOURS/DAY SPENT IN PRESCHOOL AT AGE 4		9
	Exposure to German on weekdays 2nd time point		Average exposure to German/day 2nd time point	Exposure to German on weekdays 3rd time point		Average exposure to German/day 3rd time point
	63%		48 %	83%		62%

Furthermore, he started preschool the earliest from all children in this study, namely at age 1;10 and by the time of first data collection, he was already exposed to German for 17 months in the preschool context.

5.3.1.4 Language background of case study 4 – Filip

Filip is a boy from a high SES family, living with his parents and one younger sister (one year) in a middle-class apartment in Vienna. The mother was born in Germany, where she grew up. After graduating high school, she moved to Austria and went to university, where she graduated from a master's program in translation studies and now works as a translator. The father immigrated to Austria when he was 19 years old and started university in Vienna (ongoing). He works full-time as a company technician in a hotel. As mentioned earlier, he is the brother of Ana's father, yet, he achieved a higher SES in regard to the highest education. The parents speak both the Stokavian dialect and both families are from Croatian ethnicity in Bosnia and Hercegovina.

Table 10 *Filip's family background*

Child	Sex	SES	N° of siblings		
			older	younger	
Filip	M	High	-	1	
PARENTS					
Mother's education	Mother's occupation	In Austria from age	Father's education	Father's occupation	In Austria from age
Master program	translator	0	Add-on course (for university)	company technician in a hotel	19

Preschool background information as listed below in Table 11 shows that Filip started preschool at age 2;0. By the time of the second time point (3;4 years), he was already exposed to German in an institutional context for 16 months and spent 3.5 hours a day in preschool. One year later, Filip spent seven hours a day in preschool, consequently his exposure to German rose, even though group constellation reveals that 6 out of 22 children spoke either B/C/S. Yet, according to his teacher, Filip played most of the time with his best friend, who is a Turkish-speaking boy, and whom he addressed in German.

Table 11 Filip's background information on preschool

Starting preschool (age)	Age at 2 nd time point	Months spent in preschool at 2 nd tp	N° of children with B/C/S background	Age at 3 rd time point	Months spent in preschool at 3 rd tp	N° of children with B/C/S background
2;0	3;4	16	1/20	4;4	28	6/22
German exposure						
	HOURS/DAY SPENT IN PRESCHOOL AT AGE 3	3.5		HOURS/DAY SPENT IN PRESCHOOL AT AGE 4	7	
	Exposure to German on weekdays 2 nd time point	Average exposure to German/day 2 nd time point		Exposure to German on weekdays 3 rd time point	Average exposure to German/day 3 rd time point	
	33%	25%		63%	46%	

According to his estimated exposure to German in preschool and Croatian at home, Filip appears to be rather balanced in his exposure to both languages, at least by age four. The interviews with the mother revealed that they spoke hardly any German at home, and this was also observed in the spontaneous speech recordings at home.

5.3.2 Materials

It was an operose process to decide on suitable language assessment materials for this study. The conducted pilot study, however, helped exclude some elicitation tasks. Nevertheless, it was difficult to find adequate materials that could be repeated to follow the child's linguistic progress within one year. To be precise, there are two time points repeating the same procedure after 1;3 years (see chapter 5.3.4 Design of data collection): the first and third time point, and the second and fourth time point; except for the *Frog Story* (Berman & Slobin, 1994) that was elicited only one time. Furthermore, language assessment materials in both languages had to be as similar as possible to make language acquisition in both languages comparable.

The only test instrument assured was the *Peabody Picture Vocabulary Test* (PPVT, Dunn et al., 2009; Dunn & Dunn, 2007). Numerous studies in psycholinguistic research have conducted children's vocabulary growth by using this particular measure (e.g. Hoff, 2003; Korecky-Kröll, Czinglar, et al., 2016; Rowe, 2012; Thordardottir, 2011; Unsworth, 2016). Furthermore, the *Test for Reception of Grammar* (TROG) on receptive grammar comprehension, which is available for Croatian (TROG-

2:HR, Bishop et al., 2014) and German (TROG-D, Fox-Boyer et al., 2016) in a standardized version, seemed to be a good complement to the *Plural elicitation task* (PET, Laaha et al., 2006) that investigated the plural production. In addition to the *Frog Story* (Berman & Slobin, 1994) from the picture book *Frog, Where Are You?* (Mayer, 1969) was used to elicit narrative competences in Croatian and German. Yet, the subtest PNG on phonological working memory was excluded from analysis due to different approaches in the research questions.

Finally, four language assessment materials, that were identical for both languages, were used to attain the children's linguistic performance.

Table 12 *Language assessment materials used for German and Croatian*

German	Croatian
PPVT-4 (research version) for receptive vocabulary	PPVT-III-HR for receptive vocabulary
TROG-D for receptive grammar	TROG-2:HR for receptive grammar
PET for plural production	PET-Cro for plural production
Frog Story for narrative competences	Frog Story for narrative competences

Moreover, it was considered to use the *MacArthur-Bates Communicative Development Inventories* (Fenson et al., 2006) that is available for Austrian German (ACDI-2, Marschik et al., 2004) and Croatian (KORALJE, Kovačević et al., 2005), yet it was dismissed, because of the small number of participants in this case study. Subsequently, all ten language assessment materials will be described in detail, starting with the ones used for German and then for Croatian.

5.3.2.1 Language assessment materials for German

Peabody Picture Vocabulary Test (PPVT-4)

The *Peabody Picture Vocabulary Test (PPVT)* was first published in 1959 and is meanwhile available in its *Fourth Edition* (PPVT-4) by Lloyd M. Dunn and Douglas M. Dunn (1997). The PPVT-4 is a norm-referenced instrument to measure receptive vocabulary for Standard American English. The test was adopted for many different languages to assess receptive vocabulary skills. In 2015, a standardized version of PPVT-4 for German (Lenhard et al., 2015) was published. Yet, a non-standardized research version of PPVT-4 by Fürst (2009) was used to assess the receptive vocabulary skills for German from the children in this study, which was applied in the

INPUT project as well (Czinglar et al., 2015; Korecky-Kröll, Czinglar, et al., 2016). The main purpose to use the research version was to make the data of the Austro-Turkish and Austro-Croatian groups comparable. The German receptive vocabulary knowledge was tested at two time points in preschool; at the first and third time point, when the children were approximately between 3;0–3;3 years and 4;3–4;6 years.

The PPVT-4 is designed for the age range between 3;0 and 16;11 years. It consists of four full-color pictures on every page and is available in two parallel formats (A and B). For reasons of comparability with the INPUT project, form B was used for the research version of German. However, both forms entail training items for introducing the test, followed by 228 items that are grouped into 19 sets of 12 items each (Dunn & Dunn, 1997, p. 1). The testing procedure is quite simple: the examiner says a word and asks the examinee to point to the right picture or to say the number of the picture out loud. As soon as an examinee reaches eight or more errors within one set, the test is finished.

Each version of PPVT provides a record form that helps calculate the raw scores of the children's performances. During administering the test, the examiner is obligated to record the responses on the record form; they help him/her to obtain the raw score right away, by following the calculating instructions on the record form cover. The manual provides further information on standard score, centile, normal curve equivalent, and stanine that can be compared to monolingual norms (Dunn & Dunn, 1997). Yet, this analysis will focus on the raw scores of the children.

Test for Reception of Grammar (TROG-D)

The *Test for Reception of Grammar* (TROG) was first published in 1983 in Great Britain to investigate specific aspects of SLI and was slightly modified in 1989. The test was fully revised and re-standardized in its second version (TROG-2) by Dorothy Bishop (2003). The TROG-2 measures receptive grammatical contrasts and was adopted for German (TROG-D) by Annette V. Fox-Boyer (2016) in a standardized version as well. For the purpose of this study the TROG-D was used at the second and fourth time point in preschool when the children were between 3;3–3;6 years and 4;6–4;9 years.

The German version TROG-D covers the age range between 3;0 and 10;11 years, and adults. Every stimulus is presented in a four-picture format, similar to the PPVT-4 (see above). The other three pictures are very similar to the eliciting stimulus and differ only slightly to the stimulus. The test contains 84 items and evaluates 21

different grammar constructs, for example nouns, verbs, adjectives, nominal phrases with determiner and adjectives, SVO, negation, and many more (Fox-Boyer et al., 2016, p. 14). The test subject is asked to point to the correct picture that is solicited.

Results for TROG-D were obtained by using the enclosed record forms from the test material for quantitative analysis that helped calculate the raw score, t-value, and the centile. All three measures were used for describing the children's linguistic outcome. The manual provides further information on qualitative analysis and monolingual norms.

Plural elicitation task (PET)

The long version of the *Plural elicitation task* was designed in a study on early noun plurals in German by Sabine Laaha, Dorit Ravid, Katharina Korecky-Kröll, Gregor Laaha and Wolfgang U. Dressler (2006) with 84 Viennese preschool children at the age between 2;7 and six years. For reasons of better readability, the *Plural elicitation task* will be referred to as PET. The PET contained 42 test items for plural elicitation and was designed as a picture-based plural elicitation task for Austrian German. The task was adapted for the purpose of the INPUT project (Korecky-Kröll, Sommer-Lolei, et al., 2018a) in a shorter version of 21 stimuli, which was used for this study as well as. The main purpose of this task is to elicit correct plurals, incorrect zero plurals, and/or overt plural overgeneralizations (see Appendix A). The PET was applied at the second and fourth time point, when the children were between 3;3–3;6 years and 4;6–4;9 years.

The task is presented in a picture format of singular nouns and pictures showing the same nouns three times. The stimuli contained all 7 plural markers of German (-s, -(e)n, -e, -e +U, zero, U, -er +U) and all three gender categories (masc., fem., neut.). The elicitation was administered by first presenting three training items to the child (*Auto* – *Auto-s* 'car-s', *Banane* – *Banane-n* 'banana-s', *Baum* – *Bäum-e* 'tree-s'), beginning with the picture illustrating the singular noun and identifying it to the child (e.g. "This is a tree."), then showing the plural noun picture illustrating three of the same objects and trying to elicit the plural noun ("And what are these? These are three/many____."). (Laaha et al., 2006, p. 285)

The PET was transcribed, coded according to a coding scheme of Laaha et al. (ibid.), and analyzed in MS Excel investigating three main categories of plural

production; namely correct plurals, incorrect zero plurals, and overt overgeneralizations. This kind of analysis was used for both languages.

Frog Story

The *Frog Story* is a wordless 24-picture story from Mercer Mayer's picture book *Frog, Where Are You?* (1969) that was adopted by Ruth A. Berman and Dan I. Slobin (1994) for eliciting narrative competences of children with five different language backgrounds. The plot of the story evolves from the two protagonists, a boy and his dog, who are on a quest for their vanished frog. As a consequence, the story was used in numerous other narrative research projects to elicit narrative competences of children and adults (e.g. Bavin, 2000; Bennett-Kastor, 2002; Blaschitz, 2019; Dobek et al., 2018; Norbury & Bishop, 2003; Orsolini et al., 1996; Reilly et al., 2004; Trtanj, 2015). The purpose of this elicitation task was to gather comparable narrative data of the children's two languages.

For this purpose, a short version of the *Frog Story* was used, depicting only 16 pictures that were adapted by Korecky-Kröll et al. (2018) for the INPUT project. The *Frog Story* was elicited three times: firstly, at the second time point of data collection the mother was asked to tell the story to the child in Croatian (input). At the third time point, one year later, the child told the story at home in Croatian (output) and at the fourth time point, three months later, in preschool in German (output). A little puppet was supplemented to motivate the children to tell the story and they were instructed to choose freely when to turn the page. Therefore, the children sometimes skipped some pictures or focused on some more than on others.

The narration of the Frog Story was recorded and transcribed in the CLAN program, using the CHAT format of the CHILDES system (MacWhinney, 2000). The coded CLAN files were transferred to MS Excel by using the CLANTOCSV program (Korecky, 2015), which allowed further analysis of (co)referential elements. Co-reference is established in the same manner as described by Boniecki (2013, p. 26), through nominal and pronominal anaphora that is linked to an antecedent. As Trtanj (2015, p. 123) points out for Croatian monolinguals, co-reference is rather complex for children younger than six years, and only a few four-year-olds use anaphora/ellipsis correctly, to refer to the antecedent of the previous sentence. Furthermore, Gülzow and Gagarina (2007) emphasize the preference of German-speaking children to use personal and demonstrative pronouns for referring to antecedents.

The approach chosen here is to focus on a microstructural level of narration since it gives more insight on the differences between the two languages of bilinguals than the macrostructure, which is more language independent (Gagarina et al., 2015). Microstructure focuses furthermore on language specific structures as vocabulary and grammar. Therefore, the growth of discourse devices can be analyzed more thoroughly, as well as specific linguistic structures (Pearson, 2002, p. 137), which is in line with the research questions of this study.

Following the approach used by Korecky-Kröll et al. (2018) and other scholars (e.g. Aksu-Koç & Nicolopoulou, 2015; Hickmann & Hendriks, 1999; Orsolini et al., 1996; Wigglesworth, 1990), this analysis was undertaken in the same manner, namely by coding different forms of (co)referential expressions that either introduced, maintained or switched characters.

The forms of coding (co)referential characters in subject position is by using referential devices as described by Bamberg (1987, 1994) for German: “bare noun; noun with definite or indefinite article; demonstrative, personal, and possessive pronouns; and correct or incorrect zero anaphora”. The referential devices were extended for the purpose of this study as illustrated in Table 13 below. The Croatian coding is somewhat diverging as demonstrated in the following chapter (see Table 15).

Table 13 Referential devices and their meaning in the German Frog Story

Referential device	Definition	Examples
Bare_N	Bare noun	<i>Hund schaut</i> ‘dog looks’
Def.art+N	Noun with definite article	<i>der Bub</i> ‘the boy’
Indef.art+N	Noun with indefinite article	<i>ein Frosch</i> ‘a frog’
Pers_pronoun	Personal pronoun	<i>er</i> ‘he’
Dem_pronoun	Demonstrative pronoun	<i>der geht raus</i> ‘that one goes out’; <i>dieser</i> ‘this one’
Possessive	Possessive pronoun	<i>Seiner ist auch da</i> ‘His [frog] is there too’
Zero_correct	Zero correct anaphora	<i>Sie gehen raus # und suchen dann</i> ‘They go out and start searching’
Zero_incorrect	Zero incorrect anaphora	<i>Geht weg</i> ‘goes away’; <i>dann wird in [*] Loch etwas sagen</i> ‘And then [no subject] will say something in hole’
Name	Proper name	In some cases, the children choose names for the characters of the story
qn.det+Adj+N	Noun and adjective with quantifying determiner	<i>Alle anderen Frösche</i> ‘all other frogs’

dem.det+ qn_pronoun	Quantifying pronoun with demonstrative determiner	<i>Diese beiden</i> 'those two'
def.art+qn_pronoun	Quantifying pronoun with definite article	<i>Die beiden fallen runter</i> 'the two fall down'
indef.art+qn.det+N	Noun with quantifying determiner and indefinite article	<i>Ein paar Frösche</i> 'some frogs'
Qn.det+N	Noun with quantifying determiner	<i>Alle Frösche</i> 'all frogs'

All introduced, maintained and switched (co)referential elements were coded regarding their textual and grammatical correctness to gain a better picture of the children's microstructural level of narratives. Consequently, the correctness of textual and grammatical elements for a particular situation was labeled with a specific error form. Grammatical errors regarded either omission (e.g. articles, subject) or commission errors (e.g. gender or number agreement, case, plural), whereas textual errors comprise that textual (co)reference is unclear or incorrect, or that textual elements are missing (e.g. determiners, predicate).

5.3.2.2 Language assessment materials for Croatian

Peabody Picture Vocabulary Test (PPVT-III-HR)

The *Peabody Picture Vocabulary Test* for Croatian (PPVT-III-HR) is a standardized adaptation from the *PPVT, Third Edition* by Leota M. Dunn and Lloyd M. Dunn (1997) and was designed by Leota M. Dunn, Lloyd M. Dunn, Melita Kovačević, Nevena Padovan, Gordana Hržica, Jelena Kuvač Kraljević, Maja Mustapić, Gordana Dobravic and Marijan Palmović (2009). The vocabulary skills of the children were tested at the first and third time point when the children were between 3;0–3;3 years and 4;3–4;6 years, as it was the case for German.

The PPVT-III-HR is conceptualized for the age range between 2;5 and 90 years. It consists of four black-and-white pictures on every page and entails training items for introducing the test, followed by 17 sets of 12 items. The testing as well as scoring procedure is identical to the one from the German version.

Test for Reception of Grammar (TROG-2:HR)

The second version of the *Test for Reception of Grammar* (TROG-2) by Dorothy V. M. Bishop (2003) was adapted for Croatian in a standardized version (TROG-2:HR) by Dorothy V. M. Bishop, Jelena Kuvač Kraljević, Gordana Hržica, Melita Kovačević and Lana Kologranić Belić (2014). In order to establish the progress of the children, TROG-2:HR was repeated at a second time point: the first one was between 3;3 and 3;6 years, and the second between 4;6 and 4;9 years.

The Croatian version is conceptualized for children from age 4;0–15;0 and for adults. However, the test was used at an earlier age in this research since the two time points should show a diachronic development in order to be reasonably compared with each other. The test contains 20 different grammar constructs, each with four different test stimuli; every stimulus is presented in a four-picture format. The testing procedure is identical to the German TROG-D version (see above).

Croatian plural elicitation task (PET-Cro)

The plural elicitation task for Croatian (PET-Cro) is an experimental design adapted for this purpose according to the German *Plural elicitation task* (Laaha et al., 2006) to have a comparable outcome in the children's plural production. Parallel to the German version, 21 stimulus items were chosen for the Croatian version as well. All three gender categories (masc., fem., neut.) are represented equally; by using the following plural suffixes of Croatian that are listed in Table 14. The whole task can be viewed in Appendix B.

Table 14 Croatian plural suffixes of the 21 test items for plural elicitation

Plural suffixes	Gender	Test items
-i	m	krevet 'bed', prozor 'window', avion 'plane', tanjur 'plate', šešir 'hat'
-ev-i	m	zec 'rabbit', miš 'mouse'
-ov-i	m	tigar 'tiger', brod 'ship', vlak 'train'
-e	f	djevojčica 'girl', kuća 'house', pidžama 'pyjama', mačka 'cat', jabuka 'apple', ptica 'bird'
-a	n	dijete 'child', jaje 'egg', selo 'village', polje 'field', srce 'heart'

Not all plural suffix categories could be taken into account due to the small number of stimulus items, though, the focus was more on child-specific lexical items and productive pluralization rules than on assessing all categories of plural suffixes.

Frog Story

The *Frog Story* by Ruth A. Berman and Dan I. Slobin (1994) for eliciting narrative competences of children was performed and analyzed for Croatian in the same manner as described for German in the chapter above. The children and their mothers told the story at home in Croatian. Firstly, the mothers told the story to the children (input) at the second time point of data collection, and the children (output) told it one year later at the third time point when they were between 4;3 and 4;6 years old. The analysis of the Croatian data was applied in the same way as for the German narration.

Yet, the coding of referential devices was slightly adapted, as required for the Croatian language system. Trtanj (2015) describes in her dissertation on Croatian ‘categories’ for referential elements in the *Frog Story*. Since Croatian does not have articles like German, the referential devices are to some extent diverging in the analysis. The categorization of referential devices will, therefore, be adapted to Trtanj’s approach (2015, p. 85), yet, with some slight modifications to make them comparable with the German data.

Nouns in Croatian can appear without determiners or quantifiers as bare nouns, labeled bare_N, nevertheless, according to the case, gender, and number. Furthermore, they can appear with quantifiers (*puno žaba* ‘many frogs’) as well, labeled qn_N. Trtanj (2015, p. 85) also differentiates between ***imenska skupina s određenim determinatorima*** ‘nominal clusters with definite determiners’ (*ovaj dječak* ‘that boy’, *njegov pas* ‘his dog’) and ***imenska skupina s neodređenim determinatorima*** ‘nominal clusters with indefinite determiners’ (*jedan dječak* ‘one boy’), and will be labeled as def.det+N (noun with definite determiner) or indef.det+N (noun with indefinite determiner). Pronouns (personal, possessive, demonstrative) are seen parallel to those in German, yet may appear with quantifiers and will, in that case, be labeled as qn_pronoun. The last referential category mentioned by Trtanj (ibid.) is called an *ellipsis* and can be compared to zero anaphora, although it refers only to the verbal forms in which gender and number are transparent: for example *ustao je* ‘he woke up’ has a missing subject, yet, it is evident that the participle verb is referring to masculine singular.

According to Trtanj's analysis (2015, p. 125), four-year-old Croatian monolingual speakers use pronouns and ellipsis without clear antecedent in their narration, which indicates a scarce use of anaphors in general. Moreover, it is possible that the child chooses a name for the character and therefore 'name' is accounted for the referential device as well.

Table 15 Referential devices and their meaning in the Croatian Frog Story

Referential device	Definition	Examples
Bare_N	Bare noun	<i>Dječak spava</i> 'The boy sleeps'
Qn_N	Noun with quantifier	<i>Puno žaba</i> 'many frogs'; <i>Dvije žabe</i> 'two frogs'
Def.det+N	Noun with definite determiner	<i>Ovaj dječak</i> 'that boy'; <i>Njegov pas</i> 'his dog'
Indef.det+N	Noun with indefinite determiner	<i>Jedan dječak</i> 'one boy'; <i>Neki dječak</i> 'some boy'
Pers_pronoun	Personal pronoun	<i>On</i> 'he'
Dem_pronoun	Demonstrative pronoun	<i>Taj skače</i> 'that one jumps'
Possessive	Possessive pronoun	<i>Njegova je pobjegla</i> 'His [frog] went away'
Qn_pronoun	Pronoun with quantifier	<i>Puno njih</i> 'many of them'
Ellipsis	Verbal form with transparent gender and number and correctly without subject	<i>Ustao je</i> 'He woke up' (No subject, but it is clear that HE is meant)
Name	Proper names	In some cases, the children choose names for the characters of the story

The difference between *Njegov pas* 'his dog', categorized here as a noun with a definite determiner and *Njegova [žaba] je pobjegla* 'His [frog] went away' as a possessive pronoun is that in the first example, the possessive determiner *njegov* 'his' belongs to the noun *pas* 'dog', whereas in the second example, *njegova* 'his' is a possessive pronoun and stands for itself. The same goes for the example *taj* 'that one' of the demonstrative pronouns.

5.3.3 Procedure

Organizing data collection

Prior to the beginning of data collection implementing a second experimenter was considered, mainly to create the illusion that the examiner is monolingual so that the child can only use the language in question. The main concern was that the children might be more likely to use both languages if they knew the examiner spoke both

languages. However, this issue was discussed in personal communication with Lisa-Maria Müller, since she (2016) did research on bilingual twins and completed data collection by herself in both of the children's languages (Polish and English).

Even though the idea of two researchers seemed reasonable, the introduction of every language assessment described the process, mentioning what language is required for the specific setting. Therefore, the children knew how to fulfill the task and the idea was dropped eventually. In conclusion, there was no conflicting situation in using one examiner for both languages and the children knew what language was expected in the testing situation.

Moreover, at the beginning of data collection all caregivers had to sign a consent form (see Appendix) that permitted the use of the recorded data for purposes of the thesis and declared anonymity to the families participating in the study. The evaluation was carried out during four time points at the children's home for Croatian and parallel to that in preschool for German.

Questionnaires

To get a full picture of the children's family background several interviews were conducted by using semi-structured questionnaires, as devised in the INPUT project (see Appendix C and D). Interviews were made with main caretakers (mostly mothers) and preschool teachers. All of them were audio-recorded at several time points – with main caretakers at home at each time point and with the preschool teachers at the first and third time point.

Interviews with parents were held in Croatian and with teachers in German. The questionnaires for the interviews followed the same central questions as in the INPUT project, however, with a few adaptations (see Appendix C and D). It elicited the family's social and linguistic background: occupation and education of parents, the child's daily routine, the different communication partners, the language use, the time spent with different activities, and other similar questions. The questionnaires for the preschool teachers assessed the child's daily routine in preschool and the linguistic development of the child, as well as the teacher's attitude towards fostering language development; which helped to get a full picture of the children's exposure to both languages. The data from the interviews was coded in MS Excel, but only the data that was relevant to the research questions was extracted for further analyses.

Digital recordings

The spontaneous speech data, interviews with main caretakers, as well as some language assessments (narration) were video and/or audio recorded at home and in preschool, and transcribed using the CHILDES system (MacWhinney, 2000).

The language used at home was captured through spontaneous speech interactions at home. The child's spontaneous speech was recorded on audio and video with their main caretakers (and siblings) at home, and with the preschool teacher in preschool. A PHILIPS DVT1250 Voice Tracer digital audio recorder, and a CANON HF100 video camera were used at four time points.

The most informative 30-minutes stretch from sessions up to 60 minutes was transcribed using the CHAT format of the CHILDES system (MacWhinney, 2000). The utterances are morphologically coded according to lexicon files available for the corpus of Austrian German (e.g. Korecky-Kröll, 2017; Korecky-Kröll, Uzunkaya-Sharma, et al., 2018) and Croatian (Kovacevic, 2004). The coding system provides the necessary tools to search for specific parts of speech and allows the linguistic analysis of specific patterns of acquisition. Code-switching and code-mixing activities were coded separately, namely by distinguishing switches between sentences – marked with [+csw] after every utterance spoken in German of a mainly Croatian speech – and switches within a sentence – marked with @s:deu for embedded German words in a Croatian sentence. Spontaneous speech data was furthermore coded with an @d, when a dialect expression or an expression from Bosnian or Serbian language occurred.

Prior to the recording, parents and teachers were asked to elicit speech from the children by engaging different play situations that would motivate the children to talk more. The investigator was constantly present during data collection and in some cases also part of the interactions. The different play situations can be categorized in: free play activities; activities regulated by teachers/caretakers; puzzle; book reading; and games with rules (e.g. Leseman et al., 2001; Weichselbaum et al., 2019).

5.3.4 Design of data collection

The following Table 16 shows the year and a half lasting data collection period, which was represented by four time points beginning at the age range between 3;0 and 3;3 years, depending on the child and organizational reasons.

Table 16 Design of data collection

	data collection		1 year	data collection	
Participants	1. time point ~3 years	2. time point 3 mos. later ~ 3;3 years	Staying in touch	3; time point 1 year later ~ 4;3 years	4; time point 3 mos. later ~ 4;6 years
Main caretaker (mother)	1 h interview (selection) Audio	1 h interview (Input, aspiration) Audio		Short interview (complementary) Audio	Short interview (complementary) Audio
Child & main caretaker	1h spontaneous speech, Video	1 h spontaneous speech, Video		1 h spontaneous speech, Video	1 h spontaneous speech, Video
Teacher	½ h interview (selection) Audio	–		½ h interview (Input) Audio	–
Child & teacher	1 h spontaneous speech, Video	1 h spontaneous speech, Video		1 h spontaneous speech, Video	1 h spontaneous speech, Video
Language assessment materials for Croatian at home	CROATIAN PPVT-III-HR Frog Story (for mother for 2 nd time point)	CROATIAN TROG-2:HR PET Cro. MAIN Frog Story (INPUT mother)		CROATIAN PPVT-III-HR Frog Story Child in Croatian OUTPUT	CROATIAN TROG-2:HR PET Cro. MAIN
Language assessment materials for German in preschool	GERMAN PPVT-4 Phonological working memory task PNG (13 non-words)	GERMAN TROG-D PET MAIN		GERMAN PPVT-4 Phonological working memory task PNG (18 non-words)	GERMAN TROG-D PET MAIN Frog Story Child in German OUTPUT

The methodological approach taken in this study is a mixed methodology investigation based on the INPUT project (e.g. Korecky-Kröll, Uzunkaya-Sharma, et al., 2016a, 2016b) as mentioned earlier. However, it entails different kinds of language

assessment materials that are more suitable for comparing the two languages, Croatian and German. Furthermore, spontaneous speech interactions were recorded for both languages at home and in preschool in each data collection period, as well as interviews with the main caretaker (mother). Interviews with preschool teachers were recorded at the first and third time point of data collection.

6 RESULTS AND DISCUSSION ON SIMULTANEOUS BILINGUAL LANGUAGE DEVELOPMENT

Having outlined the methodological approach and the procedure of this study in the chapter above, results shall be described in the following, by taking into consideration the composition of research questions defined in chapter one. First, the individual simultaneous bilingual language development shall be outlined in both languages by describing the development of lexicon and grammar, the competences in narration, and the use of code-switching and code-mixing. The acquisition process of the children's two languages will be explained thoroughly, starting with describing the results of each child for Croatian, then German. Second, the influence of SES on simultaneous bilingual language acquisition of the two groups of high vs. low SES children will be compared to each other, examining possible differences due to SES. Ultimately, the results will be summarized and reflected in regard to the language use of third-generation immigrant children in Austria.

6.1 INDIVIDUAL SIMULTANEOUS BILINGUAL LANGUAGE DEVELOPMENT

This chapter focuses on answering the research questions (1A–G) regarding each child's lexical and grammatical development between age 3;0 and approximately 4;6, as well as narrative competences in both languages and the use of code-switching activities at home during that same time period. The goal is furthermore to determine whether higher scores in the receptive vocabulary of one language, resulting in better grammar knowledge – since a larger lexicon is interpreted as a prerequisite for morpho-syntactic development (e.g. Borovsky et al., 2016; Gagarina et al., 2017; Parra et al., 2011; Swanson et al., 2008) – and consequently in better narration competences (e.g. Uccelli & Páez, 2007), and likewise in a decreased need to code-switch in the same language (e.g. Bernardini & Schlyter, 2004; Ribot & Hoff, 2014). Studies on vocabulary-grammar interdependence have mostly been observed within the same language and less cross-linguistically (e.g. Hoff, Quinn, et al., 2018; Marchman et al., 2004; Parra et al., 2011).

Prior to comparing the results on standardized language tests, it is important to highlight that monolingual norms are available for standardized tests and will be mentioned in the description of each child. Yet, it is essential to emphasize that monolingual norms can of course not be applied to bilingual children. According to Thordardottir, Rothernberg, Rivard, and Naves (2006, p. 2) bilingual language assessment is difficult to interpret since bilinguals can have very individual language combinations and different language structures may simply be acquired at their individual pace. When calculating scores from bilinguals in their L1 and L2 separately, lower scores are very likely, compared to monolinguals (Pearson et al., 1993). Hence, one approach that is mentioned by Hoff and Core (2013, p. 222), is to test children in their dominant languages with standardized tests and compare the results with monolinguals. However, those normed tests will not draw a full picture of the child's language skills.

In some cases, bilingual children tend to score below the norms of monolinguals, which often leads to the assumption of language impairment. Hoff and Core (2013, p. 222) recommend testing children at a later point in time to see if any progress can be achieved that could exclude any impairment. In the study of Hoff et al. (2012), the authors state that no differences between monolingual and bilingual language production were registered, when both of the languages of the bilingual were considered. Consequently, some scholars suggest likewise, to account both vocabularies of bilinguals when assessing their lexicon (e.g. Bialystok et al., 2010; De Houwer et al., 2014; Gagarina et al., 2017; Thordardottir, 2011).

The children in this study will primarily be described separately, and in each of their languages according to the research questions posed in chapter 1.2. The attempt here is to focus specifically on individual factors that influence language acquisition, but simultaneously on those factors that are overlapping.

6.1.1 LEXICAL DEVELOPMENT

In line with the research question (1A), receptive vocabulary skills will be described in regard to individual simultaneous bilingual language development, and whether they are higher in one language than the other at the time points during age 3 and age 4.

6.1.1.1 Results of case study 1 – Ivan

The following Table 17 shows Ivan's results obtained with the PPVT-III-HR¹¹ for Croatian and the PPVT-4 research version for German. The table illustrates no standardized scores for German since no standardized scores of monolinguals are available for the research version. Nonetheless, Ivan's receptive vocabulary skills in Croatian show at the first time point at age 3;3 a relatively high raw score of 30, which is even age equivalent (3;2 years) to monolingual Croatian-speaking children, with a standard score of 100 and the 50th centile. By age 4;6, however, his raw score increases to 35, with a standard score of 93 and the 32nd centile and an age equivalent of 3;7-year-old monolingual peers. Ivan's receptive vocabulary skills in the German research version of PPVT at age 3;3 show a raw score of 15, while at age 4;6 he obtains a raw score of 59, which indicates a high increase in receptive vocabulary within 1;3 years.

Table 17 Ivan's results on PPVT for Croatian and German at age 3 and 4

Language	Age	Raw score	Standard score	Centile	Normal curve equivalent	Stanine	Age equivalent
Croatian	3;3	30	100	50	50	5	3;2
	4;6	35	93	32	40	3	3;7
German	3;3	15					
	4;6	59					

Ivan's results show a discrepancy between his two languages, while at the first time point he obtains age equivalent results to monolingual children in Croatian and rather small scores in German – compared to the following year, where he reaches 59 points at his German raw score – his receptive Croatian vocabulary seems to increase less than his German receptive vocabulary. The chronological development of Ivan's receptive vocabulary skills in Croatian indicates a slight decrease, which may be a negative consequence of his rather extensive increase in German. Still, Ivan's vocabulary skills indicate a rather high score in both languages, especially at age 4;6.

Yet, when comparing these results to the hypothesis that bilingual children are most likely exposed to a different set of linguistic input in their two languages, and

¹¹ Raw scores of the two languages are not synonymous.

therefore achieve a better outcome in one language than the other, it can be concluded that Ivan's receptive vocabulary skills are higher in Croatian at age 3;3 but probably slightly higher in German a year later at age 4;6. This can be argued by the average raw score of 38.5 points obtained on the same receptive vocabulary assessment of Austro-Turkish 4-year-old bilinguals (n=27). However, maternal input in Croatian may have had a strong impact on his high scores in Croatian, especially at the first time point. Yet, with age peer influence from preschool appears to take over, which would be in line with other research (e.g. Harris, 1995; Hoff, 2006; Mashburn et al., 2009).

Lexicon, however, is always context-related, which is important to bear in mind when testing bilingual children with monolingual testing procedures (e.g. Unsworth, 2013b). In the large-scale study conducted by Bialystok, Luk, Peets, and Yang (2010) results were obtained with PPVT. The study indicates that bilingual and monolingual children's scores become much more comparable when analyzing home-related vocabulary separately from the school-related vocabulary. Otherwise monolingual scores are significantly higher than bilingual scores on the PPVT. Quantity and quality of input have shown to influence the speed of lexicon and grammar acquisition in children (De Houwer, 2007, 2009; Gathercole & Hoff, 2007).

6.1.1.2 Results of case study 2 – Ana

Table 18 provides an overview of Ana's results on the PPVT in Croatian and German. Her Croatian raw score rises from 24 at age 3;0 to 36 points at age 4;3, which is also a rather stable growth. The standard score indicates 95 at age 3;0 with a 37th centile, and 93 at age 4;3 with a 32nd centile. Compared to monolingual peers, Ana scores at age 3;0 to age equivalent norms of 2;8-year-old peers, and at age 4;3 to 3;7-year-old monolingual peers, which indicates a slight decrease to the year before when looking at age equivalence to monolinguals. Interestingly, Ana's German scores indicate a continuous increase from 22 to 54 points. Yet, there are no standard scores available for German PPVT, since the assessment was obtained with the research version from the INPUT project. Hence, data can only be compared to monolingual German-speaking and bilingual Turkish/German-speaking children from the INPUT project (Korecky-Kröll, Czinglar, et al., 2016; Korecky-Kröll, Dobek, et al., 2018).

Table 18 Ana's results on PPVT for Croatian and German at age 3 and 4

<i>Language</i>	<i>Age</i>	<i>Raw score</i>	<i>Standard score</i>	<i>Centile</i>	<i>Normal curve equivalent</i>	<i>Stanine</i>	<i>Age equivalent</i>
<i>Croatian</i>	3;0	24	95	37	43	4	2;8
	4;3	36	93	32	40	4	3;7
<i>German</i> ¹²	3;0	22					
	4;3	54					

Overall, Ana's results may indicate that German receptive vocabulary knowledge is increasing more strongly than the Croatian one, due to the numerical difference. Nonetheless, both seem to be quite balanced, especially when looking at the age equivalent norms of monolingual peers in Croatian and the average results (raw score 38.5) of Austro-Turkish 4-year-old children in German. Possible peer influence may account for the reason for Ana's balanced results in vocabulary assessment. Two from three of Ana's closest friends in preschool speak either Bosnian or Croatian as their heritage language and the observation in preschool showed that the girls used both languages in their communication. But it was within the limitation of this study to extract the exact circumstances of peer talk. Different studies (e.g. Czinglar et al., 2017; Oller & Eilers, 2002) suggest that the number of native speakers may influence the linguistic outcome. And as Ana is exposed to both languages at home and in preschool, this seems to be reflected in her language skills, which will be elaborated on in the subsequent discussions.

6.1.1.3 Results of case study 3 – Marko

Table 19 provides an overview of Marko's receptive vocabulary results attained on the PPVT for Croatian and German. Marko's raw score in Croatian at age 3;0 is 16, which is the 14th centile of monolingual norms and at the following evaluation, 1.3 years later, his raw score indicates 29, which is the 18th centile of monolingual norms. The standard score at age 3;0 is 84 and 86 at age 4;3. Yet, he reaches an age equivalent of one-year younger monolingual peers, which is diverging compared to the other two children mentioned above. His German scores, on the other hand, indicate a rather stable growth within the same time period (from 19 to 55 points). However, it is important to emphasize that Marko's testing at age 3;0 in German was terminated prematurely

¹² Standardized norms are not available for this research version of PPVT-4.

because he refused to go on with the testing procedure. Therefore, a conclusion can be drawn that his raw score in German at age 3;0 was already higher than 19.

Table 19 Marko's results on PPVT for Croatian and German at age 3 and 4

<i>Language</i>	<i>Age</i>	<i>Raw score</i>	<i>Standard score</i>	<i>Centile</i>	<i>Normal curve equivalent</i>	<i>Stanine</i>	<i>Age equivalent</i>
<i>Croatian</i>	3;0	16	84	14	28	3	2;0
	4;3	29	86	18	30	3	3;1
<i>German</i> ¹³	3;0	19*					
	4;4	55					

*The assessment was terminated prematurely.

When looking at the results obtained on Croatian PPVT and their interpretation of monolingual norms, as well as the other two children's scores, Marko's outcome is rather low. However, these results have to be taken into account together with the results for the German lexicon, indicating that both lexica have to be considered in bilingual children (Hoff et al., 2012). Yet, comparable results for German are only available for the children of the INPUT project, since results were collected with a research version of PPVT for German (Fürst, 2009).

When, however, comparing the results of both languages, Marko's German vocabulary skills increase noticeably compared to Croatian. He is certainly more dominant in German receptive vocabulary than in Croatian at both time points, indicating that the hypothesis can be verified that the child achieves better results in one language than the other. In Marko's case, exposure time to German is certainly one important factor supporting this outcome. The study conducted by MacLeod, Fabiano-Smith, Boegner-Page, and Fontolliet (2013) indicates a correlation between exposure time and the majority language of simultaneous bilinguals' receptive vocabulary, yet, no connection to the receptive vocabulary of the minority language could be found. Consequently, other factors seem to influence the development of bilinguals' vocabulary skills in their minority language.

Marko's exposure time to German is rather high at age 4 since he spends nine hours a day in preschool and is furthermore exposed to German in the family domain as well. Yet, according to a study by Klassert and Gagarina (2010) on Russian speaking immigrants in Germany, the German development of preschool children is

¹³ Standardized norms are not available for this research version of PPVT-4.

not positively influenced by the German exposure at home, however, the heritage language skills are affected by the amount of Russian spoken within the family. This leads to the assumption that Marko's language development in Croatian is diminishing because of the high exposure to German.

6.1.1.4 Results of case study 4 – Filip

The results of Filip's vocabulary assessment on the PPVT in Croatian and German are illustrated in Table 20. His results show an interesting picture: in both languages Filip scores rather poorly at the first time point but obtains rather high results in both languages at the next one. His Croatian results at age 3;1 indicate a raw score of 14, a standard score of 79 and the 8th centile. However, by the time of the next evaluation at age 4;4, his raw score reaches 46 points, the standard score 99 points and the 47th centile, which is age equivalent to monolinguals norms. In German PPVT the raw score rises from 9 points at age 3;1 to 50 points at age 4;4.

Table 20 Filip's results on PPVT for Croatian and German at age 3 and 4

<i>Language</i>	<i>Age</i>	<i>Raw score</i>	<i>Standard score</i>	<i>Centile</i>	<i>Normal curve equivalent</i>	<i>Stanine</i>	<i>Age equivalent</i>
<i>Croatian</i>	3;1	14	79	8	21	2	<2;0
	4;4	46	99	47	49	5	4;3
<i>German</i> ¹⁴	3;1	9					
	4;4	50					

Filip might have gone through a developmental phase, which seems plausible due to the comparable low results at age 3;1, as described by Kauschke (2000). Yet, his results indicate a balanced outcome in both languages.

According to Thordardottir (2011), bilingual children show no discrepancies to monolingual children in their receptive vocabulary when they are exposed to a language 40–60%. Filip's estimated exposure time to both languages, according to the interview data, indicates a fairly balanced exposure of 54% to Croatian and 46% to German.

These results corroborate the ideas of Thordardottir (ibid.), who suggested that bilinguals who are exposed equally to both languages reach monolingual scores in

¹⁴ Standardized norms are not available for this research version of PPVT-4.

receptive vocabulary. One further explanation for Filip's immense growth in German vocabulary assessment (\uparrow 41 points) may be a critical threshold that he had reached in German, which made vocabulary acquisition easier, as described by Dahl and Vulchanova (2014).

These findings, however, raise intriguing questions regarding the nature and extent of balanced exposure to both languages and the longitudinal effect on language development in both languages. Similarly, it is very difficult to preserve balanced exposure to both languages in a society where the majority language is (usually) very dominant in all domains outside the family, and more so, once children start attending school and school language becomes more important.

6.1.1.5 Comparative analysis of all four children

In the following, the receptive vocabulary results of all four children will be illustrated for both languages, firstly for Croatian (Table 21) and subsequently for German (Table 22). Since the results of all four children have been mentioned separately in the chapters above, this shall simply provide an overview of all children in comparison, to underline similarities and differences.

Ivan and Ana score similarly at both assessments: at the first time point Ivan reaches a standard score of 100 and the 50th centile of monolingual Croatian peers (raw score 30), while Ana reaches 95 and the 37th centile (raw score 24). At the second time point both have a standard score of 93 and the 32nd centile of monolingual peers (Ivan raw score 35, Ana 36). Marko and Filip, on the other hand, score comparatively poorly at the first time point, namely Marko with 84, and the 14th centile (raw score 16) and Filip with 79 and the 8th centile (raw score 14). Yet, at the second time point, Marko's results remain low (raw score 29) compared to the other children's results, while Filip scores highest among all four children with a standard score of 99 and the 47th centile of monolingual peers (raw score 46).

Table 21 Overview of PPVT results for Croatian at age 3 and 4

CROATIAN	Age	Raw score	Standard score	Centile	Normal curve equivalent	Stanine	Age equivalent
<i>Ivan</i>	3;3	30	100	50	50	5	3;2
	4;6	35	93	32	40	3	3;7
<i>Ana</i>	3;0	24	95	37	43	4	2;8
	4;3	36	93	32	40	4	3;7

Marko	3;0	16	84	14	28	3	2;0
	4;3	29	86	18	30	3	3;1
Filip	3;1	14	79	8	21	2	<2;0
	4;4	46	99	47	49	5	4;3

The German results¹⁵ show a rather stable outcome at the second time point, which is very similar among all four children (between 50 and 59 points), while during the first time point Ivan and Filip score relatively low, compared to the other two children.

Table 22 Overview of PPVT results for German at age 3 and 4

GERMAN	Age	Raw score	Standard score	Centile	Normal curve equivalent	Stanine	Age equivalent
Ivan	3;3	15					
	4;6	59					
Ana	3;0	22					
	4;3	54					
Marko	3;0	19*					
	4;3	55					
Filip	3;1	9					
	4;4	50					

*The assessment was terminated prematurely.

Exposure time to both languages appears to be an important factor for receptive vocabulary results: Ivan and Ana obtain rather similar results, indicating high scores at the first testing in Croatian, however, the German results show a stronger increase at the second evaluation, possibly due to stronger exposure in German. This becomes even more evident in Marko's case. His exposure to German increases noticeably during the evaluation period as do his German results, while in comparison his Croatian growth declines. Filip, on the other hand, shows remarkably high results in Croatian during the second time point and the comparable high growth in German may indicate some critical threshold that he had probably reached in German, which made vocabulary acquisition easier (Dahl and Vulchanova, 2014).

When turning to the research question (1A) on having higher vocabulary skills in one language than the other, the children's data reveals that only Marko's vocabulary results show lower skills in Croatian than his German when comparing the data to the other children from this study as well as age-equivalent data from monolingual peers.

¹⁵ Standardized norms are not available for this research version of German PPVT-4.

Ivan and Ana, on the other hand, appear to have rather stable results in both languages, while Filip shows a low outcome in both languages at the first time point and a high outcome in the second one, compared to the children in this study as well as monolingual results.

6.1.2 GRAMMATICAL DEVELOPMENT

Grammatical development will be exemplified by answering the research question (1B) on the receptive and productive grammar skills of each child, focusing on the expectation that grammar skills are higher in one language than the other. Likewise, the research question (1C) on the comparison of possible diverging results in plural production gathered in an elicitation experimental task vs. spontaneous speech will be discussed. Since grammar imbeds various possible fields of research, which are too vast and broad to consider them all, this study will be limited to plural production, since the plural acquisition was examined in the INPUT project as well.

Receptive grammar

Results on receptive grammar skills were obtained by using TROG-2:HR and TROG-D. The labeling for results in both language scores diverge, since standardized scores for both languages are subdivided differently: Croatian with a standard score, centile and age equivalent; German with t-score, centile, and age-specific average t-score. Even though the TROG-2:HR is conceptualized from age 4 onwards, it was nonetheless administered at age 3 due to diachronic testing.

Plural production

Plural production obtained in the elicited task vs. spontaneous speech shall be discussed regarding results assessed with the *Plural elicitation task* (PET) for German and the adapted version for Croatian. In total, 21 items were assessed in both languages. Simultaneously, spontaneous speech data from the children is analyzed to get a full picture of their spontaneous plural production in both languages.

6.1.2.1 Results of case study 1 – Ivan

At age 3;6 Ivan's raw score was 0. Nonetheless, his Croatian results indicate a strong increase between the first and second time point. By age 4;10 he obtains a raw score of 5, a standard score of 96, and the 39th centile of monolingual norms as well as age equivalent results to monolingual peers (4;5 years) for Croatian. The German testing with TROG-D at the first time point was terminated prematurely (raw score 2*), because Ivan refused to finish the procedure. Nevertheless, at both time points in

German, his t-scores¹⁶ (1st tp 41; 2nd tp 50) indicate age equivalent results to monolingual peers. Consequently, Ivan's receptive grammar skills at age 4 are comparable to monolinguals results for both languages.

Table 23 Ivan's results on TROG for Croatian and German at age 3 and 4

<i>Language</i>	<i>Age</i>	<i>Raw score</i>	<i>Standard score</i>	<i>t-score</i>	<i>Centile</i>	<i>Age equivalent</i>	<i>Age-specific average t-score</i>
<i>Croatian</i>	3;6	0					
	4;10	5	96	-	39	4;5	
<i>German</i>	3;6	2*	-	41	17	-	50 +/-10
	4;9	7	-	50	50	-	50 +/-10

*The assessment was terminated prematurely.

Ivan's receptive grammar skills show an interesting picture at age 4, where he attains age equivalent results to monolingual peers in both languages. These results may correlate with the number of native speakers of both languages he is exposed to. First of all, in his home surrounding, his older sibling speaks preferably German to him, whereas the mother is eager to support his Croatian as much as possible. The father is the one who switches between both languages rather frequently, yet, with Croatian still being the dominant language.

In preschool, Ivan is exposed to the Croatian language as well, as two preschool teachers are native Croatian speakers, and 11 out of 20 children indicate to speak Bosnian, Croatian, or Serbian as their heritage language. Even though it was not possible to investigate the amount of Croatian spoken in the preschool setting, the high number of native speakers indicates a certain (possibly high) exposure to Croatian in preschool. Literature suggests an influential aspect of environmental constituents like siblings, peers, community, and other external factors (e.g. Armon-Lotem et al., 2011; Barreña et al., 2008; De Houwer, 2000; Pearson, 2007).

Plural production

First of all, Table 24 provides an overview of the different plural categories (correct forms, incorrect singular repetitions/ incorrect zero plurals, overt overgeneralizations) in both languages, produced during the two evaluation time points (tp) 1;3 years apart.

¹⁶ In the manual of TROG-D (Fox-Boyer et al., 2016, p. 21), an average t-score of 50 points is listed as the age-specific mean value with a distribution of 10 points, which indicates an average performance at a t-score between 40 and 60, among monolingual German-speaking children.

During the two time points, Ivan increases his correct plural forms, in Croatian from 19% at age 3;6 to 29% at age 4;9 and in German from 14% correct forms to 24%. His Croatian PET results reveal a much higher percentage of overt plural overgeneralizations especially during the second tp (48%), while his German results at the same tp show a high percentage of incorrect zero plurals (71%) and only little overgeneralizations (5%). On his Croatian PET he utters ‘other forms’¹⁷ as well, which are not suitable for neither of the three categories. During the first tp he uses 6 ‘other forms’ (29%) and during the second tp 3 (14%).

Table 24 Ivan’s elicited plural results at age 3 and 4 for Croatian and German

Child	Category	Croatian		German	
		1 st tp 3;6 years	2 nd tp 4;9 years	1 st tp 3;6 years	2 nd tp 4;9 years
Ivan	Correct PL	4 (19%)	6 (29%)	3 (14%)	5 (24%)
	Incorrect SG repetitions/ zero PL ¹⁸	9 (43%)	3 (14%)	18 (86%)	15 (71%)
	Overt PL overgen.	2 (9%)	9 (43%)	0	1 (5%)
	Other forms	6 (29%)	3 (14%)	-	-

The six ‘other forms’ from the first tp result from the use of incorrect case, after using the Croatian adverb *puno* ‘many’, which requires case marking in genitive singular (*puno djevojčic-a* ‘many girls’, *krevet-a* ‘beds’, *prozor-a* ‘windows’, *kuć-a* ‘houses’, *tanjur-a* ‘plates’, *jabuk-a* ‘apples’). They are actually grammatically correct forms, but not nominative plurals as required for the assessment procedure. Instead of finishing the sentence ‘There are ...’ with the nominative plural marker, Ivan basically applies another strategy to fulfill the task, namely by producing correct forms with the adverb *many*. These kinds of strategies, however, appear in monolingual children as well.

The 3 other forms (14%) from the second tp that appear only once are somewhat different: 1. *tri jaje* ‘three eggs’ which is syntactically incorrect, since *tri* ‘three’ requires the genitive singular in Croatian (*tri jajeta* ‘three eggs’), thereby generalizing the productive feminine -e plural to a neuter noun; 2. again, the adverb *puno* ‘many’ in *puno prozor-a* ‘many windows’ with the syntactically and morphotactically correct genitive singular; 3. he uses an incorrect term for the picture

¹⁷ ‘Other forms’ are non-plural forms pertaining to other morphological categories or simply terms in the other language.

¹⁸ The distinction between incorrect zero plurals and incorrect singular repetitions is made, since Croatian does not have zero plurals like German, consequently only a repetition of the singular form is possible in Croatian, while German utterances may imply the use of zero plurals.

depicting ‘children’ (*djeca*), namely **dječak-e* instead *dječaci* ‘boys’, again with an incorrect -e suffixation instead of a masculine -i suffixation. Yet, due to Croatian morphological palatalization, the consonant /k/ at the end of *dječak* ‘boy’ is required to be transformed into a /č/ (*dječac-i* ‘boys’ – before the masculine plural -i, but not before the feminine plural -e).

When looking more thoroughly at Ivan’s **Croatian results in PET**, Table 25 gives an overview of all produced plural items. At age 3;6, Ivan produces 4 correct forms (19%), 9 incorrect singular repetitions (43%), and 2 overgeneralizations (9%) in Croatian. The two latter forms are illustrated with their target plural form in parentheses. His four correct plural forms are mostly -e feminine plurals (*mačk-e* ‘cats’; *ptic-e* ‘birds’; *pidžam-e* ‘pyjamas’) and one -a neuter plural (*sel-a* ‘villages’). Most forms, however, remain in singular (43%), while the rest consists of overt plural overgeneralizations (9%) and other forms (29%). For the two plural overgeneralizations (*vlak-a* ‘trains’; *miš-a* ‘mice’), he uses an incorrect -a neuter plural for the two masculine nouns (*vlak-ovi* ‘trains’, *miš-evi* ‘mice’) that are unproductive and rare, and known as so-called long plurals (vs. short plurals) due to their prolongation -ov- or -ev-, which is morphologically more complex and less frequent (Samardžija, 1988).

At the following time point at age 4;9, he produces 9 overt plural overgeneralizations (43%), where he appears to be in a subsequent developmental phase of plural production after the year before, by largely replacing omission with commission, insofar as all overgeneralizations are incorrect -e plural forms, which are the only productive plurals of feminine nouns. All correct forms are likewise feminine -e plurals, which indicates that Ivan is using a productive pattern of -e plurals to construct plurals.

Table 25 All plural forms Ivan produced in Croatian PET in both time points (in parentheses correct target forms)

CROATIAN PET			
	Correct PL	Incorrect SG repetition	Overt PL overgeneralization
IVAN 3;6 YEARS (1ST TP)	<i>mačk-e</i> ‘cats’ <i>ptic-e</i> ‘birds’ <i>pidžam-e</i> ‘pyjamas’ <i>sel-a</i> ‘villages’	<i>dijete</i> ‘child’ – (<i>djec-a</i>) <i>avion</i> ‘plane’ – (<i>avion-i</i>) <i>jaje</i> ‘egg’ – (<i>jaj-a</i>) <i>tigar</i> ‘tiger’ – (<i>tigr-ovi</i>) <i>šešir</i> ‘hat’ – (<i>šešir-i</i>) <i>brod</i> ‘ship’ – (<i>brod-ovi</i>) <i>polje</i> ‘field’ – (<i>polj-a</i>) <i>srce</i> ‘heart’ – (<i>src-a</i>) <i>zec</i> ‘rabbit’ – (<i>zeč-evi</i>)	<i>vlak-a</i> ‘trains’ – (<i>vlak-ovi</i>) <i>miš-a</i> ‘mice’ – (<i>miš-evi</i>)

IVAN 4;9 YEARS (2ND TP)	<i>djevojčic-e</i> 'girls'	<i>selo</i> 'village' – (<i>sel-a</i>)	<i>kreveť-e</i> 'beds' – (<i>kreveť-i</i>)
	<i>mac-e</i> 'kitties'	<i>polje</i> 'field' – (<i>polj-a</i>)	<i>vlak-e</i> 'trains' – (<i>vlak-ovi</i>)
	<i>ptic-e</i> 'birds'	<i>srce</i> 'heart' – (<i>src-a</i>)	<i>avion-e</i> 'planes' – (<i>avion-i</i>)
	<i>pidžam-e</i>		<i>tiger-e</i> 'tigers' – (<i>tigr-ovi</i>)
	'pyjamas'		<i>šešir-e</i> 'hats' – (<i>šešir-i</i>)
	<i>kuć-e</i> 'houses'		<i>tanjur-e</i> 'plates' – (<i>tanjur-i</i>)
	<i>jabuk-e</i> 'apples'		<i>brod-e</i> 'ships' – (<i>brod-ovi</i>)
			<i>miš-e</i> 'mice' – (<i>miš-evi</i>)
			<i>zec-e</i> 'rabbit' – (<i>zeč-evi</i>)

Ivan produces more incorrect forms during the second time point, since he yields ten overt plural overgeneralizations using *-e* plurals, while at the first tp, he has only two overgeneralizations. The two *-a* overgeneralizations (*vlak-a* 'trains'; *miš-a* 'mice') may, however, be influenced by his use of *puno* 'many' and an incorrect *-a* ending from genitive singular, which would be classified as test artefact. He helps himself with this compensating strategy during this first tp by using the adverb 'many' for six items in its correct form.

The table illustrates furthermore, the transition from omission to commission in Croatian plural acquisition. When looking at the column of incorrect singular repetitions (omission), the first tp at age 3;6 reveals a much higher use of different plural suffixations (masculine *-i*, *-ovi*, *-evi*; neuter *-a*) that are omitted, while at age 4;9 only neuter *-a* suffixations are omitted. At age 3;6, he replaces (commission) only two masculine plurals (long plurals *-ev-i*, *-ov-i*) with an overt *-a* suffixation, which is visible from his overt plural overgeneralizations in the table above. At age 4;9, commission errors increase, including different masculine plural target suffixations, which he overgeneralizes continuously with feminine *-e* suffixation. Thus, Ivan's progress consists in the second tp of three factors: 1. In using more correct forms, 2. In replacing often omission with commission, 3. In using less replacements of plurals by paraphrases (and with reduction of *puno* + Gen.Sg. in *-a* also the incorrect *-a* plurals vanish).

The following Table 26 illustrates the **German results in PET**. Ivan produces mainly incorrect zero plurals at both time points (1tp: 86% and 2tp: 71%), which is basically a repetition of the singular noun. At the first tp at age 3;6, Ivan's correct forms are solely the three zero plurals (*Teller-ø* 'plates'; *Fenster-ø* 'windows'; *Mädchen-ø* 'girls') that again are identical to noun singulars. No overt plural overgeneralizations are produced at the first tp.

During the second tp at age 4;9, he produces 5 correct forms (24%), adding to the 3 -ø plurals, one -e plural (*Stift-e* 'pens') and one -e plural with umlaut (*Bäll-e* 'balls'). Moreover, one overt overgeneralization is uttered, namely a productive form of an -e plural (*Bild-e* 'pictures') instead of a non-productive -er plural. It remains unclear, if this is some kind of interference with Croatian plural marking and thus a preference towards using -e plurals.

Table 26 All plural forms Ivan produced in German PET in both time points (in parentheses correct target forms)

GERMAN PET			
	Correct PL	Incorrect zero PL	Overt PL overgeneralization
IVAN 3;6 YEARS (1ST TP)	<i>Teller-ø</i> 'plates' <i>Fenster-ø</i> 'windows' <i>Mädchen-ø</i> 'girls'	<i>Ball</i> 'ball' – (<i>Bäll-e</i>) <i>Baby</i> 'baby' – (<i>Baby-s</i>) <i>Vogel</i> 'bird' – (<i>Vögel</i>) <i>Schneemann</i> 'snowman' – (<i>Schneemänn-er</i>) <i>Bild</i> 'picture' – (<i>Bild-er</i>) <i>Stift</i> 'pen' – (<i>Stift-e</i>) <i>Maus</i> 'mouse' – (<i>Mäus-e</i>) <i>Hase</i> 'rabbit' – (<i>Hase-n</i>) <i>Oma</i> 'grandma' – (<i>Oma-s</i>) <i>Apfel</i> 'apple' – (<i>Äpfel</i>) <i>Kuh</i> 'cow' – (<i>Küh-e</i>) <i>Zug</i> 'train' – (<i>Züg-e</i>) <i>Katze</i> 'cat' – (<i>Katze-n</i>) <i>Mantel</i> 'coat' – (<i>Mäntel</i>) <i>Schiff</i> 'ship' – (<i>Schiff-e</i>) <i>Pyjama</i> 'pyjama' – (<i>Pyjama-s</i>) <i>Haus</i> 'house' – (<i>Häus-er</i>) <i>Bett</i> 'bed' – (<i>Bett-en</i>)	
IVAN 4;9 YEARS (2ND TP)	<i>Bäll-e</i> 'balls' <i>Stift-e</i> 'pens' <i>Teller-ø</i> 'plates' <i>Fenster-ø</i> 'windows' <i>Mädchen-ø</i> 'girls'	<i>Baby</i> 'baby' – (<i>Baby-s</i>) <i>Vogel</i> 'bird' – (<i>Vögel</i>) <i>Schneemann</i> 'snowman' – (<i>Schneemänn-er</i>) <i>Maus</i> 'mouse' – (<i>Mäus-e</i>) <i>Hase</i> 'rabbit' – (<i>Hase-n</i>) <i>Oma</i> 'grandma' – (<i>Oma-s</i>) <i>Apfel</i> 'apple' – (<i>Äpfel</i>) <i>Kuh</i> 'cow' – (<i>Küh-e</i>) <i>Zug</i> 'train' – (<i>Züg-e</i>) <i>Katze</i> 'cat' – (<i>Katze-n</i>) <i>Mantel</i> 'coat' – (<i>Mäntel</i>) <i>Schiff</i> 'ship' – (<i>Schiff-e</i>) <i>Pyjama</i> 'pyjama' – (<i>Pyjama-s</i>) <i>Haus</i> 'house' – (<i>Häus-er</i>) <i>Bett</i> 'bed' – (<i>Bett-en</i>)	<i>Bild-e</i> 'pictures' – (<i>Bild-er</i>)

Ivan's data shows undoubtedly more omission errors (i.e. incorrect zero plurals) at age 3;6, but also at age 4;9, where he solely produces one commission error (i.e. overt overgeneralization). At the latter assessment, there is still a sizeable number of

omission errors, especially notable when comparing those results to his Croatian ones, where he produces much more commission errors during the same time point.

Ivan increases his correctness rate in both languages, yet, the two languages diverge to some extent. A clear difference between the two languages is evident, indicating a richer outcome in his Croatian PET assessments. His Croatian data shows much more incorrect singular repetitions (43%) at age 3;6, while one year later at age 4;9, he predominantly produces overt plural overgeneralizations (43%). Ivan's German data, on the other hand, reveals a high percentage of incorrect zero plurals at both time points (86% and 71%), while there is only one (5%) overt overgeneralization. Judging only from these numbers, Ivan is struggling with correct plural production in Croatian at age 4;9, and simply repeating singular items in German. However, the possibility of repeating the singular form is enhanced by the existence of zero plurals in German but not in Croatian. According to Korecky-Kröll (2011, p. 244–246) zero plurals may be an overgeneralization due to the fact that the Viennese dialect uses zero plurals more often than the standard.

When now comparing these results with **spontaneous speech data**, the actual linguistic skills of children become evident. Table 27 provides an overview of both: the number of spontaneous plural production in all four recordings at home for Croatian and at preschool for German, and as a comparison, the number of correct forms, incorrect zero plurals or singular repetitions, and overt plural overgeneralizations obtained on the elicitation task at the second and fourth time point, which is comparable to the plural overview by Korecky-Kröll et al. (2018b, p. 37). Only intended nominative plural forms are considered for being compared with the intended nominative plural forms of PET. Other spontaneous plural case forms will be compared in the concluding section 1.1.1.5. This holds also for the three other children.

In general, very little types of intended nominative plural nouns are recorded during spontaneous speech interactions at home at four time points (0; 1; 3; 1 correct plural forms), as visible from Table 27. However, they are mostly correct plural forms. Less plurals are produced in the Croatian spontaneous speech recordings at home than in the German ones in preschool. In total, the Croatian data counts 5 plural forms in all four recordings taken together, while the German data counts 28 plural forms. German plural production during spontaneous speech, especially at the third and

fourth tp (9 and 11 correct plural forms), is furthermore diverging to the results obtained on the elicitation task.

When looking at the spontaneously produces overgeneralizations, Ivan produces one spontaneous overt plural overgeneralization in Croatian, which is similar to those from the elicitation task with an incorrect -e suffixation for a masculine noun (**aut-e* instead *aut-i* ‘cars’). In his German data, he utters one commission error at the last recording, using the most productive feminine plural, an -en suffixation (always without umlaut) for a non-productive -e + U plural (**Maus-en* instead *Mäus-e* ‘mice’, which is a feminine noun).

Table 27 Ivan’s results on spontaneous and elicited plural production at all four time points (TP) for Croatian and German

Correct plurals					
	CRO	GER		CRO	GER
spontaneous			elicitation		
1 TP	0	2			
2 TP	1	4	2 TP	4	3
3 TP	3	9			
4 TP	1	11	4 TP	6	5
Incorrect singular repetitions / zero plurals					
	CRO	GER		CRO	GER
spontaneous			elicitation		
1 TP	0	0			
2 TP	0	0	2 TP	9	18
3 TP	0	0			
4 TP	0	1	4 TP	3	15
Overt overgeneralizations					
	CRO	GER		CRO	GER
spontaneous			elicitation		
1 TP	0	0			
2 TP	1	0	2 TP	2	0
3 TP	0	0			
4 TP	0	1	4 TP	9	1

The higher use of German plurals in spontaneous speech may be explained by the different play situations in preschool requiring more plurals and possibly by the influence of other preschoolers and the kindergartners. Plural use in Croatian spontaneous speech is in general rare, which may indicate an omitting strategy of

plurals in Croatian due to insecurity in plural use. However, Table 27 shows only nominative plurals in Croatian. Croatian case marking is morphologically rich in plurals, and plurals are used by the child in other cases (i.e. 5 accusative plurals, 1 locative plural) as well. Therefore, these plural forms have to be considered as well, when comparing results of Croatian and German plural production.

Nonetheless, the more important spontaneous production consists in both languages nearly only of correct plurals, which means at least that Ivan produces spontaneously rote-learned plurals. In the more formal test situations, which appeal to metalinguistic skills, Ivan has first difficulties in Croatian, but not in German, to distinguish between plural formation and the paraphrase 'many', but in the second tp he passes much better in Croatian than in German from the omission to the commission phase. This is probably due to 1. the existence of (frequent and productive) zero plurals only in German. 2. the easier identification of Croatian productive feminine -e plurals than of German productive classes, the probable reason for chaotic commissions in German and systematic commissions in Croatian, which fits to an at least tendential avoidance strategy in Croatian.

Ivan appears to be more involved in his Croatian plural production, when looking at his increase of commission errors on the PET, while German PET results show hardly any progress. Therefore, his Croatian plural production skills can be interpreted as more advanced than his German ones, which shows imbalanced language skills regarding research question (1B).

The following situation reports a conversation at 4;9 years during a book-reading situation recorded at preschool with Ivan; Anđi, his preschool friend; and the experimenter EX1. The experimenter is reading a book to the children, where they start a conversation about how many mice were on the picture. This example illustrates how children already at age 4;9 possess meta-linguistic awareness and are able to explain the difference of singular and plural with the necessity to use the plural form for two mice and *when it's ten, then it's also mice*.

*Ivan: *Maus.*
Mouse.

*Anđi: *nein Mäuse.*
No, mice.

*EX1: *zwei Mäuse sogar.*
Two mice even.

*EX1: *ja.*
Yes.

*Ivan: *nein, Maus.*
No, mouse.

*Andi: *Mäuse.*
Mice.

*EX1: *Mäuse +//.*
Mice.

*EX1: *sehr gut Andi.*
Very good, Andi.

*EX1: *ja, weil es ja zwei sind, oder?*
Yes, because there are two of them, right?

*Ivan: *auch Maus.*
Also mouse.

*EX1: *auch Maus, ja.*
Also mouse, yes.

*Ivan: *wenn es +//.*
If there is ...

*Ivan: *+, wenn es eine Maus ist +//.*
... if there is one mouse ...

*Ivan: *dann ist es Maus.*
Then it's mouse.

*EX1: *und wenn es zwei sind?*
And when there are two?

*EX1: *wie ist es dann?*
What is it then?

*Ivan: *Mäuse.*
Mice.

*EX1: *perfekt!*
Perfect!

*Ivan: *und auch wenn es zehn [*] +//.*
And when it's ten ...

*Ivan: *dann sind es auch Mäuse.*
Then it's also mice.

This spontaneously recorded sequence indicates, how bilingual children are well aware of grammatical concepts at an early age.

6.1.2.2 Results of case study 2 – Ana

Ana's results on receptive grammar skills are demonstrated in Table 28 for both languages. Her raw score in Croatian is 1 at age 3;3 and 5 at age 4;7, which has a standard score of 96 and the 39th centile of Croatian monolingual peers. The German data reveals a raw score of 3 at age 3;3 with a t-score of 45 and the 31st centile. At age 4;7, she reaches a raw score of 5 with a t-score of 41 and the 18th centile of monolingual children. What stands out in the table are her high scores in both languages, especially at the second assessment at age 4;7, where she attains comparable results to monolingual peers in Croatian (age equivalent 4;5), and German with a t-score of 41 (50 points is the age-specific mean value of monolinguals).

Table 28 Ana's results on TROG for Croatian and German at age 3 and 4

Language	Age	Raw score	Standard score	t-score	Centile	Age equivalent	Age-specific average t-score
Croatian	3;3	1					
	4;7	5	96	-	39	4;5	
German	3;3	3	-	45	31	-	50 ^{+/-10}
	4;7	5	-	41	18	-	50 ^{+/-10}

Ana's balanced receptive grammar skills can be compared to Ivan's TROG results. One possible explanation could be the number of different native speakers in both languages. The number of peers in preschool with Bosnian, Croatian, or Serbian as their heritage language rises from 8/19 to 13/20 from the first time point to the next one a year later. Indicating that the exposure to Croatian – or another similar heritage language as Bosnian or Serbian – is given in preschool as well. Interestingly, Ana's two out of three best friends in preschool speak Croatian and Bosnian as their heritage language. The use of Croatian between the girls was observed during the evaluation, yet, due to the limitations of this study, it was not possible to determine the extent of Croatian use between the children in the group. Contrary to the general assumption of higher skills in one language than the other, Ana's peers may influence her Croatian skills, which is in this case the minority language. Additionally, her older siblings may have an impact on the majority language German, since they preferably use German at home. This was observed by other scholars as well (e.g. Bridges & Hoff, 2014a). A similar assumption can be drawn to Ivan's results.

Plural production

The results from the plural elicitation task are summarized in Table 29 for Croatian and German for both time points at age 3;3 and 4;7. In her first Croatian plural elicitation, Ana produces 7 correct plurals (34%), 11 incorrect singular repetitions (52%), and 3 overt overgeneralizations (14%), while she produces much more overt plural overgeneralizations one year later, namely 7 overt plural overgeneralizations (34%). The correct plural forms decrease from 34% to 14% at age 4;7. Furthermore, she utters 4 other forms (18%) that are not suitable for neither of the three categories.

The German elicited plurals, however, embody only two overgeneralizations (9%) at the first evaluation at age 3;3, and other than that plural development shows a consistency in increase. From the first to second plural elicitation, correct plurals forms

increased from 5 (24%) correct forms to 11 (52%), while the incorrect zero plurals decreased from 14 (67%) at age 3;3 to 10 (48%) at age 4;7.

When looking at the correctness rate for both languages, Ana's correct plural forms decrease in Croatian from 34% to 14%, while they increase in German from 24% to 52%. Ana's results show much more overt plural overgeneralizations and other forms of plural in Croatian than in German, especially during the second tp.

Table 29 Ana's elicited plural results at age 3 and 4 for Croatian and German

Child	Category	Croatian		German	
		1 st tp 3;3 years	2 nd tp 4;7 years	1 st tp 3;3 years	2 nd tp 4;7 years
Ana	Correct PL	7 (34%)	3 (14%)	5 (24%)	11 (52%)
	Incorrect SG repetitions /zero PL	11 (52%)	7 (34%)	14 (67%)	10 (48%)
	Overt PL overgen.	3 (14%)	7 (34%)	2 (9%)	0
	Other forms	-	4 (18%)	-	-

She produces four 'other forms' that are not applicable to neither of the three categories of the table: Ana uses the German word *Teller* 'plates' (with the correct German zero plural); *kap-e* 'caps' instead of 'hats'; a diminutive with an incorrectly overgeneralized -e plural (**krevet-ić-e* instead *krevet-ić-i* 'beds-DIM') instead of masculine -i plural; and a child-specific legal neologism, a diminutive *jaj-ićke* 'eggs-DIM' instead of *jaj-a* 'eggs'.

Table 30 illustrates in detail all **Croatian PET** plural forms produced during the first and second tp. At age 3;3 Ana produces only -e feminine plurals correctly and follows the same pattern in her overgeneralizations with productive feminine -e plurals (*krevet-e* 'beds'; *prozor-e* 'windows') instead of masculine -i suffixation. Moreover, she produces one incorrect form using genitive plural *djec-e* 'children' instead of the neuter collective noun plural *djec-a* 'children', again with an -e suffixation. One year later at age 4;7, Ana produces only three correct forms, all with a feminine -e plural (*mac-e* 'kitties', *pidžam-e* 'pyjamas', *jabuk-e* 'apples'), which she applies in half of her overt overgeneralizations (*avion-e* 'planes', *tig-e* 'tigers', *brod-e* 'ships', *sel-e* 'village'). The other three overt plural overgeneralizations are diverging. In one case she uses an incorrect masculine -i plural (*djevojčic-i* 'girls') instead of a feminine -e plural, which is odd, since she seems to a preference in overgeneralizing -e plurals. Finally, Ana is overgeneralizing the masculine plural suffixation -evi into *miš-ove* 'mice' by adapting again, but only partially to the only productively used plural pattern, and *zec-ovi* 'rabbits', presumably because -ovi is more frequent than -evi.

Table 30 All plural forms Ana produced in Croatian PET in both time points (in parentheses correct target forms)

CROATIAN PET			
	Correct PL	Incorrect SG repetition	Overt PL overgeneralization
ANA 3;3 YEARS (1ST TP)	<i>djevojčic-e</i> 'girls' <i>mac-e</i> 'kitties' <i>ptic-e</i> 'birds' <i>pidžam-e</i> 'pyjamas' <i>kuć-e</i> 'houses' <i>jabuk-e</i> 'apples' <i>sel-a</i> 'villages'	<i>vlak</i> 'trains' – (<i>vlak-ovi</i>) <i>avion</i> 'plane' – (<i>avion-i</i>) <i>jaje</i> 'egg' – (<i>jaj-a</i>) <i>tigar</i> 'tiger' – (<i>tigr-ovi</i>) <i>šešir</i> 'hat' – (<i>šešir-i</i>) <i>tanjur</i> 'plate' – (<i>tanjur-i</i>) <i>brod</i> 'ship' – (<i>brod-ovi</i>) <i>polje</i> 'field' – (<i>polj-a</i>) <i>miš</i> 'mouse' – (<i>miš-evi</i>) <i>srce</i> 'heart' – (<i>src-a</i>) <i>zec</i> 'rabbit' – (<i>zeč-evi</i>)	<i>krevet-e</i> 'beds' – (<i>krevet-i</i>) <i>djec-e</i> 'children' – (<i>djec-a</i>) <i>prozor-e</i> 'windows' – (<i>prozor-i</i>)
ANA 4;7 YEARS (2ND TP)	<i>mac-e</i> 'kitties' <i>pidžam-e</i> 'pyjamas' <i>jabuk-e</i> 'apples'	<i>dijete</i> 'child' – (<i>djec-a</i>) <i>vlak</i> 'train' – (<i>vlak-ovi</i>) <i>ptica</i> 'bird' – (<i>ptic-e</i>) <i>prozor</i> 'window' – (<i>prozor-i</i>) <i>kuć-ica</i> 'little house' – (<i>kuć-e</i>) <i>polje</i> 'field' – (<i>polj-a</i>) <i>srce</i> 'heart' – (<i>src-a</i>)	<i>djevojčic-i</i> 'girls' – (<i>djevojčic-e</i>) <i>avion-e</i> 'planes' – (<i>avion-i</i>) <i>tig-e</i> 'tigers' – (<i>tigr-ovi</i>) <i>brod-e</i> 'ships' – (<i>brod-ovi</i>) <i>sel-e</i> 'villages' – (<i>sel-a</i>) <i>miš-ove</i> 'mice' – (<i>miš-evi</i>) <i>zec-ovi</i> 'rabbits' – (<i>zeč-evi</i>)

Ana's column of correct forms indicates a higher correctness rate during the first tp, which shows that she is more advanced in her plural production than Ivan during the same tp, since she is not using adverb *puno* 'many' as a compensating strategy.

When looking specifically at omission (i.e. singular repetitions) and commission (i.e. overgeneralization) errors, it is evident that commission errors increase with age, using different overt overgeneralizations like long plural endings (-ove, -ovi), but also -e and -i suffixations, while the year before only overt -e suffixations are used predominantly. Consequently, omission errors decrease with age, avoiding mainly neuter -a endings at age 4;7, while the year before, she omits mostly long masculine plurals (-ovi, -evi), but also masculine -i plurals and neuter -a.

The **German PET results** are illustrated in the following Table 31. Ana's elicitation outcome shows a constant growth of correct plural forms. At age 3;3 Ana produces 5 correct forms (24%) and one year later 11 correct forms (52%). Her zero incorrect forms decrease from 67% to 48%. Furthermore, she only produces two overt plural overgeneralizations and only at the first tp, and both with an productive -e plural (*Ball-*

e 'balls', *Bild-e* 'pictures'), instead of -e plural with umlaut (*Bäll-e* 'balls') and non-productive -er plural (*Bild-er* 'pictures').

Table 31 All plural forms Ana produced in German PET in both time points (in parentheses correct target forms)

GERMAN PET			
	Correct PL	Incorrect zero PL	Overt PL overgeneralization
ANA 3;3 YEARS (1ST TP)	<i>Stift-e</i> 'pens' <i>Teller-∅</i> 'plates' <i>Oma-s</i> 'grandmas' <i>Fenster-∅</i> 'windows' <i>Mädchen-∅</i> 'girls'	<i>Baby</i> 'baby' – (<i>Baby-s</i>) <i>Vogel</i> 'bird' – (<i>Vögel</i>) <i>Schneemann</i> 'snowman' – (<i>Schneemann-er</i>) <i>Maus</i> 'mouse' – (<i>Mäus-e</i>) <i>Hase</i> 'rabbit' – (<i>Hase-n</i>) <i>Apfel</i> 'apple' – (<i>Äpfel</i>) <i>Kuh</i> 'cow' – (<i>Küh-e</i>) <i>Zug</i> 'train' – (<i>Züg-e</i>) <i>Katze</i> 'cat' – (<i>Katze-n</i>) <i>Mantel</i> 'coat' – (<i>Mäntel</i>) <i>Schiff</i> 'ship' – (<i>Schiff-e</i>) <i>Pyjama</i> 'pyjama' – (<i>Pyjama-s</i>) <i>Haus</i> 'house' – (<i>Häus-er</i>) <i>Bett</i> 'bed' – (<i>Bett-en</i>)	<i>Ball-e</i> 'balls' – (<i>Bäll-e</i>) <i>Bild-e</i> 'pictures' – (<i>Bild-er</i>)
ANA 4;7 YEARS (2ND TP)	<i>Bäll-e</i> 'balls' <i>Baby-s</i> 'babies' <i>Bild-er</i> 'pictures' <i>Stift-e</i> 'pens' <i>Teller-∅</i> 'plates' <i>Hase-n</i> 'rabbits' <i>Oma-s</i> 'grandmas' <i>Schiff-e</i> 'ships' <i>Fenster-∅</i> 'windows' <i>Pyjama-s</i> 'pyjamas' <i>Mädchen-∅</i> 'girls'	<i>Vogel</i> 'bird' – (<i>Vögel</i>) <i>Schneemann</i> 'snowman' – (<i>Schneemann-er</i>) <i>Maus</i> 'mouse' – (<i>Mäus-e</i>) <i>Apfel</i> 'apple' – (<i>Äpfel</i>) <i>Kuh</i> 'cow' – (<i>Küh-e</i>) <i>Zug</i> 'train' – (<i>Züg-e</i>) <i>Katze</i> 'cat' – (<i>Katze-n</i>) <i>Mantel</i> 'coat' – (<i>Mäntel</i>) <i>Haus</i> 'house' – (<i>Häus-er</i>) <i>Bett</i> 'bed' – (<i>Bett-en</i>)	

Ana shows a high increase in correct forms from the first to the second tp. While she uses only three different plural markers (-∅, -e, -s) for the correct plural forms at the first tp, she uses six different ones (-e +U, -∅, -e, -s, -er, -(e)n) at the second tp. The German PET reveals much more omission errors than Croatian PET, at both time points. However, two commission errors are produced at the first tp, instead of an -e + U plural and an -er plural, while correct forms are predominant at the second tp.

Plural results on spontaneous speech are compared to the PET results in Table 32. The test results differ to some degree from the spontaneous productions, specifically that many more incorrect zero plurals are obtained during elicitation, while overgeneralizations are rare in both types of situation. In her spontaneous production Ana produces almost exclusively correct plurals, as visible from Table 32. The total

number of spontaneously produced plurals for the whole data set in Croatian is 15 and in German 26. The majority are correct forms for both languages, while only two incorrect zero plurals are produced in German. These two omission errors in German spontaneous speech are too few for deciding whether they are due to the existence of zero plurals in German, while Croatian lacks zero plural markers. Moreover, Ana produces respectively one overt plural overgeneralization in both languages. Both overt plural overgeneralizations are produced at the second time point.

In Croatian she uses an incorrect *-e* suffixation for a masculine noun (**tanjur-e* instead *tanjur-i* ‘plates’). In German she uses an additional *-n* suffixation (very restricted for masculines) for a weakly productive *-e + U* plural (**Füß-en* instead *Füß-e* ‘feet’). In monolingual Austrian German-speaking children aged between 2;6 and 6 years the most frequent commission error was *-(e)n* suffixation after *-e* suffixation in a much later test situation (Laaha et al., 2006, p. 296), whereas in early phases of spontaneous production both suffixations were the earliest and most frequent ones.

Table 32 Ana’s results on spontaneous and elicited plural production at all four time points (TP) for Croatian and German

Correct plurals					
	CRO	GER		CRO	GER
spontaneous			elicitation		
1 TP	3	7			
2 TP	5	11	2 TP	7	5
3 TP	4	4			
4 TP	3	1	4 TP	3	11
Incorrect singular repetitions / zero plurals					
	CRO	GER		CRO	GER
spontaneous			elicitation		
1 TP	0	1			
2 TP	0	1	2 TP	11	14
3 TP	0	0			
4 TP	0	0	4 TP	7	10
Overt overgeneralizations					
	CRO	GER		CRO	GER
spontaneous			elicitation		
1 TP	0	0			
2 TP	1	1	2 TP	3	2
3 TP	0	0			
4 TP	0	0	4 TP	7	0

It is apparent from Table 32 that Ana produces a considerable number of correct plurals in her spontaneous speech recordings of both languages – especially when comparing to the other children – whereas almost no omission (i.e. incorrect zero plurals) or commission errors (i.e. overt overgeneralizations). Her spontaneous speech in Croatian, however, contains additional plural case markings as well (i.e. 16 accusative and 5 genitive plurals), predominantly in feminine nouns, requiring -e suffixations (feminine -e plural suffixations have the same ending in nominative and accusative plural).

Nevertheless, PET results in Croatian reveal that she uses different (overgeneralized) suffixations to build plurals, not only -e suffixations. Taken together, these results suggest that there is a divergence between spontaneous production and elicitation as proposed in research question (1C). Additionally, Korecky-Kröll et al. (2018b) found parallel to these results that German L1 and L2 children in their study showed higher error rates in the elicitation task than in spontaneous speech production. Due to the fact that elicitation tasks are only a momentary record, which require an immediate answer, avoidance strategies are more difficult to execute than in spontaneous speech. A testing situation can hardly be as accurate as the spontaneous production to monitor children's linguistic skills according to the results obtained here, which holds for all children in this study.

Moreover, the PET results show a progress in both languages, while in Croatian increasing commission errors (which is a sign of progress), Ana utters more correct forms in German by the second tp. Yet, judging from these results, it is difficult to detect a clear dominance of one language or the other in plural production skills. Therefore, in regard to research question (1B), Ana's plural production skills can be interpreted as continuously increasing in both languages.

6.1.2.3 Results of case study 3 – Marko

Marko's results for Croatian receptive grammar are obtained with TROG-2:HR at age 3;3 and 4;6 years. He scores higher at age 3;3 (raw score 2), than he does at age 4;6 (raw score 1). Results in Croatian show poor performance when comparing the two time points to each other. The same can be concluded when comparing his results to those of the other children. The German results, on the other hand, increase notably (see Table 33): his raw score on TROG-D at age 4;6 is 9, the t-score is 57, and the

centile is 77, which is, compared to monolingual norms, a rather high result (at age 3;4: raw score 2; t-score 41; centile 17).

Table 33 Marko's results on TROG for Croatian and German at age 3 and 4

<i>Language</i>	<i>Age</i>	<i>Raw score</i>	<i>Standard score</i>	<i>t-score</i>	<i>Centile</i>	<i>Age equivalent</i>	<i>Age-specific average t-score</i>
<i>Croatian</i>	3;3	2					
	4;6	1	80	-	9	<4;0	
<i>German</i>	3;4	2	-	41	17		50 ^{+/-10}
	4;6	9	-	57	77		50 ^{+/-10}

The results on receptive grammar show a much higher proficiency in German than in Croatian, which can be explained with his high exposure to the German language at home and in preschool at age 4;6. He spends on average nine hours a day in preschool and during that time, German becomes his dominant language. One year earlier, he spent six hours a day in preschool. The weaker language, which is Croatian in this case, would require more reliable measures for input quality and quantity as many scholars emphasize (e.g. La Morgia, 2011; Unsworth, 2013a; Unsworth et al., 2014).

Studies gathered so far on the weaker language of bilinguals show a higher production of norm-deviant forms than among monolinguals and balanced bilinguals (e.g. Bonnesen, 2009; Döpke, 2001; La Morgia, 2011; Schlyter & Hakansson, 1994). However, this assumption would require further analysis of Marko's speech. Yet, morpho-syntactic differences in 2L1 speakers are quite frequent (e.g. Gathercole, 2002b, 2002a; Unsworth, 2013a).

Plural production

Similarly to his other results, Marko's plural production in Croatian shows a different picture than for German: a comparison of correct plural production on the PET reveals only 1 correct form (5%) for both time points in Croatian, whereas German PET displays 3 correct items (14%) at age 3;4, and 12 correct items (57%) at age 4;6. The results for Croatian plural productions are at both time points identical in each category, namely 17 incorrect singular repetitions (81%), 2 overt plural overgeneralizations (9%) and 1 (5%) other form, and show no progress. German results, on the other hand, show a clear growth: Marko produces 18 incorrect zero plurals (86%) but reduces them

to 6 (29%) within one year. At age 4;6 he utters 3 overt plural overgeneralizations (14%).

Table 34 Marko's elicited plural results at age 3 and 4 for Croatian and German

Child	Category	Croatian		German	
		1 st tp 3;3 years	2 nd tp 4;6 years	1 st tp 3;4 years	2 nd tp 4;6 years
Marko	Correct PL	1 (5%)	1 (5%)	3 (14%)	12 (57%)
	Incorrect SG repetitions /zero PL	17 (81%)	17 (81%)	18 (86%)	6 (29%)
	Overt PL overgen.	2 (9%)	2 (9%)	0	3 (14%)
	Other forms	1 (5%)	1 (5%)	-	-

The two 'other forms' from both elicitations in Croatian are in both cases two (correctly pluralized) German words: at the first time point, he uses the German word *Tiere* 'animals' for the item depicting the rabbit; at the second time point, he uses the German plural form *Katzen* 'cats' (instead of *mačk-e* 'cats').

Table 35 bellow lists in detail all **Croatian PET results**. The two correct plural forms in Croatian are at the first time point *jaj-a* 'eggs' and at the second one *djec-a* 'children' (see Table 35), which is in both cases the neuter -a plural, both clearly rote-learned forms of these plural-dominant words. The two overt plural overgeneralizations, on the other hand, are at both time points incorrect -e suffixations, namely for the first elicitation *krevet-e* 'beds' and *vlak-e* 'trains', and for the second elicitation *tanjur-e* 'plates' and *brod-e* 'ships'. The huge rest are incorrect singular repetitions.

Table 35 All plural forms Marko produced in Croatian PET in both time points (in parentheses correct target forms)

CROATIAN PET			
	Correct PL	Incorrect SG repetitions	Overt PL overgeneralization
MARKO 3;3 YEARS (1ST TP)	<i>jaj-a</i> 'eggs'	<i>djevojčica</i> 'girl' – (<i>djevojčic-e</i>) <i>maca</i> 'kitty' – (<i>mac-e</i>) <i>dijete</i> 'child' – (<i>djec-a</i>) <i>ptica</i> 'bird' – (<i>ptic-e</i>) <i>avion</i> 'plane' – (<i>avion-i</i>) <i>prozor</i> 'window' – (<i>prozor-i</i>) <i>pidžama</i> 'pyjama' – (<i>pidžam-e</i>) <i>tigar</i> 'tiger' – (<i>tigr-ovi</i>) <i>šešir</i> 'hat' – (<i>šešir-i</i>) <i>kuća</i> 'house' – (<i>kuć-e</i>) <i>tanjur</i> 'plate' – (<i>tanjur-i</i>) <i>jabuka</i> 'apple' – (<i>jabuk-e</i>)	<i>krevet-e</i> 'beds' – (<i>krevet-i</i>) <i>vlak-e</i> 'trains' – (<i>vlak-ovi</i>)

		<i>brod</i> 'ship' – (<i>brod-ovī</i>) <i>selo</i> 'village' – (<i>sel-a</i>) <i>polje</i> 'field' – (<i>polj-a</i>) <i>miš</i> 'mouse' – (<i>miš-evī</i>) <i>srce</i> 'heart' – (<i>src-a</i>)	
MARKO 4;6 YEARS (2ND TP)	<i>djec-a</i> 'children'	<i>djevojčica</i> 'girl' – (<i>krevet-i</i>) <i>krevet</i> 'bed' – (<i>krevet-ī</i>) <i>vlak</i> 'train' – (<i>vlak-ovī</i>) <i>ptica</i> 'bird' – (<i>ptic-e</i>) <i>avion</i> 'plane' – (<i>avion-ī</i>) <i>jaje</i> 'egg' – (<i>jaj-a</i>) <i>prozor</i> 'window' – (<i>prozor-ī</i>) <i>pidžama</i> 'pyjama' – (<i>pidžam-e</i>) <i>tigar</i> 'tiger' – (<i>tigr-ovī</i>) <i>šešir</i> 'hat' – (<i>šešir-ī</i>) <i>kuća</i> 'house' – (<i>kuć-e</i>) <i>jabuka</i> 'apple' – (<i>jabuk-e</i>) <i>selo</i> 'village' – (<i>sel-a</i>) <i>polje</i> 'field' – (<i>polj-a</i>) <i>miš</i> 'mouse' – (<i>miš-evī</i>) <i>srce</i> 'heart' – (<i>src-a</i>) <i>zec</i> 'rabbit' – (<i>zeč-evī</i>)	<i>tanjur-e</i> 'plates' – (<i>tanjur-ī</i>) <i>brod-e</i> 'ships' – (<i>brod-ovī</i>)

Makro's omission and commission errors in Croatian reveal an earlier omitting strategy due to lacking grammar development, which are particularly underlined by the majority of omission errors in test items, when repeating singular nouns. Commission errors are at both time points by overgeneralizing -e suffixation at the cost of masculine plural nouns (-i and -ovī), thus even his few but systematic commission errors point to an identification of this productive pluralization pattern, but not yet to a really productive use, particularly in view of not using it for the six feminine words ending in (the erroneously repeated) singular -a.

Marko's **German PET results** at the first tp at age 3;4 show 3 correct plurals (14%), which are the zero plural items of the task (*Teller-∅* 'plates', *Fenster-∅* 'windows', *Mädchen-∅* 'girls'), while the rest (86%) are incorrect zero plurals or simply repetitions of the singular noun. The second tp at age 4;6 consists of 12 (57%) correct plural forms, including 5 different plural markers as displayed in Table 36. At the second tp, Makro produces only 6 incorrect zero plurals (29%), but overgeneralizes 3 other plurals (14%), all with a non-productive -n plural marker for neuter (*Bild-n* 'pictures', *Haus-n* 'houses') and masculine (*Zug-n* 'trains') nouns. The -n suffixation appears here for non-productive patterns of -er + *Umlaut* (*Häus-er* 'houses'), -e + *Umlaut* (*Züg-e* 'trains'), as well as for a -er (*Bild-er* 'pictures') plurals from a not-umlautable noun.

Table 36 All plural forms Marko produced in German PET in both time points (in parentheses correct target forms)

GERMAN PET			
	Correct PL	Incorrect zero PL	Overt PL overgeneralization
MARKO 3;4 YEARS (1ST TP)	<i>Teller-Ø</i> 'plates' <i>Fenster-Ø</i> 'windows' <i>Mädchen-Ø</i> 'girls'	<i>Baby</i> 'baby' – (<i>Baby-s</i>) <i>Stift</i> 'pen' – (<i>Stift-e</i>) <i>Ball</i> 'ball' – (<i>Bäll-e</i>) <i>Bild</i> 'picture' – (<i>Bild-er</i>) <i>Oma</i> 'grandma' – (<i>Oma-s</i>) <i>Vogel</i> 'bird' – (<i>Vögel</i>) <i>Schneemann</i> 'snowman' – (<i>Schneemänn-er</i>) <i>Maus</i> 'mouse' – (<i>Mäus-e</i>) <i>Hase</i> 'rabbit' – (<i>Hase-n</i>) <i>Apfel</i> 'apple' – (<i>Äpfel</i>) <i>Kuh</i> 'cow' – (<i>Küh-e</i>) <i>Zug</i> 'train' – (<i>Züg-e</i>) <i>Katze</i> 'cat' – (<i>Katze-n</i>) <i>Mantel</i> 'coat' – (<i>Mäntel</i>) <i>Schiff</i> 'ship' – (<i>Schiff-e</i>) <i>Pyjama</i> 'pyjama' – (<i>Pyjama-s</i>) <i>Haus</i> 'house' – (<i>Häus-er</i>) <i>Bett</i> 'bed' – (<i>Bett-en</i>)	
MARKO 4;6 YEARS (2ND TP)	<i>Bäll-e</i> 'balls' <i>Baby-s</i> 'babies' <i>Stift-e</i> 'pens' <i>Teller-Ø</i> 'plates' <i>Hase-n</i> 'rabbits' <i>Oma-s</i> 'grandmas' <i>Katze-n</i> 'cats' <i>Schiff-e</i> 'ships' <i>Fenster-Ø</i> 'windows' <i>Pyjama-s</i> 'pyjamas' <i>Mädchen-Ø</i> 'girls' <i>Bett-en</i> 'beds'	<i>Vogel</i> 'bird' – (<i>Vögel</i>) <i>Schneemann</i> 'snowman' – (<i>Schneemänn-er</i>) <i>Maus</i> 'mouse' – (<i>Mäus-e</i>) <i>Apfel</i> 'apple' – (<i>Äpfel</i>) <i>Kuh</i> 'cow' – (<i>Küh-e</i>) <i>Mantel</i> 'coat' – (<i>Mäntel</i>)	<i>Bild-n</i> 'pictures' – (<i>Bild-er</i>) <i>Zug-n</i> 'trains' – (<i>Züg-e</i>) <i>Haus-n</i> 'houses' – (<i>Häus-er</i>)

These commission errors together with the fact that all nouns which require an *-n* plural show it correctly, proves that Marko has acquired this plural pattern, though yet only in a still imperfect way, as is foreseen in Berman's (2004) multi-stage model of acquisition.

The developmental aspect of Marko's German plural production on the task shows a drastic increase in correct forms at the expense of omission errors. Commission errors are few and occur only at the second tp but show a systematic use of the productive *-n* suffixation which monolingual children prefer in the earliest phases. The most probable interpretation is that all his correct German plural forms

are rote-learned and that only after the first plural elicitation he has identified German plural and specifically one of the most productive patterns.

When now comparing **plural production** in **spontaneous speech** with those of the **elicitation task** one is surprised that he produces spontaneously solely correct forms. Marko articulates predominantly German plurals in his spontaneous speech of his home recordings, while his Croatian spontaneous plural production shows a poor outcome of only two correct plurals in the whole data set of his four spontaneous speech recordings at home. His German data set from preschool recordings reveals a total of 21 correct spontaneously produced plurals. Therefore, comparison of elicited task vs. spontaneous production is hardly possible due to the poor outcome, whereas the spontaneously produced Croatian plurals are too few for any additional statement. Also, the very few commission errors in his elicited plurals (pointing to an identification of productive -e plurals) find no correspondence in spontaneous speech.

Table 37 Marko's results on spontaneous and elicited plural production at all four time points (TP) for Croatian and German

Correct plurals					
	CRO	GER		CRO	GER
spontaneous			elicitation		
1 TP	1	1			
2 TP	1	5	2 TP	1	3
3 TP	0	9			
4 TP	0	6	4 TP	1	12
Incorrect singular repetitions / zero plurals					
	CRO	GER		CRO	GER
spontaneous			elicitation		
1 TP	0	0			
2 TP	0	0	2 TP	17	18
3 TP	0	0			
4 TP	0	0	4 TP	17	6
Overt overgeneralizations					
	CRO	GER		CRO	GER
spontaneous			elicitation		
1 TP	0	0			
2 TP	0	0	2 TP	2	0
3 TP	0	0			
4 TP	0	0	4 TP	2	3

One major reason for the lag of plural production in Croatian is due to the extensive amount of German speech in his home recordings. German plurals produced during the home recordings are omitted from analysis, since language assessments were limited to home assessments for Croatian and preschool assessments for German to make a language comparison of both languages possible (see chapter 5.3.3). Yet, Marko's clear preference towards using German at home becomes apparent especially at the two later time points (3rd tp, 4th tp), when Marko was 4 years old and the average of his total speech at home is 83% in German.

If we had only this spontaneous data, one could assume that all his plural are rote-learned forms. His data reveals that, contrary to the other children, he uses almost exclusively nominative plurals as visible from Table 37, and only one other plural case marking in accusative plural at age 3;0 (*bombon-e* 'candies'). Therefore, only the tests, which pose a more difficult problem than spontaneous production, indicate what progress Marko really appears to have achieved.

Ultimately, no clear conclusion on Marko's spontaneous Croatian plural production is possible, since hardly any plural forms are collected in his data. Given the scarcity of plural data, a much denser sample of spontaneous speech is necessary to get a holistic picture of his plural production. Yet, in regard to research question (1B) a clear dominance of German is evident.

6.1.2.4 Results of case study 4 – Filip

Filip's scores on the TROG test for receptive grammar show a similar picture at both time points for both languages. His raw score in Croatian is 2 at both testings, norm-referenced data of monolingual peers is, yet, only available from age 4. Therefore, at age 4;7, Filip reaches a standard score of 84, which is the 14th centile and consequently an age equivalent below 4;0 years of monolingual children. The results on German TROG show a stable t-score of 35 at both time points, which, however, is below the mean value of monolinguals (50 points +/-10), yet, an appropriate result for a bilingual child, since in bilinguals, both languages have to be considered (Bialystok et al., 2010; Hoff et al., 2012).

Table 38 Filip's results on TROG for Croatian and German at age 3 and 4

Language	Age	Raw score	Standard score	t-score	Centile	Age equivalent	Age-specific average t-score
Croatian	3;4	2					
	4;7	2	84	-	14	<4;0	
German	3;4	1	-	35	6		50 \pm 10
	4;7	3	-	35	7		50 \pm 10

The identical raw score (2) in the Croatian testing is difficult to explain, since the other assessments in addition to the spontaneous speech recordings indicate a growth in his Croatian language skills. Furthermore, compared to the other children, Filip is barely exposed to any language switching or mixing at his home environment (see chapter 6.3). His language exposure appears to be rather tightened to specific domains, namely the family domain as described by Fishman (2000), where he is only exposed to Croatian, and the preschool domain, where German is only spoken, according to the interview with his preschool teacher. Yet, the receptive grammar results in German appear to be rather stable throughout the time of the evaluation period. The Croatian results, on the other hand, seem quite odd compared to his receptive vocabulary results, where he scores rather high in the second time point at age 4;4. This may indicate that in Filip's case high scores in receptive vocabulary have no impact on receptive grammar outcomes, as described by Davidson et al. (2017), postulating that receptive vocabulary skills evoke better morpho-syntactic structures.

Plural production

Table 39 illustrates the results of Filip's plural production obtained on the PET in both of his languages at age 3;4 and 4;7. In contrast to the other children, his results in both languages are quite similar. He produces only 2 correct plurals (10%) at the first tp in Croatian as well as in German, but already 8 correct plurals (38%) at the next time point, a year later. The results on incorrect singular repetitions or zero plurals change reciprocally between the two time points: from 15 incorrect singular repetitions (70%) in Croatian and 16 incorrect zero plurals (76%) in German at the first tp, to 4 (19%) in Croatian and 3 incorrect zero plurals (14%) in German at the second tp.

In contrast, the overt plural overgeneralizations are furthermore quite different: at the first tp Filip produces 2 (10%) overt overgeneralizations in Croatian and increases them to 7 (33%) at the second tp, while in German, he produces 0 at the first

tp and increases them to 10 (48%) at the second tp. Two items in both of his Croatian evaluations were categorized as ‘other forms’, as well as three items in his first evaluation in German.

Table 39 Filip's elicited plural results at age 3 and 4 for Croatian and German

Child	Category	Croatian		German	
		1 st tp 3;4 years	2 nd tp 4;7 years	1 st tp 3;4 years	2 nd tp 4;7 years
Filip	Correct PL	2 (10%)	8 (38%)	2 (10%)	8 (38%)
	Incorrect SG repetitions /zero PL	15 (70%)	4 (19%)	16 (76%)	3 (14%)
	Overt PL overgen.	2 (10%)	7 (33%)	0	10 (48%)
	Other forms	2 (10%)	2 (10%)	3 (14%)	-

Filip's two other forms (10%) from the first tp in Croatian are identical. He uses twice the word *žen-e* ‘women’, once instead of ‘girls’ (target word *djevojčic-e*) and the second time instead of ‘children’ (target word *djec-a*). Consequently, he uses the correct form with feminine -e suffixation. At the second tp Filip's two other forms are two diminutives (*jaj-ce* ‘eggs-DIM’, *vlak-iće* ‘trains-DIM’), the first with a correct, the second with an incorrect -e suffixation (such as in the replaced simplex plural *vlak-e*). He also uses 3 other forms (14%) in his German elicitation at the first tp. The three other forms are uttered as Croatian singular nouns instead of German nouns (*Brod* ‘ship’; *Konj* ‘horse’ instead of ‘cow’; *Kiša* ‘rain’ instead of ‘window’). This is the only case of code-switching in direction from German to Croatian found in all corpora of these children. All other switching activities are unidirectional from Croatian to German.

When looking more closely into the data, Table 40 gives a detailed overview of all items elicited during **PET in Croatian** at age 3;4 and 4;7. At the first tp, Filip produces 2 correct plurals (*mac-e* ‘kitties’, *jaj-a* ‘eggs’), 15 incorrect singular repetitions (70%) and 2 overgeneralizations (10%), one with an -a plural (*krevet-a* ‘beds’) instead of masculine -i suffixation and the other one with an -e plural (*vlak-e* ‘trains’) instead of the irregular masculine plural suffixation -ovi. At his second tp at age 4;7, he produces much more correct forms (38%), using mostly feminine -e plural suffixations, but also one neuter -a plural (*djec-a* ‘children’) and one masculine -i plural (*avion-i* ‘planes’). He decreases the incorrect singular repetitions from 70% to 19% (none which would require an -e plural) and utters more overt plural overgeneralizations (33%) at the second time point. The majority of his overgeneralizations (6 items) are again, in

accordance with the other children, nearly only feminine -e plural suffixations and one incorrect -a plural suffixation (*krevet-a* 'beds').

Table 40 All plural forms Filip produced in Croatian PET in both time points (in parentheses correct target forms)

CROATIAN PET			
	Correct PL	Incorrect SG repetition	Overt PL overgeneralization
FILIP 3;4 YEARS (1ST TP)	<i>mac-e</i> 'kitties' <i>jaj-a</i> 'eggs'	<i>ptica</i> 'bird' – (<i>ptic-e</i>) <i>avion</i> 'plane' – (<i>avion-i</i>) <i>prozor</i> 'window' – (<i>prozor-i</i>) <i>pidžama</i> 'pyjama' – (<i>pidžam-e</i>) <i>tigar</i> 'tiger' – (<i>tigr-ovi</i>) <i>šešir</i> 'hat' – (<i>šešir-i</i>) <i>kuća</i> 'house' – (<i>kuć-e</i>) <i>jabuka</i> 'apple' – (<i>jabuk-e</i>) <i>tanjur</i> 'plate' – (<i>tanjur-i</i>) <i>brod</i> 'ship' – (<i>brod-ovi</i>) <i>selo</i> 'village' – (<i>sel-a</i>) <i>polje</i> 'field' – (<i>polj-a</i>) <i>miš</i> 'mouse' – (<i>miš-evi</i>) <i>srce</i> 'heart' – (<i>src-a</i>) <i>zec</i> 'rabbit' – (<i>zeč-evi</i>)	<i>krevet-a</i> 'beds' – (<i>krevet-i</i>) <i>vlak-e</i> 'trains' – (<i>vlak-ovi</i>)
FILIP 4;7 YEARS (2ND TP)	<i>djevojčic-e</i> 'girls' <i>mačk-e</i> 'cats' <i>djec-a</i> 'children' <i>ptic-e</i> 'birds' <i>avion-i</i> 'planes' <i>pidžam-e</i> 'pyjamas' <i>kuć-e</i> 'houses' <i>jabuk-e</i> 'apples'	<i>tigar</i> 'tiger' – (<i>tigr-ovi</i>) <i>polje</i> 'field' – (<i>polj-a</i>) <i>miš</i> 'mouse' – (<i>miš-evi</i>) <i>srce</i> 'heart' – (<i>src-a</i>)	<i>krevet-a</i> 'beds' – (<i>krevet-i</i>) <i>prozor-e</i> 'windows' – (<i>prozor-i</i>) <i>šešir-e</i> 'hats' – (<i>šešir-i</i>) <i>tanjur-e</i> 'plates' – (<i>tanjur-i</i>) <i>brod-e</i> 'ships' – (<i>brod-ovi</i>) <i>sel-e</i> 'villages' – (<i>sel-a</i>) <i>zec-e</i> 'rabbits' – (<i>zeč-evi</i>)

Omission and commission errors in Filip's Croatian PET indicate a steady development of plural acquisition. While at the first time point, he omits most plural items by simply repeating singular nouns, he utters much more commission errors at the second tp, trying to find the correct plural form. He struggles especially with neuter and long masculine plurals (-a, -ovi/-evi), since he is omitting them at the second tp, while trying to replace neuter and masculine plurals with overt forms of -e overgeneralizations. At the second tp these overgeneralizations go together with correct -e plurals and the absence of singular repetition when an -e plural is required.

Table 41 below illustrates Filip's **German PET** outcome for both time points at age 3;4 and 4;7. At the first tp, he produces 2 correct plural forms (10%), which are both zero

plurals (*Teller-Ø* ‘plates’, *Mädchen-Ø* ‘girls’), 16 singular noun repetitions (76%) and no overgeneralizations, thus without any indication of the identification of German plurals.

The second tp reveals a different picture. 38% are correct forms containing 5 different plural markers, only 14% are incorrect zero plurals and the rest (48%) are overgeneralizations, which did not occur at all in the first test. Filip uses different overt plural markers at the second tp at age 4;7 in these overgeneralizations: -s suffixations (*Vogel-s* ‘birds’, *Teller-s* ‘plates’, *Apfel-s* ‘apples’, illegal *Bild-es* ‘pictures’), -e suffixations (*Maus-e* ‘mice’, *Kuh-e* ‘cows’, both lacking the obligatory but unproductive umlaut of -e plurals of feminines, in addition illegal *Mantel-e* ‘coat’), -en suffixations (*Zug-en* ‘trains’, *Schiff-en* ‘ships’) and even a correct -er suffixation without the necessary Umlaut (*Haus-er* ‘houses’).

Overgeneralizations of -s appear instead of a zero plural (**Teller-s* instead of *Teller-Ø* ‘plates’) and instead of non-productive pure *Umlaut* plurals (**Vogel-s* instead of *Vögel* ‘birds’, **Apfel-s* instead of *Äpfel* ‘apples’), but also as a totally un-German -es suffixation instead of a non-productive -er plural (**Bild-es* instead of *Bild-er* ‘pictures’). Illegal use of -e plural is observed instead of a non-productive pure *Umlaut* plural (**Mantel-e* instead of *Mäntel* ‘coat’) and in -e +U plurals (**Maus-e* instead of *Mäus-e* ‘mice’, **Kuh-e* instead of *Küh-e* ‘cows’).

Another error type that appears in Filip’s elicitation data are -en suffixations for a weakly productive -e + U plural (**Zug-en* instead *Züg-e* ‘trains’) and a weakly productive -e plural (**Schiff-en* instead *Schiff-e* ‘ships’). Yet, most of these error types replace pure *Umlaut* plurals (*Vögel* ‘birds’, *Äpfel* ‘apples’, *Mäntel* ‘coat’), and -e(r) + U plurals (*Mäus-e* ‘mice’, *Küh-e* ‘cows’, *Züg-e* ‘trains’, *Häus-er* ‘houses’), which appears altogether to be an umlaut problem of opacifying umlaut.

Table 41 All plural forms Filip produced in German PET in both time points (in parentheses correct target forms)

GERMAN PET			
	Correct PL	Incorrect zero PL	Overt PL overgeneralization
FILIP 3;4 YEARS (1ST TP)	<i>Teller-Ø</i> ‘plates’ <i>Mädchen-Ø</i> ‘girls’	<i>Baby</i> ‘baby’ – (<i>Baby-s</i>) <i>Stift</i> ‘pen’ – (<i>Stift-e</i>) <i>Ball</i> ‘ball’ – (<i>Bäll-e</i>) <i>Bild</i> ‘picture’ – (<i>Bild-er</i>) <i>Oma</i> ‘grandma’ – (<i>Oma-s</i>) <i>Vogel</i> ‘bird’ – (<i>Vögel</i>) <i>Schneemann</i> ‘snowman’ – (<i>Schneemann-er</i>) <i>Maus</i> ‘mouse’ – (<i>Mäus-e</i>) <i>Hase</i> ‘rabbit’ – (<i>Hase-n</i>) <i>Apfel</i> ‘apple’ – (<i>Äpfel</i>)	

		<i>Zug</i> 'train' – (<i>Züg-e</i>) <i>Katze</i> 'cat' – (<i>Katze-n</i>) <i>Mantel</i> 'coat' – (<i>Mäntel</i>) <i>Pyjama</i> 'pyjama' – (<i>Pyjama-s</i>) <i>Haus</i> 'house' – (<i>Häus-er</i>) <i>Bett</i> 'bed' – (<i>Bett-en</i>)	
FILIP 4;7 YEARS (2ND TP)	<i>Baby-s</i> 'babies' <i>Stift-e</i> 'pens' <i>Hase-n</i> 'rabbits' <i>Oma-s</i> 'grandmas' <i>Katze-n</i> 'cats' <i>Fenster-ø</i> 'windows' <i>Mädchen-ø</i> 'girls' <i>Bett-en</i> 'beds'	<i>Fussball</i> 'football' – (<i>Bäll-e</i>) <i>Schneemann</i> 'snowman' – (<i>Schneemänn-er</i>) <i>Pyjama</i> 'pyjama' – (<i>Pyjama-s</i>)	<i>Vogel-s</i> 'birds' – (<i>Vögel</i>) <i>Bild-es</i> 'pictures' – (<i>Bild-er</i>) <i>Teller-s</i> 'plates' – (<i>Teller</i>) <i>Maus-e</i> 'mice' – (<i>Mäus-e</i>) <i>Apfel-s</i> 'apples' – (<i>Äpfel</i>) <i>Kuh-e</i> 'cows' – (<i>Küh-e</i>) <i>Zug-en</i> 'trains' – (<i>Züg-e</i>) <i>Mantel-e</i> 'coat' – (<i>Mäntel</i>) <i>Schiff-en</i> 'ships' – (<i>Schiff-e</i>) <i>Haus-er</i> 'houses' – (<i>Häus-er</i>)

Similarly, to his Croatian elicitation, Filip's developmental growth in German plural production is visible from Table 41. At the first tp he utters basically only omission errors by simply repeating singular nouns – which is moreover enhanced by the existence of zero plural markers in German – accompanied by two correct zero plural forms, which therefore may also be interpreted as singular repetitions. At the second tp he utters various forms: only three omission errors and besides various correct forms, a bit more commission errors, including various overgeneralized plural markers (-s, -es, -e, -en, -er), which either indicate a high awareness of different plural endings in German or a rather chaotic use, because of lack of systematicity either in relation to the output or to gender, a variety which corresponds to the correctly used forms. This may point to a start of overcoming pure rote learning.

What stands out in his overt overgeneralized forms is a child-specific non-existent plural marker, namely -es (**Bild-es* instead of *Bild-er* 'pictures'), which may be a wrongful use of genitive singular of German.

Although at the first tp there is no plurality sign in the German PET, but a little in the Croatian PET, the corresponding progress in both languages may suggest a balanced linguistic development after the first time point.

Comparing the results of **spontaneous vs. elicited plural production**, it can be concluded that similarly to the other children, Filip's spontaneous plural production is predominantly correct. In Croatian spontaneous speech data, a total number of nine plurals can be found, most of them are correct forms, while only one is an incorrect singular repetition and two are overt overgeneralizations. The two commission error

are uttered at the first and the second recording, overgeneralizing the feminine default -e suffixation to feminine noun *kokoš* 'chicken' requiring -i suffixation (**kokoš-e* instead of *kokoš-i* 'chickens) and the masculine noun *kolač* 'cake' requiring as well an -i suffixation (**kolač-e* instead of *kolač-i* 'cake').

However, no overgeneralizations can be found in his German spontaneous speech data. The German plural data revealed a total of only six plural forms, five of them correct and one is an incorrect zero plural. Only two different plurals are produced at the first and third time point, whereas at the second one, he does not produce plurals at all, and only one at the last recording. Due to their scarcity the spontaneous data show no clear progress, but point to an advantage of Croatian over German, similar to the elicitation data at the first time point. As for overgeneralization, dominating productive patterns are easier to identify in Croatian than in German.

Table 42 Filip's results on spontaneous and elicited plural production at all four time points (TP) for Croatian and German

Correct plurals					
	CRO	GER		CRO	GER
spontaneous			elicitation		
1 TP	3	2			
2 TP	0	0	2 TP	2	2
3 TP	1	2			
4 TP	2	1	4 TP	8	8
Incorrect singular repetition / zero plurals					
	CRO	GER		CRO	GER
spontaneous			elicitation		
1 TP	0	0			
2 TP	0	0	2 TP	15	16
3 TP	1	1			
4 TP	0	0	4 TP	4	3
Overt overgeneralizations					
	CRO	GER		CRO	GER
spontaneous			elicitation		
1 TP	1	0			
2 TP	1	0	2 TP	2	0
3 TP	0	0			
4 TP	0	0	4 TP	7	10

The elicitation task (PET) in both languages indicates progress in Filip's plural developmental due to increasing commission errors at the second tp (7 in Croatian, 10 in German) and decreasing omission errors. Nevertheless, he produces rather few plurals in his spontaneous speech, in both language, which, however, is hardly an avoidance strategy in spontaneous production. Plural production in spontaneous speech interactions depends on the recorded play situations, which may additionally explain the rather small number of plurals in Filip's spontaneous speech. He preferably plays games with rules during the recordings at home and in preschool, which usually excludes the necessity to name many plural objects.

Yet, all plurals produced at the four time points are mostly correct forms, but two overt overgeneralizations appear in Croatian plural production, both using -e suffixation. His Croatian spontaneous speech data shows furthermore a preference towards using accusative plural case marking (8 items in the data set), which very often requires an -e suffixation. Additionally, only two genitive plural nouns (*kilometar-a* 'kilometers', *karat-a* 'cards') are produced at the fourth tp of the home recordings (see Table 45).

Filip's elicitation task indicates a balanced outcome for both languages. In regard to research question (1B), Filip's plural production skills show no dominance in neither language but suggest a balanced bilingualism.

6.1.2.5 Comparative analysis of all four children

The following chapter is disproportionate in comparison to the overviews of the other subchapters, since it covers receptive and productive grammar, and also the analyses of spontaneous plural production.

Receptive grammar

The results of all four children will be illustrated in the following two tables – Croatian in Table 43 and for German in Table 44 – to get a better understanding of the children's results at the first time point at age 3, compared to the second time point at age 4.

Ivan and Ana obtain quite identical results in their Croatian receptive grammar testing (similar to receptive vocabulary results in the chapter before): at the second time point, they reach a standard score of 96, which is the 39th centile of monolingual Croatian peers. Marko, on the other hand, scores lower at the second time point at age 4;6 with a standard score of 80 and the 9th centile, than at the first tp at age 3;3

(standard scores not available below age 4), while Filip's results remain the same for both time points (raw score 2), with a standard score of 84 and the 14th centile for the second tp.

Table 43 Overview of TROG results for Croatian at age 3 and 4

CROATIAN	Age	Raw score	Standard score	t-score	Centile	Age equivalent	Age-specific average t-score
<i>Ivan</i>	3;6	0		x			x
	4;10	5	96	x	39	4;5	x
<i>Ana</i>	3;3	1		x			x
	4;7	5	96	x	39	4;5	x
<i>Marko</i>	3;3	2		x			x
	4;6	1	80	x	9	<4;0	x
<i>Filip</i>	3;4	2		x			x
	4;7	2	84	x	14	<4;0	x

The German receptive grammar results show that Ivan and Marko increase their t-score – which is an indicator for an age-specific mean value of monolinguals – from 41 to 50 for Ivan and 41 to 57 for Marko. Ana's t-score decreased from 45 to 41, while Filip's t-score remained the same at 35.

Table 44 Overview of TROG-D results for German at age 3 and 4

GERMAN	Age	Raw score	Standard score	t-score	Centile	Age equivalent	Age-specific average t-score
<i>Ivan</i>	3;6	2*	x	41	17	x	50 +/-10
	4;9	7	x	50	50	x	50 +/-10
<i>Ana</i>	3;3	3	x	45	31	x	50 +/-10
	4;7	5	x	41	18	x	50 +/-10
<i>Marko</i>	3;4	2	x	41	17	x	50 +/-10
	4;6	9	x	57	77	x	50 +/-10
<i>Filip</i>	3;4	1	x	35	6	x	50 +/-10
	4;7	3	x	35	7	x	50 +/-10

*The assessment was terminated prematurely.

Ivan and Ana obtain relatively high scores in both languages, especially when looking at norm-referenced monolingual scores from TROG. This also matches their results in vocabulary testing, possibly indicating that high receptive vocabulary scores implicate a better understanding of morpho-syntactic structures as described by Davidson et al.

(2017). Marko's results, however, are stronger in German than in Croatian, which is clearly due to the high exposure in German at age 4, and in line with his other language evaluations. It simultaneously echoes his vocabulary results. Filip, on the other hand, shows better results in German receptive grammar, since there is no growth in his Croatian scores (raw score 2 at both evaluations). These results are contradictory to those obtained on receptive vocabulary and are rather difficult to interpret, since other assessments have shown a positive outcome in Croatian.

Consequently, research question (1B) on receptive grammar being higher in one language than the other, is again very individual among the children, showing only in Marko's and Filip's case a higher receptive grammar outcome in German, when comparing the results with norm-referenced monolingual scores. Yet, as mentioned above, these results have to be interpreted with caution especially when looking at Filip.

Productive grammar

The progress in plural development of all four children shall be described briefly before moving on to similarities in the children's plural production pattern.

Ivan's plural pattern shows a transition from omission to commission in Croatian plural acquisition on PET. His progress shows furthermore an increase in using more correct forms and less replacements of plurals by paraphrases (*puno* 'many' + Gen.Sg.) at the second elicitation. His German plural pattern, on the other hand, reveals a high use of incorrect zero plurals on the PET at both time points, which is possibly enhanced by the existence of zero plurals in German.

His spontaneously produced plurals are in both languages almost exclusively correct plural forms, which implies that Ivan produces rote-learned plurals. Yet, Croatian spontaneous plural production shows only few nominative plurals, therefore other plural case markings have to be considered as well, those are listed below in Table 45 but appear solely at age 4;6, mostly with accusative case marking.

Ana's plural progress in Croatian PET shows that commission errors increase with age, using different overt overgeneralizations, while her German PET results reveal much more omission errors at both time points. Again, explainable with the existence of zero plurals in German. Moreover, she produces a considerable number of correct plurals in her spontaneous plural production of both languages compared to the other children, especially when including other plural case markings of Croatian (see Table 45).

Marko's results on Croatian PET show no progress between the two time points, yet, including a high number of omission errors revealing an avoidance strategy. In contrast, his German PET results display an increase in correct plural forms (at the first tp only rote-learned forms) and a progressed plural pattern, where he has identified German plural and specifically one of the most productive patterns *-(e)n* plurals).

Moreover, his spontaneous speech data reveals a poor outcome in Croatian plural production, which holds for other plural cases as well (see Table 45), implying an use of solely rote-learned forms. However, this poor outcome is due to an extensive amount of code-switching to German at the home recordings. German spontaneous plural production shows consequently an use of exclusively correct plural forms.

Filip's results on the PET reveal a steady development of plural acquisition in both languages, indicating an increase in correct plural forms and a progress from omission to commission errors in both languages. His spontaneous plural production, on the other hand, shows rather few plurals in both languages, which may be due to the recorded play situations excluding the necessity for naming plural objects. However, Croatian plural production shows the use of other plural cases as well (see Table 45), revealing a higher use of spontaneous plural production in Croatian than in German.

Table 45 Overview of additional plural case markings found in Croatian spontaneous speech of all four children

Ivan (age)	singular item	target plural item	case	gender	declension class ¹⁹
4;6	čizma 'boot'	čizma- ma 'boots'	locative pl	fem	e decl.
4;6	igra 'game'	igr- e 'games'	accusative pl	fem	e decl.
4;6	gaće 'trousers'	gać- e 'trousers'	accusative pl	fem pl tantum	
4;6	doktor 'doctor'	doktor- e 'doctors'	accusative pl	masc	a decl.
4;6	oko 'eye'	oč- i 'eyes'	accusative pl	neut	a decl.
4;6	usta 'mouth'	ust- a 'mouth'	accusative pl	neut pl tantum	

Ana (age)	singular item	target plural item	case	gender	declension class
3;0	godina 'year'	godin- a 'years'	genitive pl	fem	e decl.
3;0	rukavica 'glove'	rukavic- a 'gloves'	genitive pl	fem	e decl.
3;0	usna 'lip'	usn- e 'lips'	accusative pl	fem	e decl.
3;3	beba 'baby'	beb- e 'babies'	accusative pl	fem	e decl.
3;3	cipela 'shoe'	cipel- e 'shoes'	accusative pl	fem	e decl.
3;3	krava 'cow'	*krav- e 'cows' - (krav- a)	genitive pl	fem	e decl.

¹⁹ Declension classes in Croatian are subdivided according to the noun's genitive singular endings: **a declension** for all masculine and neuter nouns; **e declension** for feminine nouns ending with an *-a* in nominative singular; **i declension** for feminine nouns ending with a consonant in nominative singular. (Težak & Babić, 2003, p. 99–113)

3;3	<i>naočale</i> 'sunglasses'	<i>naočal-e</i> 'sunglasses'	accusative pl	fem pl tantum	
3;3	<i>maca</i> 'kitty'	<i>mac-e</i> 'kitties'	accusative pl	fem	e decl.
3;3	<i>mica</i> 'kitty'	<i>mic-e</i> 'kitties'	accusative pl	fem	e decl.
3;3	<i>zub</i> 'tooth'	<i>zub-e</i> 'teeth'	accusative pl	masc	a decl.
4;3	<i>pantalone</i> 'pants'	<i>pantalon-e</i> 'pants'	accusative pl	fem pl tantum	
4;3	<i>koka</i> 'chick'	* <i>kok-e</i> 'chicken'- (<i>kok-a</i>)	genitive pl	fem	e decl.
4;3	<i>koka</i> 'chick'	<i>kok-e</i> 'chicken'	accusative pl	fem	e decl.
4;7	<i>kamenčić</i> 'stone-DIM'	<i>kamenčić-e</i> 'stones-DIM'	accusative pl	masc	a decl.
4;7	<i>beba</i> 'baby'	<i>beb-e</i> 'babies'	accusative pl	fem	e decl.
4;7	<i>suknja</i> 'skirt'	<i>suknj-e</i> 'skirts'	accusative pl	fem	e decl.
4;7	<i>naočale</i> 'sunglasses'	<i>naočal-e</i> 'sunglasses'	accusative pl	fem pl tantum	
4;7	<i>kolač</i> 'cake'	<i>kolač-a</i> 'cakes'	genitive pl	masc	a decl.
4;7	<i>oko</i> 'eye'	<i>oč-i</i> 'eyes'	accusative pl	neut	a decl.
4;7	<i>uho</i> 'ear'	<i>uš-i</i> 'ears'	accusative pl	neut	a decl.
4;7	<i>usta</i> 'mouth'	<i>ust-a</i> 'mouth'	accusative pl	neut pl tantum	

Marko (age)	singular item	target plural item	case	gender	declination class
3;0	<i>bombon</i> 'candy'	<i>bombon-e</i> 'candies'	accusative pl	masc	a decl.

Filip (age)	singular item	target plural item	case	gender	declination class
3;1	<i>životinja</i> 'animal'	<i>životinj-e</i> 'animals'	accusative pl	fem	e decl.
3;1	<i>cipela</i> 'shoe'	<i>cipel-e</i> 'shoes'	accusative pl	fem	e decl.
3;1	<i>krava</i> 'cow'	<i>krav-e</i> 'cows'	accusative pl	fem	e decl.
3;1	<i>kutija</i> 'box'	<i>kutij-e</i> 'boxes'	accusative pl	fem	e decl.
4;4	<i>vrata</i> 'door'	<i>vrat-a</i> 'doors'	accusative pl	neut pl tantum	
4;4	<i>naočale</i> 'sunglasses'	<i>naočal-e</i> 'sunglasses'	accusative pl	fem pl tantum	
4;4	<i>lopta</i> 'ball'	<i>lopt-e</i> 'balls'	accusative pl	fem	e decl.
4;7	<i>cigareta</i> 'cigarette'	<i>cigaret-e</i> 'cigarettes'	accusative pl	fem	e decl.
4;7	<i>kilometar</i> 'kilometer'	<i>kilometar-a</i> 'kilometers'	genitive pl	masc	a decl.
4;7	<i>karta</i> 'card'	<i>karat-a</i> 'cards'	genitive pl	fem	e decl.

*Overgeneralizations with -e suffixations instead of an -a suffixation of a feminine genitive plural.

Some identification of plural patterns show that the first ones are often rote-learned forms. Moreover, singular repetitions (in Croatian) imply an avoidance strategy, while in German zero plurals can be twofold: either correctly produced or omitted plural forms. Overgeneralizations increase in most children from the first to the second tip of the PET, showing a preference in using overt -e suffixations in Croatian, while in German most overgeneralizations are found in non-productive plural nouns.

To get a clearer picture, **error types** among all four children are listed in the tables below, including PET results as well as spontaneous speech plural overgeneralizations for both languages separately. The PET reveals that the children in this study produce similar overgeneralizations in both languages, while only few appearances of overgeneralizations are found in spontaneous speech data.

Incorrect use of *-e* suffixations (31x) is the most frequent overgeneralization in **Croatian**, much less frequent are overgeneralized *-a* suffixation (4x), while others appear only once. Contrary to the German table (Table 47), some Croatian error types appear multiple times among the children: **brod-e* instead *brod-ovi* 'ships' (4x), **vlak-e* instead *vlak-ovi* 'trains' (3x), **tanjur-i* instead *tanjur-e* 'plates' (3x), **krevet-e* instead *krevet-i* 'beds' (3x) and some others appearing twice. Table 46 reveals furthermore that the children replace long masculine nouns with *-ov-* or *-ev-* prolongation but also short *-i* suffixation masculine plurals especially with the productive *-e* plurals. Error types in spontaneous speech are found in four cases, all with an overt *-e* suffixation.

Table 46 Overview of all Croatian error types obtained on PET and spontaneous speech recordings at all four time points

CROATIAN Elicitation task					
Plural suffixation	Overt suffixation	Overt form	Correct form	Gender	Multiple Appearances
-ov-i	<i>-a</i>	<i>vlak-a</i> 'trains'	<i>vlak-ovi</i> 'trains'	masc.	
	<i>-e</i>	<i>vlak-e</i> 'trains'	<i>vlak-ovi</i> 'trains'	masc.	3
	<i>-e</i>	<i>tiger-e</i> 'tigers'	<i>tigr-ovi</i> 'tigers'	masc.	
	<i>-e</i>	<i>tig-e</i> 'tigers'	<i>tigr-ovi</i> 'tigers'	masc.	
	<i>-e</i>	<i>brod-e</i> 'ships'	<i>brod-ovi</i> 'ships'	masc.	4
-ev-i	<i>-a</i>	<i>miš-a</i> 'mice'	<i>miš-evi</i> 'mice'	masc.	
	<i>-e</i>	<i>miš-e</i> 'mice'	<i>miš-evi</i> 'mice'	masc.	
	<i>-ov-e</i>	<i>miš-ove</i> 'mice'	<i>miš-evi</i> 'mice'	masc.	
	<i>-e</i>	<i>zec-e</i> 'rabbit'	<i>zeč-evi</i> 'rabbit'	masc.	2
	<i>-ov-i</i>	<i>zec-ovi</i> 'rabbits'	<i>zeč-evi</i> 'rabbit'	masc.	
-i	<i>-e</i>	<i>avion-e</i> 'planes'	<i>avion-i</i> 'planes'	masc.	2
	<i>-e</i>	<i>šešir-e</i> 'hats'	<i>šešir-i</i> 'hats'	masc.	2
	<i>-e</i>	<i>tanjur-e</i> 'plates'	<i>tanjur-i</i> 'plates'	masc.	3
	<i>-e</i>	<i>krevet-e</i> 'beds'	<i>krevet-i</i> 'beds'	masc.	3
	<i>-a</i>	<i>krevet-a</i> 'beds'	<i>krevet-i</i> 'beds'	masc.	2
	<i>-e</i>	<i>prozor-e</i> 'windows'	<i>prozor-i</i> 'windows'	masc.	2
	<i>-a</i>	<i>sel-e</i> 'village'	<i>sel-a</i> 'village'	neut.	2
-a	<i>-e</i>	<i>djec-e</i> 'children'	<i>djec-a</i> 'children'	neut.	
	<i>-e</i>	<i>djec-e</i> 'children'	<i>djec-a</i> 'children'	neut.	
-e	<i>-i</i>	<i>djevojčic-i</i> 'girls'	<i>djevojčic-e</i> 'girls'	fem.	

CROATIAN Spontaneous speech					
-i	-e	<i>aut-e</i> 'cars'	<i>aut-i</i> 'cars'	masc.	
	-e	<i>tanjur-e</i> 'plates'	<i>tanjur-i</i> 'plates'	masc.	
	-e	<i>kokoš-e</i> 'chickens'	<i>kokoš-i</i> 'chickens'	fem.	
	-e	<i>kolač-e</i> 'cake'	<i>kolač-i</i> 'cake'	masc.	

Table 47 on **German error types** will focus on degree of productivity, in accordance to similar literature on Austrian German (e.g. Dressler, 2003; Korecky-Kröll, Sommer-Lolei, et al., 2018b; Laaha et al., 2006). The table below shows the degree of productivity for the target item (correct form), not for the overt illegal forms.

German error types appear furthermore only once expect for **Bild-e* 'pictures' (instead of *Bild-er*), in contrast to the Croatian ones abovementioned. The noun *Bild* 'picture' is used by another child with a non-existent plural marker of German, namely a child-specific *-es* (**Bild-es* instead of *Bild-er* 'pictures'). Most frequent German overgeneralizations appear with overt *-e* plural markers (6x), followed by *-(e)n* (5x) and *-s* (3x) suffixations. The error types obtained on PET among all four children during both elicitations reveal that most overgeneralizations are found in non-productive plural nouns (i.e productivity of target items). In accordance with Laaha et al. (2006), degree of productivity appears to be an important factor in explaining patterns of plural acquisition not only among monolingual but bilingual children as well.

Table 47 Overview of all German error types obtained on PET and spontaneous speech recordings at all four time points

GERMAN Elicitation task					
<i>Plural marker</i>	<i>Overt plural marker</i>	<i>Overt form</i>	<i>Correct form</i>	<i>Gender</i>	<i>Degree of target productivity</i>
-er	-e	<i>Bild-e</i> 'pictures'	<i>Bild-er</i> 'pictures'	neut.	non-productive
	-e	<i>Bild-e</i> 'pictures'	<i>Bild-er</i> 'pictures'	neut.	non-productive
	-es	<i>Bild-es</i> 'pictures'	<i>Bild-er</i> 'pictures'	neut.	non-productive
	-n	<i>Bild-n</i> 'pictures'	<i>Bild-er</i> 'pictures'	neut.	non-productive
-er + U	-n	<i>Haus-n</i> 'houses'	<i>Häus-er</i> 'houses'	neut.	non-productive
	-er	<i>Haus-er</i> 'houses'	<i>Häus-er</i> 'houses'	neut.	non-productive
-e + U	-e	<i>Ball-e</i> 'balls'	<i>Bäll-e</i> 'balls'	masc.	weakly productive
	-n	<i>Zug-n</i> 'trains'	<i>Züg-e</i> 'trains'	masc.	non-productive
	-en	<i>Zug-en</i> 'trains'	<i>Züg-e</i> 'trains'	masc.	weakly productive
	-e	<i>Maus-e</i> 'mice'	<i>Mäus-e</i> 'mice'	fem.	non-productive
	-e	<i>Kuh-e</i> 'cows'	<i>Küh-e</i> 'cows'	fem.	non-productive

U	-s	<i>Vogel-s</i> 'birds'	<i>Vögel</i> 'birds'	masc.	non-productive
	-s	<i>Apfel-s</i> 'apples'	<i>Äpfel</i> 'apples'	masc.	non-productive
	-e	<i>Mantel-e</i> 'coat'	<i>Mäntel</i> 'coat'	masc.	non-productive
-e	-en	<i>Schiff-en</i> 'ships'	<i>Schiff-e</i> 'ships'	neut.	weakly productive
zero	-s	<i>Teller-s</i> 'plates'	<i>Teller</i> 'plates'	masc.	productive
GERMAN Spontaneous speech					
-e + U	-en	<i>Maus-en</i> 'mice'	<i>Mäus-e</i> 'mice'	fem.	non-productive
	-en + U	<i>Fuß-en</i> 'feet'	<i>Füß-e</i> 'feet'	masc.	weakly productive

When looking at both languages, Ivan's and Ana's results show much more overt plural overgeneralizations and other forms of plural in Croatian than in German. This, however, may be an indication for a developmental phase of plural production, due to its complexity of Croatian morphology as described earlier. Marko, on the other hand, produces at both time points of PET in Croatian predominantly incorrect singular repetitions, while his German results increase notably, indicating a German dominance. Finally, Filip has a quite similar outcome in both languages, producing more correct forms as well as overt overgeneralizations at the second tp, showing that he is balanced in both languages. He even produces a child-specific plural marker *-es* (**Bild-es* instead of *Bild-er* 'pictures'), which is non-existent in German plural marking (see chapter 6.1.2.4).

However, a clear pattern among all four children is visible in both languages. Croatian plural production is very much influenced by feminine *-e* suffixation in correct forms, yet, also in overt forms of masculine and neuter nouns. German, in contrast, is predominantly correct with zero plurals as well as productive *-s* plurals, while error types are almost exclusively found in non-productive plural patterns, which is in line with literature (e.g. Dressler, 2003; Korecky-Kröll, Sommer-Lolei, et al., 2018b; Laaha et al., 2006). In conclusion, plural acquisition is in a developmental stage in either language, which is perfectly normal for that age range, since plurals need longer to be fully acquired in Croatian (Hržica & Lice, 2013; Kovacevic et al., 2009) as well as German (Korecky-Kröll, 2011; Korecky-Kröll, Sommer-Lolei, et al., 2018b; Szagun, 2001).

Ultimately, when turning to research question (1B) on productive grammar skills to be higher in one language than the other, it can be concluded that differences in the children's results on PET are most probably due to the morphologically richer, more transparent and more regular plural system of Croatian (e.g. Hržica & Lice, 2013;

Kovacevic et al., 2009). In that regard, data on plural production shows that German Umlaut appears to be a bigger challenge for the children than morphological palatalization of /k/ for example (see results of Ivan). The differences obtained on plural production in spontaneous speech recordings, however, can be due to different play situations requiring less plurals, as described in Filip's case. Consequently, research question (1C) regarding diverging results obtained on PET vs. spontaneous speech can be answered only to a certain extent, namely, that all children produce predominantly correct forms, while a task can hardly be as accurate as spontaneous speech production (Korecky-Kröll et al. 2018b).

The present study has gone some way towards enhancing our understanding of simultaneous plural acquisition of Croatian and German at preschool age, which to my knowledge has not yet been done in regard of Croatian-speaking bilinguals. In spite of its limitations, the study certainly adds to our understanding of bilingual plural production from a morphological standpoint, which simultaneously requires further analyses in this field of research and a denser sample to get a clearer picture of acquisitional development of plural suffixations in bilingual speakers.

6.1.3 NARRATIVE COMPETENCES

In the following, narrative competences in both of the children's languages will be analyzed and illustrated per the research question (1D): whether narrative competences diverge between the two languages and what role book-reading habits within the families may play for the linguistic outcome. The investigation will focus on (co)referential elements (i.e. characters and referential devices) in subject position regarding the micro-level analysis of textual and grammatical correctness that was applied in numerous similar studies using the *Frog Story* (e.g. Berman & Slobin, 1994; Boniecki, 2013; Gadermaier, 2011; Korecky-Kröll, Dobek, et al., 2018; Trtanj, 2015). Grammatical and textual correctness rates will solely be attributed to the subject position in the tables displaying the transcript. Subject position of (co)referential elements was chosen, since it is the most frequent position for coreference and therefore the best for arriving at valid conclusions. Subsequently, first the Croatian results will be described initially, followed by the German ones.

6.1.3.1 Narrative competences of case study 1 – Ivan

The *Frog Story* is elicited at age 4;6 for Croatian and at age 4;9 for German. Total (co)referential elements used by Ivan to tell the story in Croatian as well as in German are 25 for all introduced, maintained and switched characters. The characters that appear in the story are the following: boy, dog, frog, deer, owl, gopher, bees, and the frog family. After listing reference-introducing, coreferential maintaining and coreferential switching in the *Frog Story*, the full transcripts of the child will be analyzed regarding their textual and grammatical correctness.

Croatian Frog Story

Ivan uses various devices for introducing, maintaining and switching the characters in his Croatian *Frog Story* (i.e. personal, demonstrative and possessive pronouns, determiners and nouns, ellipsis, bare nouns). He predominantly uses ellipses (10/25) – the verbal forms that make gender and number transparent – which is explainable with Croatian being a pro-drop language that omits certain word classes if pragmatically or grammatically inferable. Personal pronouns (9/25) appear as well rather frequently in his narration to refer to protagonists and antagonists of the story.

When looking more thoroughly at how he introduces the characters of the picture story, it becomes evident that Ivan is only **introducing** three **characters** to the story, namely the dog, the boy and the deer as illustrated in Table 48 below. Nonetheless, he implements other characters in the narrative process – which will be elaborated more thoroughly in the following, when describing maintenance and switch of characters. However, the missing introduction of the frog shall be explained briefly, since the frog is one of the main protagonists of the story. The missing introduction of the frog is simply due to a previous appearance of the character in object position in the utterance before, which is visible in the transcript of Table 51 regarding the first picture.

Ivan introduces the three characters by using bare nouns for the dog, one ellipsis (*traži* ‘looking’), where he says *traži za žabu* ‘is looking for the frog’ (i.e. ‘frog’ here in object position), and one personal pronoun referring to the deer. When introducing the deer, he poses a question, namely *Je li on jede njega?* ‘Is he.PRO.PER eating him?’, meaning the deer. Yet, the textual reference to the character is unclear, since it is the introduction of a new character to the story and will, therefore, be categorized as incorrect. In case of a continuous naming of the same antecedent in the following utterance, the textual correctness will be labeled as ‘correct’ since it remains the same one.

Table 48 Ivan introducing characters in the Croatian Frog Story

Introducing characters	Referential devices	Utterance
Dog	bare_N	<i>cuko</i> ‘doggy’
Boy	ellipsis	<i>traži</i> ‘searches’
Deer	pers_pronoun	<i>on</i> ‘he’

The bees as well as the frog family do not appear as introduced characters since both were mentioned beforehand in the object position with a focus on a different referential character in the subject position – which is this study’s concentration. The utterance introducing the bees in object position is the one illustrated here for and subsequently visible in the transcript (see Table 51):

CHI: Ona [] ovako radi vuf@o da otiđu **Bienen** tu.
 She.PRO.PER like this makes woof that disappear bees.N.FEM.PL there.
She makes like this woof [barking sound] to make the bees disappear there.

%com: Ivan uses a feminine personal pronoun *ona* 'she' for the subject, instead of a masculine one to refer to the dog, and uses the German word **Bienen** 'bees', which is the object.

The referential devices used in the narration for coreferential **maintaining** are predominantly ellipsis (7/10), followed by two personal pronouns and one bare noun. The following tables for coreferential maintaining and switching are slightly diverging compared to the one on reference-introducing (see Table 48). The total number of appearances will be listed instead of the precise utterance since characters are maintained and switched more often and introduced only once.

Table 49 *Ivan maintaining characters in the Croatian Frog Story*

Maintaining characters	Referential devices	Total
Boy		3
	pers_pronoun	1
	ellipsis	2
Bees		2
	ellipsis	2
Frog		1
	bare_N	1
Deer		2
	ellipsis	2
Frog family		1
	pers_pronoun	1
Dog		1
	ellipsis	1
Grand Total		10

Half (6/12) of the referential devices that are used for coreferential **switching** in the Croatian *Frog Story* are personal pronouns, followed by two ellipsis, one noun with a definite determiner, and one demonstrative pronoun as visible in Table 50. Moreover, Ivan uses one bare noun and proper names for the boy and the dog to switch characters.

Table 50 *Ivan switching characters in the Croatian Frog Story*

Switching characters	Referential devices	Total
Boy		3
	pers_pronoun	3
Boy, dog		3
	name	1
	ellipsis	2
Frog		3
	def.det+N	1
	dem_pronoun	1
	bare_N	1
Dog		1
	pers_pronoun	1
Bees		1
	pers_pronoun	1
Deer		1
	pers_pronoun	1
Grand Total		12

The complete transcript of Ivan's narration is illustrated in Table 51 with a focus on (co)referential characters, referential devices, and their textual and grammatical correctness. Some characters appear in object position and will be excluded from the detailed analysis, since the focus lies on referential characters in the subject position. Furthermore, utterances with no clear classification will also be excluded from the analysis.

From the 25 (co)referential elements (i.e. characters and referential devices), he produces 11 (44%) textually incorrect and 14 (56%) textually correct utterances; and 8 (32%) grammatically incorrect and 17 (68%) correct ones. Textually incorrect (co)referential elements are mostly due to unclarity, especially when the character is not mentioned in the utterance before. Furthermore, textually incorrect coreferences appear in some cases of using the wrong gender for the characters, as used for describing picture (7):

*CHI: Onda otiđu oni.
 Then leave they.PRO.PER.
Then they leave.

%com: The personal pronoun *oni* 'they' is masculine, whereas bees, to which the pronoun is referring is female in Croatian as well as in German.

His utterances are furthermore rather short and therefore incoherent. Error types causing grammatical incorrectness are mostly due to omission, but also gender, number agreement mistakes or wrong case. Omission errors in gender and number agreement may also be due to insecurity in using the correct form, as was described in plural marking in chapter 6.1.2.1.

Table 51 Ivan's Frog Story in Croatian regarding (co)referential elements, textual and grammatical correctness

Utterance and picture numbers ²⁰	Character	Referential device	Textual correctness	Grammatical correctness ²¹
EX ²² : WHAT IS HAPPENING?				
CHI: cuko! ① Doggy!	Dog	bare_N	correct	incorrect (omission of predicate)
EX: WHAT IS THAT DOGGY DOING?				
CHI: gleda! looking!	Dog	ellipsis	correct	incorrect (subject omission)
EX: AT WHOM [ACC.] IS HE LOOKING AT?				
CHI: žabu. ① Frog.N:FEM:ACC:SG.	<i>Object position</i>			
EX: AND THEN?				
CHI: ah: onda izađe žaba. ② Ah then the frog.N:NOM:SG goes out.	Frog	bare_N	correct	correct
CHI: i onda traži za žabu. ④ And then looks [subject missing] for the frog.	Boy	ellipsis	incorrect (reference unclear)	incorrect (subject omission)
EX: WHO IS LOOKING FOR HIM [frog]?				
CHI: on! ④ He! [reference unclear]	Boy	pers_pronoun	incorrect (reference unclear)	correct
EX: WHO IS HE?				
CHI: e: ne znam kako se zove. ④ Um, I don't know, how he [subject missing] is called.	Boy	ellipsis	correct	correct
EX: IS THAT LUKA?				

²⁰ Picture numbers form ① to ⑩ refer to the pictures depicting the *Frog Story* that are explained below the table.

²¹ Grammatical and textual correctness will solely be attributed to subject position (i.e. character and referential device).

²² EX = Experimenter. CHI = Child.

Due to readability, the experimenter's utterances will only be illustrated in its English translation.

CHI: Ne! ④ No!				
EX: OKAY, WHAT'S HE DOING NEXT?				
CHI: onda zove žabu. ⑤ Then he [reference clear] calls the frog.	Boy	ellipsis	Incorrect (reference unclear)	incorrect (subject omission)
EX: SHALL WE TURN THE PAGE? AND HERE?				
CHI: ona ovako radi vuf@o da otiđu Bienen tu . ⑥ She.PRO.PER does woof [barking sound] that the bees.GER.N.FEM.PL disappear there.	Dog	pers_pronoun	incorrect (reference unclear)	incorrect (gender agreement)
EX: AND THEN?				
CHI: onda otiđu oni. ⑦ Then they.PRO.PER leave.	Bees	pers_pronoun	incorrect (incorrect coreference)	incorrect (gender agreement)
CHI: onda će se okretati tu i ići unutra. ⑦ Then they [reference clear] will turn there and go inside.	Bees	ellipsis	correct	correct
CHI: ne paše unutra. ⑦ It [missing subject] doesn't fit inside.	Bees	ellipsis	incorrect (incorrect coreference)	incorrect (number and gender agreement)
EX: OKAY, AND THEN?				
CHI: šta on to zove? ⑧ What is he.PRO.PER calling?	Boy	pers_pronoun	incorrect (reference unclear)	correct
EX: WHOM [ACC] IS HE LOOKING FOR?				
CHI: žabu! The frog.N.FEM.ACC.SG.	Object position			
EX: AND WHAT NOW?				
CHI: je li on jede njega? ⑨ Is he.PRO.PER eating him?	Deer	pers_pronoun	incorrect (reference unclear, introducing character)	correct
EX: SHALL WE TURN THE PAGE? WHAT IS HAPPENING?				
CHI: jede njega! ⑨ He [subject missing] is eating him.	Deer	ellipsis	correct	correct
EX: AND THEN?				
CHI: onda odveze njega ovdje dolje. Then he [subject missing] is taking him down here. ⑪	Deer	ellipsis	correct	correct
CHI: onda pali su. ⑪ Then they [subject missing] fell.	Boy, dog	ellipsis	incorrect (wrong reference)	correct
CHI: zašto on to radi? ⑪ Why is he.PRO.PER doing that?	Deer	pers_pronoun	incorrect (reference unclear)	correct

EX: I DON'T KNOW EITHER. WHAT HAPPENS THEN?				
CHI: onda je pala [*] on ovako na cuko [*]. ⑫ <i>Then he.PRO.PER fell [female gender agreement*] like this on.PREP.ACC the doggy.N.MASC.NOM].</i>	Boy	pers_pronoun	incorrect (incorrect coreference)	incorrect (gender agreement, case)
EX: WHO FELL? THE DOGGY?				
CHI: ne, cuko i Luka. ⑬ <i>No, doggy and Luka.</i>	Boy, dog	name	correct	correct
EX: AND HERE?				
CHI: aehm ustao je on. ⑭ <i>Um, he.PRO.PER stood up.</i>	Boy	pers_pronoun	correct	correct
EX: AND THEN?				
CHI: <ha našao > [/] našli su +/. ⑮ <i>Ha, found.V.PART.MASC.SG [correcting himself] they [subject missing] found.V.PART.MASC.PL.</i>	Boy, dog	ellipsis	correct	correct
CHI: našao je ovaj tu Frosch njegovog tatu . ⑯ <i>That frog.GER.N there found his father.</i>	Frog	def.det+N (German)	correct	correct
EX: AND WHOM [ACC.] DID THEY FIND?				
CHI: njegovu [*] tatu i mamu . ⑰ <i>His.PRO.FEM.ACC [*] father.N.MASC.ACC and mother.N.FEM.ACC</i>	Object position			
CHI: i njih! ⑱ <i>and them.PRO.PER.</i>	Frog family	pers_pronoun	correct	correct
EX: AND WHAT HAPPENS AT THE END?				
CHI: je li to njegova žaba? ⑲ <i>Is that.PRO.DEM.NEUT his frog?</i>	Frog	dem_pronoun	correct	correct
CHI: kako se zove žaba? ⑳ <i>What's the frog.N.FEM.NOM called?</i>	Frog	bare_N	correct	correct
EX: WE DIDN'T PICK A NAME FOR THE FROG. DO YOU WANT TO GIVE HIM A NAME?				
CHI: Da! Ivan! ㉑ <i>Yes! Ivan!</i>				

Picture numbers: (1) frog in glass (2) frog leaves the glass, boy and dog sleep (3) boy realizes that the frog went missing (4) boy and dog look for the frog in the room (5) boy and dog look for the frog outside (6) boy looks into a hole in the ground, dog in a beehive (7) a gopher bites the boy in the nose (8) boy touches the deer antler (9) deer runs away with the boy on top of his head (10) deer runs to an abyss (11) deer throws the boy down (12) boy and dog fall into the water (13) boy and dog are sitting in the water hearing frogs croak (14) boy and dog find a frog couple (15) boy and dog find a frog family (16) boy leaves with the frog and waves to the frog family

The most interesting aspects of this transcript shall be explained more systematically in the following. First, there is the matter of references in the object position. In some cases, Ivan replies to the experimenter's questions with the object form, which is not specified in detail, since the focus is on the subject position of referential characters. However, it can be summarized that the child responds to questions using the correct accusative case as in the following:

*EX: Whom [ACC.] is he looking for?

*CHI: **žabu**. 'frog.N.FEM.ACC'

%com: responding correctly with an accusative feminine noun ending -u **žabu** 'frog' in object position, since 'he' would be the subject in this case.

Secondly, referential characters can be called by proper names, as mentioned earlier. Ivan is referring to the boy as 'Luka' in picture (12), a name that was brought up by the experimenter at the beginning of the story. This may indicate an anaphoric reference by attention and memory activation of the boy in his story-telling (Boniecki, 2013, p. 38).

Furthermore, there is an interesting appearance of code-mixing when describing picture (15):

*CHI: našao je	ovaj	tu	Frosch	njegov(og) tatu .
Found	that.PRO.DEM.MASC	there	frog.GER.N.MASC	his father.
<i>That frog there found his father.</i>				

This example is actually in two ways interesting. First of all that when describing picture (15) of the boy and the dog finding the frog family, Ivan refers to the frog as *agens*, who found his father and consequently his whole frog family, which leads to the conclusion that the frog's escape is motivated by wanting to find his family. Second, from a linguistic perspective: the masculine German noun **Frosch** 'frog' is embedded into the Croatian sentence structure according to German masculine gender marking, and not to Croatian gender marking, which would require female gender marking for **žaba** 'frog'. Also, code-mixing is not completed as a full nominal phrase in this example (i.e. *der Frosch* 'the frog'), since it is only uttered like a Croatian masculine noun without an article.

When looking at the object position of the sentence, and more precisely into the accusative case *njegovog tatu* 'his father', the phrase is actually semantically incorrect, since the pronoun 'his' in Croatian can either be a possessive pronoun (*njegov* 'his') or a reflexive pronoun (*svoj* 'his'). However, the meaning is different, and for children a developmental step. The possessive pronoun **njegov**, here in the nominative case, indicates someone else's father, whereas the reflexive pronoun **svoj**, here again in the nominative case, indicates the correct form, namely the frog's father:

*CHI: Našao je ovaj tu Frosch.GER **njegovog** tatu.
 Found that.PRO.DEM.MASC there frog.GER.N.MASC his father.
That frog.GER there found his [the boy's/someone else's] father.

*CHI: Našao je ovaj tu Frosch.GER **svog** tatu.
 Found that.PRO.DEM.MASC there frog.GER.N.MASC his father.
That frog.GER there found his [the frog's] father.

Ultimately, Ivan manages to resolve the plot of the story, which is part of the macro level²³ analysis and entails that the child figures out that the boy and the dog find the same frog or a different one and take it home. Ivan detects that the frog finds his family and recognizes that the two main protagonists take the same frog home. This becomes evident at the end of the transcript in the table above, where Ivan asks if this was the boy's frog. Interestingly, throughout the narration, he refers to the frog with the Croatian equivalent **žaba**, yet, switches to German **Frosch**, when he realized that the (same) frog had found his father.

German Frog Story

For the narration of the *Frog Story* in German, Ivan uses 25 referential devices. He overwhelmingly refers to the characters with a personal pronoun (10/25). He also mentions the three main characters the boy (11 x), the dog (3 x), and the frog (3 x) the most, when he either introduces, maintains or switches the character in his elaboration

²³ Macro Level analysis will only consider the question regarding 'resolution of the plot' to ensure if the child is following the plot of the story. Further detail analysis of macrostructure will not be part of this paper, since 4-year-old children have more trouble telling a coherent story (macrostructure) than with grammar and cohesion – latter will be analyzed for textual and grammatical correctness on the micro-level. Macrostructure is furthermore very much influenced by *Theory of mind* (Premack & Woodruff, 1978), and around age 4, children realize that others can have beliefs or desires, which is an important cognitive developmental stage. Yet, this paper focuses explicitly on syntactic and morphological aspects of psycholinguistics and less on cognitive aspects.

of the story. In order to distinguish between the different forms, the initial introduction of the various characters shall be observed separately.

As visible from the table below, far more characters are introduced to the story than in the Croatian version (7 vs. 4). Referential devices used to introduce characters are either bare nouns or nouns with (in)definite articles and in one case a personal pronoun. The four antagonists of the story (deer, owl, gopher, and bees) are only introduced to the story, but not maintained in the narrative.

Table 52 *Ivan introducing characters in the German Frog Story*

Introducing characters	Referential devices	Utterance
Bees	bare_N	<i>Bienen</i> 'bees'
Gopher	indef.art+N	<i>eine Maus</i> 'a mouse'
Frog family	bare_N	<i>Wasserfrösche</i> 'waterfrogs'
Deer	pers_pronoun	<i>er</i> 'he'
Owl	def.art+N	<i>bei der Eule</i> 'with the owl'
Dog	def.art+N	<i>der Hund</i> 'the dog'
Frog	def.art+N	<i>der Frosch</i> 'the frog'

Maintaining characters is rather infrequent in Ivan's German narration of the *Frog Story*. He maintains only the character of the boy by using pronouns (2 demonstrative pronouns, 3 personal pronouns), and he maintains the character of the boy and the dog by using a quantifying pronoun with a demonstrative determiner (*diese beide(n)* 'those two').

Table 53 *Ivan maintaining characters in the German Frog Story*

Maintaining characters	Referential devices	Total
Boy		5
	dem_pronoun	2
	pers_pronoun	3
Boy, Dog		1
	dem.det+qn_pronoun	1
Grand Total		6

Coreferential switching appears rather frequently in Ivan's German *Frog Story*, namely 12 times (see Table 54). Again, he is mostly using personal pronouns to do so (6/12), followed by nouns with a (in)definite article (4/13). Other referential devices that appear only once include a zero incorrect anaphora, and a noun and adjective with a quantifying determiner to refer to the frog family (*alle anderen Frösche* 'all other frogs').

Table 54 Ivan switching characters in German *Frog Story*

Switching characters	Referential devices	Total
Boy		7
	pers_pronoun	5
	zero_incorrect	1
Frog		2
	indef.art+N	2
Dog		2
	def.art+N	2
Frog family		1
	qn.det+Adj+N	1
Deer		1
	pers_pronoun	1
Grand Total		12

What appears very frequently in Ivan's elicitation is the use of personal pronouns for reference-introducing, coreferential maintaining and coreferential switching. This phenomenon of using personal pronouns is also described by Bamberg (1994, p. 222), which he affirms to be very common among younger children's narration in German. Table 55 illustrates the complete transcript of Ivan's *Frog Story* in German. It shows an occurrence of 9 (36%) textually incorrect and 16 (64%) textually correct (co)referential elements, as well as 4 (16%) grammatically incorrect and 21 (84%) grammatically correct elements out of 25 in total.

Table 55 Ivan's *Frog Story* in German regarding (co)referential elements, textual and grammatical correctness

Utterance and picture numbers	Character	Referential device	Textual correctness	Grammatical correctness
EX: LOOK AT THE PICTURES AND YOU CAN PICK A NAME FOR EVERYONE.				
CHI: frog [?]. ① (eng.)				

EX: YES! AND WHAT'S HIS NAME?				
CHI: ich weiss nicht. <i>I don't know.</i>				
EX: IS IT MAYBE LUKA?				
CHI: der Hund? ① <i>The.DEF.ART dog.N?</i>	Dog	def.art+N	correct	correct
EX: WHAT'S HIS NAME?				
CHI: Hund. <i>Dog.</i>				
EX: OKAY! NOW LET'S START WITH THE STORY. WHAT IS HAPPENING HERE?				
CHI: er schlaft... ② <i>He.PRO.PER sleeps...</i>	Boy	pers_pronoun	incorrect (reference unclear)	correct
CHI: und der Frosch geht langsam raus. ② <i>And the.DEF.ART frog.N walks slowly out.</i>	Frog	def.art+N	correct	correct
EX: AND THEN?				
CHI: dann weiss er nicht < wo der > [/] wo der Frosch ist. ④ <i>Then he.PRO.PER doesn't know where the [repeating himself] frog is.</i>	Boy	pers_pronoun	correct	correct
EX: AND WHAT IS HE DOING NEXT?				
CHI: dann will er # aehm ihn finden. ⑤ <i>Then he.PRO.PER wants um to find him.</i>	Boy	pers_pronoun	correct	correct
CHI: was ruft der? ⑤ <i>What does he.PRO.DEM yell? [Dog yells as well!]</i>	Boy	dem_pronoun	correct	correct
EX: I DON'T KNOW. WHAT DO YOU THINK?				
CHI: Frosch! [shouts] <i>Frog!</i>				
EX: EXACTLY! AND THEN?				
CHI: und der Hund auch. ⑤ <i>And the.DEF.ART dog.N as well.</i>	Dog	def.art+N	correct	correct
EX: AND THEN?				
CHI: < dann wird > [/] dann ## wird in [*] Loch etwas sagen. ⑥ <i>[Correcting himself] And then [no subject] will say something in [missing article*] hole.</i>	Boy	zero_incorrect	incorrect (reference unclear)	incorrect (subject omission, case)
EX: AND WHAT'S HERE?				
CHI: da kommen Bienen raus. ⑥ <i>There are bees.N coming out.</i>	Bees	bare_N	correct	correct
CHI: das ist eine Maus. <i>This is a.INDEF.ART mouse.N. ⑦</i>	Gopher	indef.art+N	correct	correct

EX: A MOUSE COMES OUT. YES.				
CHI: aus dem # Loch kommt eine [*] Frosch raus. ⑦ From the hole a.INDEF.ART.FEM frog.N.MASC comes out.	Frog	indef.art+N	correct	incorrect (gender agreement)
CHI: wie bei der Eule. ⑧ Like with the.DEF.ART owl.N. %com: <i>bei</i> 'with/in the case of' is unusual	Owl	def.art+N	incorrect (introducing)	correct
CHI: er ruft wieder aehm Frosch. ⑧ He.PRO.PER calls again um frog.	Boy	pers_pronoun	correct	correct
CHI: und dann hat er ihn genommen. ⑨ And then he.PRO.PER has taken him.	Deer	pers_pronoun	incorrect (reference unclear)	correct
EX: AND THEN?				
CHI: dann fällt er # ihm & runt ... ⑪ Then he.PRO.PER falls & dow ...	Boy	pers_pronoun	incorrect (reference unclear)	correct
CHI: diese beide runter. ⑪ those.DET.PRO.DEM two.PRO.QN down.	Boy, Dog	dem.det+ qn_pronoun	incorrect (reference unclear)	incorrect (case)
CHI: und er läuft weiter ... ⑩ And he.PRO.PER runs further... %com: He goes back to the previous picture.	Boy	pers_pronoun	incorrect (reference unclear)	correct
CHI: dann wird diese [*] runterfallen. ⑩ Then this.PRO.DEM [*] will fall down. %com: Future tense makes sense, since he went back to pic. 10.	Boy	dem_pronoun	incorrect (reference unclear)	incorrect (gender agreement)
CHI: dann ist er im [*] Wasser reingefallen. ⑫ Then he.PRO.PER fell into.PREP.DAT [wrong case] water.	Boy	pers_pronoun	correct	correct ²⁴
CHI: und Wasserfrösche. ⑬ And water frogs. %com: <i>Wasserfrösche</i> 'water frogs' is very uncommon and could be a child neologism.	Frog family	bare_N	correct	correct
EX: AND THEN?				
CHI: dann geht der Hund auf den Kopf. Then the.DEF.ART dog.N goes on the head. ⑬	Dog	def.art+N	correct	correct
CHI: und er sitzt. ⑬ And he.PRO.PER sits.	Boy	pers_pronoun	incorrect (reference wrong)	correct
EX: AND THEN?				
CHI: dann hat er zwei Frösche gefunden. ⑭ Then he.PRO.PER found two frogs.	Boy	pers_pronoun	correct	correct
EX: AND THEN?				

²⁴ Even though the prepositional phrase is incorrect (*im** *Wasser* instead *ins Wasser* 'in the water'), the reference is used correctly.

CHI: dann sind da alle anderen Frösche <i>Then there are all.DET.QN the other.ADJ frogs.N. 15</i>	Frog family	qn.det+Adj +N	correct	correct
CHI: und da ist noch ein Frosch. 16 <i>And there is one.INDEF.ART more frog.N.</i>	Frog	indef.art+N	correct	correct

Picture numbers: (1) frog in glass (2) frog leaves the glass, boy and dog sleep (3) boy realizes that the frog went missing (4) boy and dog look for the frog in the room (5) boy and dog look for the frog outside (6) boy looks into a hole in the ground, dog in a beehive (7) a gopher bites the boy in the nose (8) boy touches the deer antler (9) deer runs away with the boy on top of his head (10) deer runs to an abyss (11) deer throws the boy down (12) boy and dog fall into the water (13) boy and dog are sitting in the water hearing frogs croak (14) boy and dog find a frog couple (15) boy and dog find a frog family (16) boy leaves with the frog and waves to the frog family

What becomes evident from Ivan's transcript, is the frequent use of the connectors **dann** 'then' and **da** 'there' to start a new utterance. These kinds of temporal deixes are important for the narrative structure and appear very frequently in child narration (e.g. Boueke et al., 1995; Rehbein, 2007). Interestingly, he uses the temporal deixis in both languages when telling the story (see *onda* 'then' in Croatian transcript, Table 51). His German transcript shows moreover that he is not responding to the experimenter's question 'Is it maybe Luka?' at the beginning of the storyline when looking at the picture (1).

In his German narration, Ivan is not quite resolving the plot of the story, as he is in the Croatian version three months earlier. He is only describing the end of the storyline with the fact that the boy has found two frogs, and elaborating that there are other frogs as well, and 'one more'. Yet, there is no reference to the same frog that vanishes at the beginning of the story, neither a comment on the boy taking the frog back home.

Ivan's narrative competences show a rather descriptive way of telling the story in both languages. However, Berman and Slobin (1994) themselves state that 3- to 5-year-olds still struggle with narrative competences, since their storytelling strategy is more descriptive-deictic and less coherent. Berman (1988, 2014) shows in her research using the *Frog Story* that children aged 3–4 have difficulties sustaining a coherent storyline and that narrative competence appears later in a child's language acquisition and start emerging around 3 years of age (Nelson, 1996). Many scholars (e.g. Hudson & Shapiro, 1991; Veneziano & Hudelot, 2009) claim that picture-stories are rather difficult to grasp, since their structure is not immediately 'visible' to young children and needs to be primarily understood, to be able to narrate the plot and to connect the pictures.

When looking more closely into both of Ivan's elicited languages, the data reveals a higher correctness rate in the German version of the *Frog Story* as illustrated in Table 56 below. His textual correctness in Croatian reaches 56%, while in German it shows 64%. The grammatical correctness is diverging as well, while the correctness rate for Croatian is 68%, for German, it reaches 84%. Simultaneously, the mean length of utterances in words (MLUw) is 3.4 higher than in Croatian with 3.0, and a standard deviation (SD) of 1.8 vs. Croatian SD 2.1. Therefore, micro-level analysis shows a better outcome in German than in Croatian, however, when observing the macro level and the global structure of the narration, Ivan detects the plot of the story in Croatian and elaborates about the finding of the missing frog, which he does not in German.

Table 56 Ivan's results obtained on the *Frog Story* in Croatian and German for textual and grammatical correctness, MLUw and SD

Ivan	Textual correctness	Grammatical correctness	MLUw	SD
Croatian	56%	68%	3.0	2.1
German	64%	84%	3.4	1.8

These results are likely to be related to Ivan's vocabulary development, which may have an influence on his narrative competence at age 4. The high results on the vocabulary assessment, the higher MLU and a stronger focus on books in German appear to have some impact on Ivan's narrative competences in German. He scores rather high at the German vocabulary assessment at age 4;6 – the highest among all four children of this study – while his Croatian vocabulary score shows an age equivalent of one-year younger monolingual peers, which can be explained by a predominance of German.

Similar to these results, literature (e.g. Korecky-Kröll, Dobek, et al., 2018; Uccelli & Páez, 2007) suggests that a higher vocabulary proficiency correlates with better narrative competences in bilingual and monolingual children. However, contradictory result are also found in literature, as in the study by Nicoladis and Jiang (2018), which states that bilingual Mandarin-English children aged 4–6 showed the same vocabulary diversity in storytelling as monolingual peers, yet, a lower score in vocabulary testing. This study indicates that in monolinguals, vocabulary size is a predictor for vocabulary diversity in storytelling, whereas in bilinguals 'cognitive abilities to lexicalize concepts' might be more important, as the authors (Nicoladis & Jiang, 2018) conclude.

Another possible explanation for this diverse outcome in his two languages may be the **book-reading habits** within the family. They were elicited in the interview with the mother and reveal that at age 3;6 Ivan is mainly interested in books with vehicles, which may be influenced by the popular Disney TV show *Cars* that he watches regularly. His parents read to him in German several times a week, but only in very brief episodes. In general, the mother underlines that he is not very much into books. One year later, at age 4;6 the mother discloses that the parents read to him several times a week in both languages. Furthermore, she reiterates that the family has around 40 books at home, and 30 of them are children's books. Apparently, book-reading habits are not very consistent in Ivan's family and it appears that German is more strongly fostered in that regard, especially when accounting for book-reading sessions in preschool.

Many researchers (e.g. Cristofaro & Tamis-LeMonda, 2012; Duursma et al., 2007; Hart & Risley, 1995; Hoff, 2006) claim that children in low socioeconomic households usually engage less in shared book readings and are less exposed to learning environments at home, which is consistent with Ivan's situation at home. These studies, however, are usually conducted in the US, where low and high SES families may diverge more than in Austria. Nevertheless, one study by Mayo and Leseman (2008) in the Netherlands found that two ethnic-cultural minority groups – namely the Turkish and Moroccan-Berber population – supported early home literacy activities in their language of origin according to their cultural academic traditions. While among the Turkish population, academic achievement is part of the tradition, the Moroccan-Berber populations' language *Tarifit* is only a spoken language and not part of the educational system or media, which reflects the home literacy activities. The same can be concluded for book-reading habits at home, meaning that if children grow up with many books at home, they achieve higher schooling than children from bookless homes (Evans et al., 2010). Consistent with the literature, this study suggests that Ivan's narrative outcome may be influenced by the home literacy traditions in his family.

6.1.3.2 Narrative competences of case study 2 – Ana

Ana's version of the *Frog Story* for Croatian is elicited at age 4;3 and for German at 4;7. The results for the Croatian narration show a total number of 23 (co)referential elements used by Ana to tell the story, while the results for the German narration subsume 27 (co)referential elements.

Croatian Frog Story

Ana narrates the Croatian version by referring only to the main protagonists: the dog (11x), the boy (8x), and the frog (3x), while she mentions only one antagonist, namely the beehive at one occurrence. Consequently, the story revolves around the three main characters of the story that are first introduced, then either maintained in the storytelling or switched to another character by using various referential devices. The referential device most frequently used by Ana is an ellipsis (10/23), followed by bare nouns (5/23), personal pronouns (4/23), two nouns with a definite and one with an indefinite determiner, and one demonstrative pronoun. She is actually mentioning the protagonists very infrequently in her observation of the pictures, that is why the referential devices are mostly ellipsis, where no subject is mentioned directly but where gender and number are transparent through the conjugated verb. Furthermore, she also uses many personal (or demonstrative) pronouns, where naming subjects becomes obsolete.

When analyzing introduced characters, Ana is only introducing the boy and the dog to the story. The frog is mentioned by the child in the object position with a demonstrative pronoun and brought up by the experimenter asking, 'Is that a frog?'. The beehive, on the other hand, appears only once in the story.

Table 57 Ana introducing characters in the Croatian Frog Story

Introducing characters	Referential devices	Utterance
Boy	ellipsis	<i>spava</i> 'sleeps'
Dog	bare_N	<i>cuko</i> 'doggy'

Coreferential maintaining appears in seven utterances. The dog is maintained most frequently in the process of storytelling (4/7), while the boy is maintained only two times, and the frog only once.

Table 58 Ana maintaining characters in Croatian Frog Story

Maintaining characters	Referential devices	Total
Boy		2
	ellipsis	1
	indef.det+N	1
Dog		4
	bare_N	1
	def.det+N	1
	pers_pronoun	2
Frog		1
	ellipsis	1
Grand Total		7

Coreferential switching also appears very frequently in Ana's narration (14x), mostly by insinuating the dog (6x) and the boy (5x). The referential devices used the most to switch between characters are ellipsis (7/14), followed by bare nouns (3/14), personal pronouns (2/14), and one demonstrative pronoun as well as one noun with a definite determiner.

Table 59 Ana switching characters in Croatian Frog Story

Switching characters	Referential devices	Total
Beehive		1
	dem_pronoun	1
Boy		5
	ellipsis	4
	pers_pronoun	1
Dog		6
	bare_N	2
	def.det+N	1
	ellipsis	2
	pers_pronoun	1
Frog		2
	bare_N	1
	ellipsis	1
Grand Total		14

The Croatian *Frog Story* is analyzed on the microstructural level regarding (co)referential characters, referential devices and their textual and grammatical correctness, as illustrated in Table 60 below. As mentioned earlier, Ana produces a total amount of 23 (co)referential elements, of which she voices 10 textually incorrect (43%), and 13 textually correct (57%) utterances, as well as 10 grammatically incorrect (43%), and 13 grammatically correct (57%) ones. Textual (co)reference often remains unclear, due to the very frequent omission of subject, which is favored by Croatian grammar. This is a possible explanation for the textually incorrect (co)references.

Table 60 Ana's Frog Story in Croatian regarding (co)referential elements, textual and grammatical correctness

Utterance <i>and picture numbers</i>	Character	Referential device	Textual correctness	Grammatical correctness
EX: WHAT IS HAPPENING?				
CHI: gleda cuko ovu. ① <i>The doggy is watching her.</i>	Dog	bare_N	correct	correct
EX: AT WHOM [ACC.] IS THE DOGGY LOOKING?				
CHI: ovu mh. ① <i>Her mh.</i>	Object position			
EX: IS THAT A FROG?				
CHI: mhm. ① <i>mhm.</i>				
EX: OKAY. NOW TELL ME MORE.				
CHI: hoće gledati žabu. ① <i>[subject missing] wants to look at the frog.</i>	Dog	ellipsis	incorrect (reference unclear)	incorrect (subject omission)
EX: OKAY. AND WHAT IS HE DOING?				
CHI: spava! ② <i>[subject missing] sleeps.</i>	Boy	ellipsis	incorrect (reference unclear)	incorrect (subject omission)
EX: WHO IS SLEEPING?				
CHI: jedno dijete. ② <i>One child.</i>	Boy	indef.det+N	correct	correct
EX: OKAY, AND WHAT IS THE DOG DOING?				
CHI: hoće gledati žabu. ① <i>[subject missing] wants to look at the dog.</i>	Dog	ellipsis	correct	correct
EX: AND THEN?				
CHI: hoće van ići. ② <i>[subject missing] wants out.</i>	Frog	ellipsis	incorrect (reference unclear)	incorrect (subject omission)
EX: WHERE? WHERE IS THE FROG?				

CHI: ovdje unutra je bila. ③ <i>She [frog is female in Croatian] was here inside.</i>	Frog	ellipsis	correct	correct
EX: AND WHAT NEXT?				
CHI: zovne nekoga i onda ... ⑤ <i>[subject missing] calls someone and then ...</i>	Boy	ellipsis	incorrect (reference unclear)	incorrect (subject omission)
EX: AND THEN?				
CHI: cuko skače. ⑥ <i>The doggy jumps.</i>	Dog	bare_N	correct	correct
EX: SHALL WE GO ON? WHAT NOW?				
CHI: em žabu studo@c unutra. ⑦ <i>um the frog.N.FEM.ACC.SG [child-specific word] inside.</i>	Frog	bare_N	correct	incorrect (case)
CHI: i on skače, hoće tu uhvatiti. ⑦ <i>And he jumps and wants to catch that.</i>	Dog	pers_pronoun	incorrect (reference unclear)	correct
EX: WHAT IS HE CATCHING?				
CHI: ovo. ⑦ <i>This.PRO.DEM.NEUT.SG</i>	Beehive	dem_pronoun	incorrect (reference unclear)	incorrect (gender agreement)
EX: AND THEN?				
CHI: plače! ⑦ <i>[subject missing] cries!</i>	Boy	ellipsis	incorrect (reference unclear)	incorrect (subject omission)
EX: AND WHAT NOW?				
CHI: cuko tude. ⑧ <i>Doggy there.</i>	Dog	bare_N	correct	incorrect (predicate missing)
CHI: i ovaj cuko hoće # e:m hoće gore. ⑧ <i>And that doggy wants # um wants up.</i>	Dog	def.det+N	correct	correct
EX: SHALL WE GO ON? WHAT DO YOU SEE ON THE NEXT PICTURE?				
CHI: on # hoće ovdje lajati. ⑩ <i>He wants to bark here.</i>	Dog	pers_pronoun	correct	correct
EX: AND WHAT HAPPENS NEXT?				
CHI: on hoće molapa@c on hoće xxx. ⑩ <i>He wants [child-specific word] he wants xxx.</i>	Boy	pers_pronoun	incorrect (reference unclear)	correct
EX: AND WHAT'S WITH THIS ONE?				
CHI: hoće pasti. ⑪ <i>[subject missing] will fall.</i>	Boy	ellipsis	incorrect (reference unclear)	incorrect (subject omission)
EX: LET'S LOOK FURTHER. HUH WHAT HAPPENED TO HIM HERE?				
CHI: pao je! ⑪	Boy	ellipsis	correct	correct

[subject missing] fell.V.PART.MASC.SG.				
EX: AND THEN WHAT HAPPENS?				
CHI: ovaj cuko hoće gore na glavu. This doggy wants up on his head. (13)	Dog	def.det+N	correct	correct
EX: HAHA OKAY AND WHAT'S NEXT?				
CHI: cuko hoće žabu dohvatiti. The doggy wants to get the frog. (14)	Dog	bare_N	correct	correct
EX: AND HERE?				
CHI: on hoće dohvatiti žabu. He wants to get the frog. (14)	Dog	pers_pronoun	correct	correct
EX: AND WHAT'S IN THE END?				
CHI: hoće ići gore. (16) [subject missing] wants to go up.	Boy	ellipsis	incorrect (reference unclear)	incorrect (subject omission)
EX: AND WHOM [ACC.] IS HE HOLDING IN HIS HAND?				
CHI: žabu! (16) The frog.N.FEM.ACC.SG.	Object position			
EX: EXCELLENT!				

Picture numbers: (1) frog in glass (2) frog leaves the glass, boy and dog sleep (3) boy realizes that the frog went missing (4) boy and dog look for the frog in the room (5) boy and dog look for the frog outside (6) boy looks into a hole in the ground, dog in a beehive (7) a gopher bites the boy in the nose (8) boy touches the deer antler (9) deer runs away with the boy on top of his head (10) deer runs to an abyss (11) deer throws the boy down (12) boy and dog fall into the water (13) boy and dog are sitting in the water hearing frogs croak (14) boy and dog find a frog couple (15) boy and dog find a frog family (16) boy leaves with the frog and waves to the frog family

Not every picture is mentioned in Ana's narration. She usually describes only one action on the two-paged picture story. What is outstanding in her narrative style is the use of the auxiliary verb **hoće** 'he wants' in her utterances. She uses it in 12 utterances to narrate the *Frog Story*. Furthermore, her utterances are rather short and therefore not very lexically diverse, due to a similar sentence structure.

The macrostructural level of the story with the *onset of the plot* (the boy realizes that the frog is gone), *unfolding the plot* (search for the frog), *resolution of the plot* (they find the same frog or a different one and take him home), as described by Berman and Slobin (1994), is only marginally visible in the transcript of Table 60. She mentions that the frog went missing by saying **ovdje unutra je bila** 'she was here inside', but further than that the search after the frog – that has female gender in Croatian – is unclear, even though Ana states that the frog is somewhere inside: **žabu studo@c unutra** 'the frog [child-specific word] inside'. However, the alleged frog is actually a gopher; one of the antagonists of the *Frog Story*. Furthermore, the resolution of the plot failed, since

Ana is not addressing the issue of the boy taking the frog home, only that the boy wants to go up – meaning back to the forest. Yet, she responds correctly to the experimenter’s question regarding the last picture sequence, who the boy is holding in his hand, with **žabu** ‘the frog’.

German Frog Story

The results of the German *Frog Story* are described in the following. In her German narration, Ana uses 27 (co)referential elements to tell the story, but again her elicitation focuses on the main characters (boy, dog, frog), and only one antagonist, namely the deer, whom she refers to with a demonstrative pronoun (4x). Apart from that, Ana only refers to the boy (13x) and the dog (5x) or both in the plural (4x) to narrate the *Frog Story*. The referential devices used by Ana are nouns with definite articles (12), demonstrative pronouns (12), personal pronouns (2), and one noun with an indefinite article.

However, the frog is mentioned only once, and he is not introduced to the story as a referential element, since he is mentioned beforehand as an object in a sentence where the dog acts as the referential character (picture no. 1). The characters introduced to the story are only the boy and the dog with a noun and amdefinite article, and the deer with a demonstrative pronoun as mentioned above.

Table 61 Ana introducing characters in the German Frog Story

Introducing characters	Referential devices	Utterance
Boy	def.art+N	<i>das Kind</i> ‘the child’
Dog	def.art+N	<i>das [*] Hund</i> ‘the dog’
Deer	dem_pronoun	<i>der</i> ‘that one’

Ana is maintaining the characters rather continuously, mostly by using a demonstrative pronoun (9x). When maintaining coreferences, the use of pronouns is legitimate and comprehensible, since the character of the story remains the same. When introducing references or switching coreferences other referential devices are necessary to make the reference graspable.

Table 62 Ana maintaining characters in the German Frog Story

Maintaining characters	Referential devices	Total
Boy		6
	dem_pronoun	5
	pers_pronoun	1
Deer		2
	dem_pronoun	2
Dog		1
	def.art+N	1
Dog, Boy		3
	dem_pronoun	2
	pers_pronoun	1
Grand Total		12

When analyzing coreferential switching, Ana shifts rather frequently (12x) between the characters of the story, as is visible from Table 63 below. However, for switching between the different characters, preferably she uses nouns with a definite article (9x) – on the contrary to the mentioned above case of maintaining characters with mostly pronouns – which indicates high textual correctness due to the clear coreference. Other than that, she uses two demonstrative pronouns and one noun with an indefinite article to switch between characters.

Table 63 Ana switching characters in the German Frog Story

Switching characters	Referential devices	Total
Boy		6
	def.art+N	4
	dem_pronoun	1
	indef.art+N	1
Deer		1
	dem_pronoun	1
Dog		3
	def.art+N	3
Dog, Boy		1
	def.art+N	1
Frog		1
	def.art+N	1
Grand Total		12

Table 64 below illustrates Ana's German narration of the *Frog Story* at age 4;7. The total of 27 (co)referential elements used in this elicitation is divided into: 6 (22%) incorrect textual (co)references and 21 (78%) correct textual (co)references; as well as 5 (19%) incorrect grammatical (co)references and 22 (81%) correct grammatical (co)references. The incorrect textual (co)references are mostly due to general use of demonstrative pronouns, which often makes textual (co)references incomprehensible. Grammatical incorrectness on the other hand is mostly due to gender agreement of German (in)definite articles.

Table 64 Ana's Frog Story in German regarding (co)referential elements, textual and grammatical correctness

Utterance and picture number	Character	Referential device	Textual correctness	Grammatical correctness
EX: SO, WHAT IS HAPPENING HERE?				
CHI: das [*] Hund schaut den Frosch an. ① The.DEF.ART.NEUT dog.N.MASC looks at the frog.	Dog	def.art+N	correct	incorrect (gender agreement)
EX: AND WHAT ELSE?				
CHI: das Kind schaut den Hund an. ① The kid looks at the dog.	Boy	def.art+N	correct	correct
EX: EXACTLY, AND WHAT HAPPENS ON THE NEXT PAGE?				
CHI: der Frosch will raus ... ② The frog wants out...	Frog	def.art+N	correct	correct
CHI: und # die [*] kleine schlaft. ② And the.DEF.ART.FEM [wrong gender] little sleeps.	Boy	def.art+N	correct	incorrect (gender agreement)
EX: EXACTLY! DO YOU WANT TO TURN THE PAGE? WHAT HAPPENS NEXT?				
CHI: das [*] Hund schlaft auf dem Kind. ② The. DEF.ART.NEUT dog.N.MASC sleeps on the kid.	Dog	def.art+N	correct	incorrect (gender agreement)
EX: AND THEN?				
CHI: und dann hat ein Kind das [*] Schuh genehmt@m. ④ And then a kid has taken the [wrong case] shoe. [genehmt instead of genommen 'taken.V.PP*'].	Boy	indef.art+N	correct	correct
EX: YOU CAN TURN THE PAGE WHENEVER YOU'RE DONE. AND THEN?				

CHI: der ruft Mama. ⑤ <i>This one calls mommy.</i>	Boy	dem_pronoun	incorrect (unclear reference)	correct
EX: AND WHAT HAPPENS THEN?				
CHI: ## der ist alleine. ⑤ <i>This one is alone.</i>	Boy	dem_pronoun	correct	correct
EX: WHAT HAPPENS HERE?				
CHI: der ruft jemanden. ⑥ <i>This one calls someone.</i>	Boy	dem_pronoun	correct	correct
EX: WHAT ELSE DO YOU SEE?				
CHI: der Hund will die Bienen. ⑥ <i>The dog wants the bees.</i>	Dog	def.art+N	correct	correct
EX: AND THEN?				
CHI: und dann # hat der [*] Kind ... ⑦ <i>And then has the.DEF.ART.MASC kid.N.NEUT ...</i>	Boy	def.art+N	correct	incorrect (gender agreement)
CHI: dann hat er ... ⑦ <i>Then he has ...</i>	Boy	pers_pronoun	correct	correct
CHI: # warum ist der so böse? ⑦ <i>Why is that one mad?</i>	Boy	dem_pronoun	correct	correct
EX: WHY IS HE MAD? SHOULD WE LOOK? WHAT IS GOING ON HERE?				
CHI: der ruft jemanden. ⑧ <i>That one calls someone.</i>	Boy	dem_pronoun	incorrect (reference unclear)	correct
CHI: # da will der raus. ⑨ <i>There this one wants out.</i>	Deer	dem_pronoun	incorrect (reference unclear)	correct
EX: OUT WHERE?				
CHI: der ist alleine. ⑨ <i>This one is alone.</i>	Deer	dem_pronoun	correct	correct
CHI: der kann gar nicht raus. ⑨ <i>This one can't get out.</i>	Deer	dem_pronoun	correct	correct
EX: WHAT HAPPENS THEN?				
CHI: der fällt runter. ⑪ <i>That one falls down.</i>	Boy	dem_pronoun	incorrect (reference unclear)	correct
CHI: der hat ihn geschubst. ⑪ <i>This one shoved him.</i>	Deer	dem_pronoun	incorrect (reference unclear)	correct
EX: AND THEN?				
CHI: der Hund und der [*] Kind sind runtergefallen. ⑫ <i>The dog and the.DEF.ART.MASC kid.N.NEUT fell down.</i>	Dog, Boy	def.art+N	correct	incorrect (gender agreement)
EX: AND WHAT HAPPENS NEXT?				
CHI: die sind in [*] Wasser. ⑬ <i>They are in [article missing] water.</i>	Dog, Boy	dem_pronoun	correct	correct

EX: AND WHAT DO THEY FIND HERE?				
CHI: der Hund hat die [*] Frosch gesehen. (14) <i>The dog has seen the [wrong case] frog.</i>	Dog	def.art+N	correct	correct
EX: MHM! AND THEN?				
CHI: der Hund hier hat er auch Frösche gesehen. (15) <i>The dog here he has seen frogs too.</i>	Dog	def.art+N	correct	correct
EX: AND WHO ELSE?				
CHI: und das Kind. (15) <i>and the kid.</i>	Boy	def.art+N	correct	correct
EX: AND WHAT HAPPENS IN THE END?				
CHI: die sind hier im Wasser... (16) <i>They are here in the water...</i>	Dog, Boy	dem_pronoun	incorrect (reference unclear)	correct
CHI: sie haben gesehen die Frosche@m. (16) <i>They have seen the frogs [overt plural overgeneralization].</i>	Dog, Boy	pers_pronoun	correct	correct
EX: AND HERE?				
CHI: das Kind hat in der Hand ein [*] Frosch. (16) <i>The kid carries a [wrong case] frog in his hand.</i>	Boy	def.art+N	correct	correct

Picture numbers: (1) frog in glass (2) frog leaves the glass, boy and dog sleep (3) boy realizes that the frog went missing (4) boy and dog look for the frog in the room (5) boy and dog look for the frog outside (6) boy looks into a hole in the ground, dog in a beehive (7) a gopher bites the boy in the nose (8) boy touches the deer antler (9) deer runs away with the boy on top of his head (10) deer runs to an abyss (11) deer throws the boy down (12) boy and dog fall into the water (13) boy and dog are sitting in the water hearing frogs croak (14) boy and dog find a frog couple (15) boy and dog find a frog family (16) boy leaves with the frog and waves to the frog family

When analyzing Ana's grammatical correctness, it appears that she is struggling with gender agreement at this point in language acquisition in German. This becomes evident in some examples of wrong gender agreement as in the cases, when she uses **das Hund** 'the.DEF.ART.NEUT dog.N.MASC' or **der Kind** 'the.DEF.ART.MASC kid.N.NEUT' to refer to the protagonists in the story. However, during her narration, she uses the correct gender, first masculine for the dog and then neuter for the kid (boy). This may be an indication of overcoming a developmental step in the gender agreement of German.

Another interesting example in this regard is Ana's description of picture (4), which is labeled grammatically 'correct' for the reference in the subject position: **ein Kind** 'a kid'. However, as visible from the example, the child uses the wrong case and

gender for the object position **das*** **Schuh** ‘the shoe’, which requires a masculine (**der.DEF.ART.MASC**) and not a neuter definite article (**das.DEF.ART.NEUT**). Nonetheless, the correct accusative case would be **den Schuh**:

*CHI: und dann hat **ein Kind** das [*] Schuh genehmt@m.
 And then has a kid the.DEF.ART.NEUT shoe.N.MASC taken*.
And then a kid has taken the shoe.

%com: Overgeneralization of the German participle perfect: **genehmt** ‘taken.V.PP*’ instead of **genommen**.

Correct: und dann hat ein Kind den Schuh genommen.

There are other similar examples for wrong gender or number agreement, or wrong case that she corrects later on during her narration, for example in picture (13) **in*** **Wasser** ‘in the water’ vs. picture (16) **im Wasser** ‘in the water’ with the correct dative case marking.

The resolution of the plot of finding the frog has no specification in Ana’s storytelling, she simply elaborates that the boy is holding a frog in his hand without specifying if it was his frog, a new frog, or if he was taking him back home. Furthermore, she is not mentioning that the frog went missing as illustrated in picture (3). She solely skips the description of that picture in her narration. When comparing this outcome to the Croatian story-ending, it appears that she is at least aware that the story is centering around the finding of the frog, which is not entirely clear in the Croatian narration.

Ana’s two **narrations**, in **Croatian and German**, reveal an interesting picture. The style is quite overlapping for both languages when viewed at the beginning of the story. In both languages, Ana describes how the protagonists are observing the frog, followed by the next scene (2) when the boy sleeps – which is narrated much more thoroughly in German than in Croatian, since in her Croatian narration, she only briefly mentions that the boy is asleep while elaborating in German that ‘*the little one [boy] is asleep and the dog is sleeping on the kid*’. The escape of the frog is described similarly in both languages as well, by stating that the frog ‘wants out’ and he ‘was here inside’, meaning the glass. The following picture sequences 5 to 13 are also analogous, yet, in general very brief. Nevertheless, the end of the story is much more elaborate in German than in Croatian, where she remarks that the boy is holding a frog in his hand, while in

Croatian she is just indicating that the boy is walking away. Consequently, the experimenter has to ask her what the boy is holding in his hand, which she answers correctly.

When comparing the results for both languages on the microstructural level, textual correctness is much higher in German (78%) than in Croatian (57%), and grammatical correctness shows an even higher divergence between the Croatian (57%) and German correctness rate (81%). Moreover, German utterances are longer (MLUw 3.7) than the Croatian ones (MLUw 2.2).

Table 65 Ana's results obtained on the Frog Story in Croatian and German for textual and grammatical correctness, MLUw and SD

Ana	Textual correctness	Grammatical correctness	MLUw	SD
Croatian	57%	57%	2.2	1.4
German	78%	81%	3.7	1.8

The slightly better outcome in the German narration when considering textual correctness and MLUw may be a correlation to her vocabulary development in German. The Croatian MLUw is explainable through the rather short utterances and the use of the rather simple and repetitive style of using the auxiliary verb *htjeti* 'to want'.

Ana's vocabulary growth in German appears to be stronger than in Croatian when comparing the two time points of the vocabulary assessment in both languages. In both narrations, Ana is only mentioning the main characters of the story, which may be an indication for a lack of vocabulary for the antagonists of the story (gopher, bees, deer, etc.), as emphasized by Korecky-Kröll et al. (2018, p. 561). Children may use strategies to compensate for the lack of words, by using an ellipsis in Croatian for example, or demonstrative pronouns in German.

When looking more thoroughly into Ana's **book-reading habits at home**. The interview with her mother reveals that at age 3;3, book reading sessions take place multiple times a week in both languages, yet slightly more often in German than in Croatian. However, retelling stories or fairy tales occurs in Croatian, while looking at picture books or children's books takes place in German. A similar outcome is described one year later at age 4;3. Yet, book reading sessions become less frequent

in general. However, the mother states that Ana likes re-telling fairy tales in Croatian. At the fourth time point of the spontaneous speech recording at home, Ana (age 4;6) spontaneously retells the story of the *Little Red Riding Hood* to the experimenter that her mother tells her regularly during bedtime:

Table 66 Transcript of spontaneous speech recording at home – Ana (age 4;6) retelling the *Little Red Riding Hood*

*EX1: a reci mi samo tko je ta crvenkapica? <i>Now tell me, who is that Little Red Riding Hood?</i>
*CHI: jedna mala crvenkapica je bila ovako. <i>The Little Red Riding Hood was like that.</i>
*EX1: je li to djevojčica? <i>Is that a girl?</i>
*CHI: djevojčica. <i>Girl.</i>
*EX1: aha:!
*EX1: i šta ona radi? <i>And what is she doing?</i>
*CHI: ona je išla kod svoje bake. <i>She went to her grandmother's.</i>
*EX1: a zašto je išla kod svoje bake? <i>And why did she go to her grandmother's?</i>
*CHI: što joj mama rekla da je ona ti bolesna. <i>Because her mother said that she was sick.</i>
*CHI: treba njoj malo kruha dati. <i>She needs someone to give her some bread.</i>
*CHI: i vino. <i>And wine.</i>
*CHI: i kolača. <i>And cake.</i>
*EX1: aha.
*EX1: i s kim je išla crvenkapica kod bake? <i>And who went with the Little Red Riding Hood to her grandmother's?</i>
*CHI: crvenkapica je išla kod svoje bake. <i>The Little Red Riding Hood went to her grandmother's.</i>
CHI: onda je u šumi [] išla. <i>Then she went to the forest [wrong case marker].</i>
CHI: i vuk [] nju vidio. <i>And the wolf [auxiliary verb omission] seen her.</i>
CHI: < i onda je > [/] vuk je [] maknio@d ²⁵ [: maknuo]. <i>And then the wolf is [*] disappeared.</i>
CHI: i išlo [] kod bake. <i>And gone [*] to the grandmother.</i>
*CHI: i pojeo baku. <i>And ate the grandmother.</i>
*EX1: ha:!
*CHI: i onda je obučio@m bakinu pidžamu. <i>And then he put on grandmother's pajamas.</i>
*EX1: aha.
*CHI: i onda je u krevet iš(a)o. <i>And then he went to bed.</i>
*CHI: i onda je (.) crvenkapica kucala. <i>And then the Little Red Riding Hood knocked on the door.</i>
*CHI: to je samo <crvenkapica bila> [!]. <i>That was only the Little Red Riding Hood.</i>
*CHI: vuk je otvorio. <i>The wolf opened.</i>
*EX1: mhm.
*CHI: onda je crvenkapica rekla +"/. <i>Then the Little Red Riding Hood said:</i>

²⁵ @d = dialectal expression; [*] = grammatical mistake; [/] = correcting herself; @m = morphological mistake

*CHI: +" zašto imaš ovakve velike oči? "What big eyes you have?"
*CHI: +" da te mogu bolje vidjeti. "The better to see you with"
*CHI: +" zašto imaš ovake@d [: ovakve] velike uši? "What big ears you have?"
*CHI: +" da te mogu bolje čuti. "The better to hear you with"
*EX1: aha.
CHI: +" zašto imaš ovake@d [: ovakve] [] velike [*] usta? "What a big [wrong case and number] mouth you have"
*CHI: +" da te mogu bolje pojesti! "The better to eat you with!"
*CHI: onda je pojeo. Then he ate her.
*CHI: i onda je došo@d [: došao] jedan +//. And then came one ...
*CHI: je:dan lovac. One hunter.
*EX1: aha.
*CHI: i onda je vidio da vuk hrče. And then he saw that the wolf was snoring.
*CHI: i moj dijedo@d [: djed] hrče. My grandfather snores too.
*EX1: tvoj dijedo@d [: djed] isto hrče kao vuk. Your grandfather snores like the wolf.
%com: CHI is laughing.
*EX1: dobro i šta je onda bilo? Okay, and what happened then?
*CHI: i onda je čuo ... And then he heard ...
*CHI: onda je lovac čuo kako vuk hrče. Then the hunter heard how the wolf was snoring.
*CHI: i onda je vidio < da ima veliki Bauch > [/] da ima veliki stomak. And then he saw <that he has a big stomach.GERMAN> that he has a big stomach.
*EX1: mhm.
*CHI: i onda je vidio da je baku i crvenkapicu pojeo. Then he saw that he ate the grandmother and the Little Red Riding Hood.
*CHI: i onda je lovac nje@d [: nju] izvadio. And then the hunter took her out.
*CHI: stavio kamenčiće. Put stones in.
*CHI: zatvorio opet. Closed it up.
*CHI: i onda nije više mogo@d [: mogao] ustati. And then he couldn't stand up anymore.

The transcript illustrates that Ana is capable of re-telling a coherent story. What is outstanding in her narrative style is the repetitive use of temporal deixis *i onda* 'and then' to introduce the next sequence of the story, which is a common phenomenon in child narration (Boueke et al., 1995; Rehbein, 2007). The spontaneous narration demonstrates that Ana has experience with storytelling, since she knows the plot of the story and the famous lines of the *Little Red Riding Hood*.

6.1.3.3 Narrative competences of case study 3 – Marko

Marko narrates the Frog Story in Croatian at age 4;3 and in German at age 4;7. The analysis of his narrations reveals the use of 18 (co)referential elements for Croatian and 21 (co)referential elements for German.

Croatian Frog Story

Makro's Croatian narration of the Frog Story is characterized through a noticeable use of German words. The use of German, however, will not affect textual correctness, as it may represent a strategy of the children in their narrative competences. Grammatical correctness, in contrast, needs to be evaluated according to each utterance separately. Moreover, Marko's narration is not exceedingly coherent, since his utterances are very short, mostly containing only one word.

When analyzing his **introduction of characters** to the story, it becomes evident that he is almost exclusively using bare nouns to mention the characters: bee, dog, frog, frog family, gopher and owl. This choice of referential device is due to the exclusive use of German nouns for each character. The missing introduction of the boy is because the boy was mentioned beforehand together with the dog, when describing picture two, where the boy and the dog are sleeping. Marko refers to that picture, and the experimenter's question to 'what they were doing', by simply saying **spavati** 'sleeping' in its infinitive form, yet, referring to both characters. Furthermore, he introduces the deer by using only the German adjective **böse** 'bad'.

Table 67 Marko introducing characters in the Croatian Frog Story

Introducing characters	Referential devices	Utterance
Bee	bare_N	<i>Biene</i> 'bee.GER'
Deer	zero_incorrec	<i>böse</i> 'bad.GER'
Dog	bare_N	<i>Hund</i> 'dog.GER'
Frog	bare_N	<i>Frosch</i> 'frog.GER'
Frog family	bare_N	<i>Frosch</i> 'frog.GER'
Gopher	bare_N	<i>Igel</i> 'urchin.GER'
Owl	bare_N	<i>Eule</i> 'owl.GER'

Overall, Marko maintains only two characters in his narration, namely the boy and the frog, as visible in the table below. In the frog's case, he is again referring to him with the German noun **Frosch** and in the boy's case with an ellipsis.

Table 68 Marko maintaining characters in the Croatian Frog Story

Maintaining characters	Referential devices	Total
Boy		1
	ellipsis	1
Frog		2
	bare_N	2
Grand Total		3

Marko is rather consistently switching between the main characters in his storytelling. He is often using verbal forms, either as an ellipsis, or zero incorrect forms when using German, which makes comprehension rather difficult, since the coreferential character remains unclear. Furthermore, he uses personal pronouns or bare nouns to switch between characters in his Croatian narration.

Table 69 Marko switching characters in the Croatian Frog Story

Switching characters	Referential devices	Total
Boy		3
	ellipsis	2
	pers_pounoun	1
Boy, Dog		3
	ellipsis	1
	pers_pounoun	1
	zero_incorrect	1
Frog		2
	bare_N	1
	ellipsis	1
Grand Total		8

Table 70 illustrates the transcript of Marko's Croatian *Frog Story*, focusing on (co)referential characters, referential devices and their textual and grammatical correctness. The total of 18 (co)referential elements mentioned in his narration are distributed into 11 (61%) textually incorrect and 7 (39%) textually correct utterances,

and analogous to that into 12 (67%) grammatically incorrect and 6 (33%) grammatically correct utterances. What stands out in his narration is the use of single-word-utterances: either as an ellipsis, or zero incorrect forms in German, which leaves the (co)reference unclear, as well as German nouns to refer to the protagonists or antagonists. Consequently, textual correctness is often restricted due to unclarity.

Table 70 Marko's Frog Story in Croatian regarding (co)referential elements, textual and grammatical correctness

Utterance and picture numbers	Character	Referential device	Textual correctness	Grammatical correctness
EX: LET'S LOOK AT IT TOGETHER. WHAT DO WE SEE HERE? WHO IS THAT?				
CHI: Hund. ① Dog.N.GER	Dog	bare_N	correct	correct
EX: MHM AND WHAT IS HE DOING? WHAT ELSE DO WE HAVE HERE? LOOK HOW MUCH THERE IS.				
CHI: ah: i Frosch. ① ah and a frog.N.GER	Frog	bare_N	correct	correct
EX: OKAY, AND WHAT ARE THEY DOING THERE, WHERE ARE THEY?				
CHI: spavati! ② sleeping!	Boy, Dog	ellipsis	incorrect (reference unclear)	incorrect (gender and number agreement)
EX: AND WHAT IS THIS ONE DOING?				
CHI: izaći. ② walking out.	Frog	ellipsis	incorrect (reference unclear)	incorrect (subject omission, gender agreement)
EX: MHM HE WENT OUT. SHALL WE GO ON? WHAT HAPPENS NEXT?				
CHI: ti [*] ima Frosch. ③ You [*] have frog.N.GER.	Boy	pers_pronoun	incorrect (reference unclear)	incorrect (gender agreement)
EX: MHM OKAY LET'S SEE WHERE THE FROG [GERMAN] IS. LET'S GO ON. WHAT ARE THEY DOING?				
CHI: ovdje je Frosch. ⑤ Here is the frog.N.GER.	Frog	bare_N	correct	correct
EX: WHERE ARE THEY?				
CHI: Draußen. ⑤ outside.ADV.GER.				
EX: EXCELLENT. AND THE FROG [GERMAN]?				
CHI: Frosch nema. ⑤ Frog.N.GER is not there.	Frog	bare_N	correct	incorrect (case)

EX: SHALL WE GO ON?				
CHI: < ovdje je Biene > [x 2]. ⑥ <i>Here is the bee.N.GER.</i>	Bee	bare_N	correct	correct
EX: MHM!				
CHI: oni traži [*]! ⑥ <i>They looks [number agreement*]!</i>	Boy, Dog	pers_pronoun	incorrect (reference unclear)	incorrect (number agreement)
EX: WHO ARE THEY LOOKING FOR?				
CHI: Frosch . ⑥ <i>Frog.N.GER.</i>	Object position			
EX: WHAT IS HAPPENING HERE?				
CHI: Igel . ⑦ <i>Urchin.N.GER.</i>	Gopher	bare_N	incorrect (reference unclear)	incorrect (predicate omission)
EX: WHO ELSE?				
CHI: Eule . ⑧ <i>Owl.N.GER.</i>	Owl	bare_N	correct	correct
EX: SHALL WE GO ON? WHAT'S GOING ON HERE? WHO IS THIS?				
CHI: böse . ⑩ <i>Mad.ADJ.GER.</i>	Deer	zero_incorrect	incorrect (reference unclear)	incorrect (subject omission)
EX: WHO IS MAD.GERMAN? HM? LOOK WHAT HE DID!				
CHI: umgefalt@m [x 2]. ⑪ <i>Fallen.GER.V.PP* [participle overgeneralization]</i>	Boy, Dog	zero_incorrect	incorrect (reference unclear)	incorrect (subject omission)
EX: EXCELLENT. OH AND WHERE ARE THEY NOW?				
CHI: plivao . ⑫ <i>swimming.</i>	Boy	ellipsis	incorrect (reference unclear)	incorrect (subject omission)
EX: AND THEN?				
CHI: ima Frosch . ⑭ <i>[subject missing] has a frog.N.GER.</i>	Boy	ellipsis	incorrect (reference unclear)	incorrect (subject omission)
EX: AND WHAT WAS HERE?				
CHI: Frosch [x 4]. ⑮ <i>Frog.N.GER.</i>	Frog family	bare_N	incorrect (introducing)	correct
EX: SHALL WE LOOK WHAT HAPPENS AT THE END?				
CHI: Frosch quack@o [x 4]! ⑯ <i>Frog.N.GER quack [sound]!</i>	Frog	bare_N	correct	incorrect (predicate omission)
EX: AND WHAT IS HE DOING?				
CHI: Frosch ima. ⑰ <i>[subject missing] Has the frog.N.GER.</i>	Boy	ellipsis	incorrect (reference unclear)	incorrect (subject omission, case)
EX: AND THE STORY'S OVER.				

Picture numbers: (1) frog in glass (2) frog leaves the glass, boy and dog sleep (3) boy realizes that the frog went missing (4) boy and dog look for the frog in the room (5) boy and dog look for the frog outside (6) boy looks into a hole in the ground, dog in a

beehive (7) a gopher bites the boy in the nose (8) boy touches the deer antler (9) deer runs away with the boy on top of his head (10) deer runs to an abyss (11) deer throws the boy down (12) boy and dog fall into the water (13) boy and dog are sitting in the water hearing frogs croak (14) boy and dog find a frog couple (15) boy and dog find a frog family (16) boy leaves with the frog and waves to the frog family

Marko's preference for German becomes evident also in his analysis of narrative competences. However, his narrative skills are restricted to a very descriptive pattern of naming either a character or an action he observes on the picture sequences. The subject omission is rather often the reason for grammatical incorrectness, as in his last utterance of the transcript describing picture (16): **Frosch ima** 'frog has'. The syntax is confusing, since he is first mentioning the frog, which is actually the object and not the boy that is the subject. Furthermore, the use of the German word **Frosch** 'frog' in the Croatian sentence is rather peculiar, since it is difficult to identify the noun as an object. Croatian object marking would require an accusative case, which would be an -a ending in case of a masculine noun as is **Frosch** in German (*Dječak ima Frosch-a* 'The boy has a frog'). This sentence refers furthermore to the resolution of the plot, where the boy finds his missing frog. However, the macrostructural level of the story with the *onset of the plot* and the *unfolding the plot* (Berman & Slobin, 1994) is hardly noticeable in his narrative performance. Moreover, the resolution of the plot is as well very vague, since it remains unclear if Marko realizes that the story revolves around the missing frog and his reappearance at the end.

German Frog Story

The German *Frog Story* consists of 21 (co)referential elements in total. However, he is only mentioning the following five characters in his narration: the boy, the dog, the frog, the deer and the frog family. Marko is introducing four characters, namely the boy, the dog, the deer, and the frog family, to the German narration by using one personal pronoun, one bare noun and two nouns with a definite article. The frog is missing in his introduction, since he mentioned it in his first utterance in the object position: **der Hund schaut den Frosch an** 'The dog looks at the frog'.

Table 71 Marko introducing characters in the German Frog Story

Introducing characters	Referential devices	Utterance
Boy	pers_pronoun	er 'he'
Deer	bare_N	<i>Rentier</i> 'deer'
Dog	def.art+N	<i>der Hund</i> 'the dog'
Frog family	def.art+N	<i>die Frös'n*</i> 'the frogs' [overgeneralization]

The most frequently used referential device for coreferential maintaining in Marko's German Frog Story is the personal pronoun (5/9), followed by two nouns with a definite article, and one zero incorrect anaphora, and one noun with a quantifying determiner and an indefinite article referring to the frog family (*ein paar Frösche* 'some frogs').

Table 72 Marko maintaining characters in the German Frog Story

Maintaining characters	Referential devices	Total
Boy		5
	pers_pronoun	4
	zero_incorrecct	1
Deer		2
	def.art+N	1
	pers_pronoun	1
Frog		1
	def.art+N	1
Frog family		1
	indef.art+quant.det+N	1
Grand Total		9

Coreferential switching appears eight times, by using the following referential devices: personal pronouns (4/8), a noun with a definite article (3/8), and one demonstrative pronoun. Yet, the only characters that are switched are the main protagonists of the story, namely the boy, the dog and the frog.

Table 73 Marko switching characters in the German Frog Story

Switching characters	Referential devices	Total
Boy		4
	dem_pronoun	1
	pers_pronoun	3
Dog		3
	def.art+N	2
	pers_pronoun	1
Frog		1
	def.art+N	1
Grand Total		8

The table below provides the transcript of Marko's German narration of the Frog Story, including the analysis of (co)referential characters in the subject position, the referential device and their textual and grammatical correctness. A total of 21 (co)referential elements shows the use of 8 (38%) textually incorrect and 13 (62%) textually correct, and parallel to that 6 (29%) grammatically incorrect and 15 (71%) grammatically correct (co)references.

Table 74 Marko's Frog Story in German regarding (co)referential elements, textual and grammatical correctness

Utterance <i>and picture numbers</i>	Characters	Referential device	Textual correctness	Grammatical correctness
EX: WHAT DO YOU THINK HAPPENS IN THIS STORY? WHAT DO YOU SEE?				
CHI: der Hund schaut den Frosch an. The dog looks at the frog. ①	Dog	def.art+N	correct	correct
EX: EXACTLY! AND THEN? WHAT HAPPENS HERE?				
CHI: der Frosch kommt hinaus. ② The frog gets out.	Frog	def.art+N	correct	correct
EX: AND THEN?				
CHI: und dann ist der Frosch weggegangen. ③ And then the frog is gone.	Frog	def.art+N	correct	correct
CHI: und der Hund ④ And the dog ...	Dog	def.art+N	correct	correct
CHI: und er sucht ihn ④ And he searches for him...	Boy	pers_pronoun	incorrect (unclear reference)	correct
CHI: und der Hund schaut hier drin. ④ And the dog looks here inside.	Dog	def.art+N	correct	correct
EX: EXACTLY! AND THEN?				
CHI: und dann ruft der. ⑤ And then that.PRO.DEM one calls.	Boy	dem_pronoun	incorrect (unclear reference)	correct
EX: EXACTLY! CAN YOU TURN THE PAGE? AND HERE?				
CHI: und er schaut hier. ⑥ And he looks here.	Boy	pers_pronoun	incorrect (unclear reference)	correct
CHI: und er schaut auf das [*] Blume auf die Bienen. [turns the page] ⑦	Dog	pers_pronoun	incorrect (unclear reference)	correct

<i>And he looks at the [*] flower [correcting himself] at the bees.</i>				
EX: AND THEN?				
CHI: dann ruft er nochmal ... ⑧ <i>Then he calls once again ...</i>	Boy	pers_pronoun	incorrect (unclear reference)	correct
CHI: und dann hat er etwas gefunden. <i>Then he has found something.</i> ⑨	Boy	pers_pronoun	correct	correct
EX: WHAT DID HE FIND?				
CHI: aehm Rentier. ⑨ <i>Um, reindeer.</i>	Deer	bare_noun	correct	incorrect (article omission)
EX: VERY GOOD! AND HERE?				
CHI: und der [*] rentier schmeisst den weg ⑩ <i>And the.DEF.ART.MASC [wrong gender] reindeer.N.NEUT throws that one ...</i>	Deer	def.art+N	correct	incorrect (gender agreement)
EX: WHAT HAPPENS THEN?				
CHI: dann schmeisst er ihn. ⑪ <i>Then he throws him.</i>	Deer	pers_pronoun	correct	correct
EX: AND THEN?				
CHI: dann ist er in Gatsch gefallen. ⑫ <i>Then he fell into the slack wax.</i>	Boy	pers_pronoun	incorrect (unclear reference)	correct
CHI: und dann spielt er mit dem Gatsch. <i>And then he plays with the slack wax.</i> ⑬	Boy	pers_pronoun	correct	correct
EX: WE MISSED ONE HERE. YES, AND HERE?				
CHI: und dann sucht er ⑭ <i>And then he looks for ...</i>	Boy	pers_pronoun	correct	correct
CHI: und hier sind die Frösn@m. ⑭ <i>And here are the frogs [overt plural overgeneralization].</i>	Frog family	def.art+N	correct	incorrect (number agreement)
EX: AND HERE?				
CHI: und da gibt es # ein paar # ein paar Frösn@m. ⑮ <i>And there are some [repeating himself] frogs [overt plural overgeneralization].</i>	Frog family	indef.art+ quant.det+N	correct	incorrect (number agreement)
EX: EXACTLY! WHAT HAPPENS THEN?				

CHI: und dann nehmen [*] er den Frosch. (16) And then he take [infinitive] the frog.	Boy	pers_pronoun	incorrect (unclear reference)	incorrect (gender and number agreement)
EX: AND HERE?				
CHI: und dann wollte auch diese mitnehmen. (16) And then they want to take them as well.	Boy	zero_incorrect	incorrect (unclear reference)	incorrect (subject omission)

Picture numbers: (1) frog in glass (2) frog leaves the glass, boy and dog sleep (3) boy realizes that the frog went missing (4) boy and dog look for the frog in the room (5) boy and dog look for the frog outside (6) boy looks into a hole in the ground, dog in a beehive (7) a gopher bites the boy in the nose (8) boy touches the deer antler (9) deer runs away with the boy on top of his head (10) deer runs to an abyss (11) deer throws the boy down (12) boy and dog fall into the water (13) boy and dog are sitting in the water hearing frogs croak (14) boy and dog find a frog couple (15) boy and dog find a frog family (16) boy leaves with the frog and waves to the frog family

Marko is producing only a few grammatical mistakes, mostly with gender and number agreement. In the last sequence, he has trouble with the plural production of the noun ‘frog’, where he utters **und hier sind die Frösn*** ‘And here are the frogs’, with an overt overgeneralization of the plural noun. The noun **Frosch** ‘frog’ would be **Frösche** in plural. Yet, as already described in chapter 6.1.2.3, he seems to be in a plural acquisition phase, which is generally not completed at the age of 4.

This sequence of the story refers to the resolution of the plot. Yet, it remains unclear, if Marko is aware that it is the boy’s missing frog they are looking for. He only mentions that the boy takes the frog and finishes his narration by mentioning that ‘they want to take them as well’, meaning the frog family. However, he is not elaborating if they take the frog home or what happens at the end. Therefore, it is uncertain that Marko comprehends the resolution of the plot. However, his onset of the plot and the search for the frog are perfectly clear and comprehensible, which is not the case in his Croatian narration.

When **comparing the two languages** of Marko, the transcript already shows a rather revealing picture, namely that his utterances are much longer in German than in Croatian, and that his Croatian narration contains many German words. Furthermore, the experimenter is posing fewer questions in German, as Marko is telling the story more fluently. Analyzing the mean length of utterances, this can be confirmed, since Marko’s MLUw in German is 3.8 with an SD 1.9, whereas in Croatian it is 1.5 and the SD 0.7. Furthermore, micro-level analysis shows a higher correctness rate in German than in Croatian, with 62% textual and 71% grammatical correctness in German, compared to 39% textual and 33% grammatical correctness in Croatian.

Table 75 Marko's results obtained on the *Frog Story* in Croatian and German for textual and grammatical correctness, MLUw and SD

Marko	Textual correctness	Grammatical correctness	MLUw	SD
Croatian	39%	33%	1.5	0.7
German	62%	71%	3.8	1.9

When turning to the next part of the research question regarding **book-reading habits**, the interview with Marko's mother at age 3;3 and 4;3 reveals an interesting insight into his language use. In the first interview she elaborates that they are reading books every day in both languages and that he is retelling stories in Croatian on a daily basis. One year later, she indicates that Marko's exposure to book reading sessions at home is rather scarce, where they read books only a couple of times a month and that he retells stories only in German. This reflects his results obtained on the *Frog Story*, where he shows a clear preference for German, by switching often to German in his Croatian narration and being much more elaborate in his German narration of the *Frog Story* than in his Croatian one. Furthermore, textual and grammatical correctness underline this observation.

When comparing his results obtained on the vocabulary assessment, there is an overlap visible, since his Croatian vocabulary assessment scores show comparable results to one-year younger monolingual peers, whereas German results seem rather continuous and comparable to the other children in this study. Furthermore, Marko's exposure time to German was rather high at age four, since he spent nine hours a day in preschool and was exposed to German in the family domain as well. The better results on the German *Frog Story* may, therefore, simply be a result of the high exposure to German, which is consequently linked to the lexicon (e.g. Patterson, 1998; Pearson et al., 1997).

The experience with book-reading sessions has an impact on children's abilities to narrative skills and especially to their emergent literacy (Bialystok & Herman, 1999). Yet, book-reading sessions seem to decrease in Marko's case, at least when comparing the change of book-reading habits within one year. In a study carried out by Herman (1996) on bilingual kindergartners telling the *Frog Story*, she (ibid.) found a strong correlation between home exposure to books in the minority language English and the involvement of more episodes and characters to the story. Marko's rather short descriptions in his Croatian narration may be explained by the little exposure to books

at age four, which is simultaneously the only Croatian input he obtains, while he is exposed to German book-reading sessions in preschool as well. In accordance with the study by Wu, De Temple, Herman and Snow (1994), where the authors state that it is important to be exposed to specific discourse to develop the skill in a certain language, it remains within the limitations of this study to conclude how the development of narrative competences of bilinguals will proceed.

6.1.3.4 Narrative competences of case study 4 – Filip

The *Frog Story* is told by Filip at age 4;4 for Croatian and three months later at age 4;7 for German. Filip uses 23 (co)referential elements to narrate the *Frog Story* in Croatian and 28 elements for the German one. By analyzing the micro-level structure of the narration, all reference-introducing, coreferential maintaining and coreferential switching shall be analyzed, before moving on the textual and grammatical correctness of the subject position from the transcript.

Croatian Frog Story

In general, Filip mentions the following characters in his Croatian narration: the boy, the dog, the frog, the frog family and the deer. The referential devices he uses for either introducing, maintaining or switching these characters are mostly bare nouns (7/23) and personal pronouns (7/23), followed by an ellipsis (5/23), demonstrative pronouns (2/23), one noun with an indefinite determiner and one number with a definite determiner. He introduces only three characters to the story, namely the boy, the dog, and the frog family. Referential devices used to introduce these characters are a noun with indefinite determiner for the boy (*jedan braco* ‘one kid’), a bare noun for the dog (*cuko* ‘doggy’) and a number with definite determiner for the frog family (*ovo dvoje* ‘these two’). The frog is introduced in the object position and the deer is mentioned beforehand by the experimenter.

Table 76 Filip introducing characters in the Croatian Frog Story

Introducing characters	Referential devices	Utterance
Boy	indef.det_N	<i>jedan braco</i> ‘one kid’
Dog	bare_N	<i>cuko</i> ‘doggy’
Frog family	def.det+Num	<i>ovo dvoje</i> ‘these two’

It's mostly the character of the boy that is maintained during the storytelling (4/7) by using either personal pronouns or an ellipsis. Other than that, it's the boy and the dog, the deer and the frog family that is maintained during the narration.

Table 77 *Filip maintaining characters in the Croatian Frog Story*

Maintaining characters	Referential devices	Total
Boy		4
	ellipsis	2
	pers_pronoun	2
Boy, Dog		1
	ellipsis	1
Deer		1
	dem_pronoun	1
Frog family		1
	bare_N	1
Grand Total		7

Marko switches rather frequently between the different characters as visible from Table 78. Again, it's the boy that is switched to the most (5/13), followed by the frog (3/13) and the dog (2/13), which is reasonable since those are the main protagonists. Referential devices that are used for switching between the characters are predominantly bare nouns (5/13), personal pronouns (4/13) and ellipsis (3/13).

Table 78 *Filip switching characters in the Croatian Frog Story*

Switching characters	Referential devices	Total
Boy		5
	bare_N	1
	ellipsis	2
	pers_pronoun	2
Boy, Dog		1
	ellipsis	1
Deer		1
	pers_pronoun	1
Dog		2
	bare_N	1
	pers_pronoun	1
Frog		3
	bare_N	3

Frog family	1
dem_pronoun	1
Grand Total	13

When analyzing the textual and grammatical correctness of the (co)references, the transcript illustrated in Table 79 gives an overview of all the characters in the subject position. Some utterances of the child are not included in the analysis due to unclear classification to the questions asked by the experimenter.

From all 23 (co)referential elements found in Filip's Croatian *Frog Story* in the subject position, 11 (48%) are accounted as textually incorrect and 12 (52%) textually correct, while 8 (35%) are grammatically incorrect and 15 (65%) grammatically correct. Incorrect textual (co)references are mostly due to unclear reference with personal pronouns or ellipsis, while incorrect grammatical (co)references are due to subject omission, gender and/or number agreement or because of an incorrect syntax.

Table 79 Filip's Frog Story in Croatian regarding (co)referential elements, textual and grammatical correctness

Utterance <i>and picture numbers</i>	Characters	Referential device	Textual correctness	Grammatical correctness
EX: WHAT DO YOU SEE ON THE PICTURE? WHAT IS THIS?				
CHI: cuko. ① Doggy.	Dog	bare_N	correct	correct
EX: MHM AND THIS? WHO IS THIS?				
CHI: jedan braco. ① One kid.	Boy	indef.det+N	correct	correct
EX: EXCELLENT! DOGGY AND BOY. AND WHAT ARE THEY DOING?				
a tražiju@m [: traže] žabu. ① They [subject missing] look for [overgeneralization of 'tražiti.V.INF' in 3rd person plural] the frog.	Boy, Dog	ellipsis	correct	incorrect (subject omission, conjugation)
EX: AND WHERE IS THE FROG?				
CHI: ovdje unutra. ① Here inside.				
EX: INSIDE WHAT?				
CHI: u jednu [*] kutiju [*]. ① In one box [wrong case].				
EX: AND THEN?				

CHI: onda žaba ide tamo iz kutije i onda ide ovdje na saje@c. ② <i>Then the frog goes out of the box and then goes here on [child- specific word].</i>	Frog	bare_N	correct	correct
EX: MHM AND THEM?				
CHI: on spava. ② <i>He sleeps.</i>	Boy	pers_pronoun	incorrect (unclear reference)	correct
EX: OKAY. SHALL WE GO ON? WHAT HAPPENS NEXT?				
CHI: sad traži on žabu i ne zna žabu [*] gdje je. ④ <i>Now he looks for the frog and doesn't know the frog [wrong case], where he is.</i>	Boy	pers_pronoun	correct	correct
EX: AND HERE?				
CHI: ovdje on traži i ovdje žaba [*]. ④ <i>Here he looks and here frog [predicate omission].</i>	Boy	pers_pronoun	incorrect (reference unclear)	correct
EX: MHM AND WHO ELSE IS SEARCHING?				
CHI: cuko. ④ <i>Doggy.</i>	Dog	bare_N	correct	correct
EX: OKAY. SHALL WE GO ON? WHAT HAPPENS NEXT?				
CHI: onda je žaba ⑤ <i>Then the frog...</i>	Frog	bare_N	correct	correct
CHI: onda žabu traži ovdje i onda rekne žaba, gdje si? ⑤ <i>Then he [subject missing] looks for the frog here and then he [subject missing] says, frog, where are you?</i>	Boy	ellipsis	incorrect (unclear reference)	incorrect (subject omission)
EX: MHM EXCELLENT! AND WHERE IS IT? WHAT ARE THEY DOING NEXT?				
onda traži ovdje a tu nije, a evo je. ⑥⑦ <i>Then he [subject missing] looks here but it's not there, and here it is.</i>	Boy	ellipsis	correct	incorrect (subject omission)
EX: IS THIS THE FROG?				
CHI: je. ⑦ <i>Yes.</i>				

EX: SHALL WE LOOK ON THE NEXT PAGE, IF THIS IS THE FROG?				
CHI: aha.				
EX: SO, WAS THAT THE FROG?				
CHI: nije. ⑧ No.				
EX: AND WHAT IS HE DOING NEXT?				
CHI: ne traži žabu je tu, i on traži žabu je tu. ⑧ He [subject missing] doesn't look for the frog, is there, and he looks for the frog, is there.	Boy	ellipsis	incorrect (reference unclear)	incorrect (subject omission)
EX: WHO IS HE?				
CHI: ovaj. ⑨ This one.				
EX: WHAT'S HIS NAME? WHAT DO YOU THINK?				
CHI: ne znam. ⑨ I don't know.				
EX: IS THIS A DEER? SHALL WE GO ON?				
CHI: mhm.				
EX: AND WHAT HAPPENS NEXT?				
CHI: a onda on ga odnese. ⑩ And then he takes him.	Deer	pers_pronoun	incorrect (reference unclear)	correct
CHI: onda baci ga dolje ovaj. ⑪ Then this one throws him down.	Deer	dem_pronoun	correct	correct
EX: MHM. AND THEN?				
CHI: i cuku. ⑪ And the doggy.				
EX: AND WHAT HAPPENS NEXT? SHALL WE GO ON?				
CHI: onda žabu traži ovdje ili nije ili on traži ovdje žabu. ⑬ Then he [subject missing] looks for the frog here, or not, or he looks here for the frog.	Boy	pers_pronoun	incorrect (reference unclear)	correct
CHI: i tu nije žaba ... ⑬ And the frog is not there...	Frog	bare_N	correct	correct
CHI: onda treba negdje drugu naći. ⑬ Then he [subject missing] has to find another somewhere.	Boy	ellipsis	incorrect (reference unclear)	incorrect (subject omission)
EX: MHM. SHALL WE GO ON?				

WHAT'S NEXT?				
CHI: onda je [*] našli žabu. ⁽¹⁴⁾ <i>Then they [subject missing] found [wrong auxiliary number agreement] the frog.</i>	Boy, Dog	ellipsis	incorrect (reference unclear)	incorrect (subject omission, number agreement)
CHI: ovo dvoje ⁽¹⁴⁾ <i>These two...</i>	Frog family	def.det+Num	incorrect (reference unclear)	correct
CHI: i on vidi dvoje. ⁽¹⁴⁾ <i>and he sees two.</i>	Dog	pers_prounoun	incorrect (reference unclear)	correct
EX: TWO WHAT?				
CHI: ovo su njezine, ovo su njezine. ⁽¹⁵⁾ <i>These are hers, these are hers.</i>	Frog family	dem_pronoun	incorrect (reference unclear)	incorrect (gender, number agreement)
EX: AND WHAT'S AT THE END?				
CHI: onda su ovdje žabe. ⁽¹⁶⁾ <i>Then there are the frogs.</i>	Frog family	bare_N	correct	correct
EX: MHM AND THE BOY?				
CHI: dječak [*] su ovdje žabe. ⁽¹⁶⁾ <i>Boy [*] are here the frogs.</i>	Boy	bare_N	correct	incorrect (syntax)
EX: AND WHAT ARE THEY DOING? WHERE ARE THEY GOING?				
CHI: ne znam, kući? ⁽¹⁶⁾ <i>I don't know, home?</i>				
EX: HOME, EXCELLENT! THEY GO HOME.				

Picture numbers: (1) frog in glass (2) frog leaves the glass, boy and dog sleep (3) boy realizes that the frog went missing (4) boy and dog look for the frog in the room (5) boy and dog look for the frog outside (6) boy looks into a hole in the ground, dog in a beehive (7) a gopher bites the boy in the nose (8) boy touches the deer antler (9) deer runs away with the boy on top of his head (10) deer runs to an abyss (11) deer throws the boy down (12) boy and dog fall into the water (13) boy and dog are sitting in the water hearing frogs croak (14) boy and dog find a frog couple (15) boy and dog find a frog family (16) boy leaves with the frog and waves to the frog family

What stands out in Filip's narration is the immediate remark of the search after the frog in the first picture. This indicates that Filip must be familiar with the story, since he knows that the story rotates around the search after the missing frog. As the story was left with the families after the second evaluation at age 3;4, it is possible that the parents told the story to Filip in the meantime.

Moreover, it is noticeable that he starts his utterances often with **onda** 'then'. This phenomenon of temporal deixis was already mentioned in Ivan's case for German, which is described to be very frequent in child narration (e.g. Boueke et al., 1995; Rehbein, 2007).

Additionally, Filip's utterances appear to be longer than the other children's in the Croatian version of the *Frog Story*. Yet, his syntax is in some cases incomprehensible, for example in case of picture (8):

*CHI: ne traži žabu je tu, i on traži žabu je tu.
 Not looking for frog is there, and he looks for frog is there.
He [subject missing] doesn't look for the frog, is there, and he looks for the frog, is there.

When looking at the macrostructural level, Filip mentions that the frog is leaving the glass and describes the search after the missing frog. However, the resolution of the plot is rather short, where he utters that they have found the frog family, yet, the experimenter has to ask, what they were doing at the end and where they were going, which he replies with '*I don't know, home?*'.

German Frog Story

Filip uses a total of 28 (co)referential elements in his German narration of the *Frog Story*. He uses a rather diverse set of eight different referential devices, with mostly demonstrative pronouns (12/28), followed by nouns with a definite article (5/28) and personal pronouns (4/28). The other five referential devices appear only once or twice.

When analyzing the introduction of characters to the story, Filip introduces four characters. However, the boy and the dog are introduced together by using a demonstrative pronoun. For introducing the frog, he uses the Croatian term **žaba** 'frog' as a bare noun. Other than that, Filip introduces the frog family by using again a demonstrative pronoun, and the gopher by calling it 'a mouse', hence using a noun with an indefinite article.

Table 80 Filip introducing characters in the German Frog Story

Introducing characters	Referential devices	Utterance
Boy, Dog	dem_pronoun	<i>die</i> 'them'
Frog	bare_N	<i>žaba</i> 'frog.CRO'
Frog family	dem_pronoun	<i>die</i> 'them'
Gopher	indef.art_N	<i>ein</i> [*] <i>Maus</i> 'a mouse'

Referential devices for coreferential maintenance during the narration are mostly nouns with a definite article (5/10), followed by demonstrative pronouns (2/10). The remaining three referential devices are: a quantifying pronoun with the definite article **die beide(n)** ‘the two of them’, a bare noun **Hund** ‘dog’, and a personal pronoun **sie** ‘she’. The personal pronoun ‘she’ refers to the frog, since the Croatian noun is implied, which has a female gender.

Table 81 *Filip maintaining characters in the German Frog Story*

Maintaining characters	Referential devices	Total
Boy, Dog		3
	def.art+qn_pronoun	1
	dem_pronoun	2
Dog		1
	bare_N	1
Frog		3
	def.art+N	2
	pers_pronoun	1
Frog family		3
	def.art+N	3
Grand Total		10

Filip switches between the characters rather frequently, 14 out of 28 elements are coreferential switches. When switching characters, Filip shows a preference for using demonstrative pronouns (8/14) and personal pronouns (3/14). However, he switches only to the main protagonists, the boy, the frog, and the boy and the dog as one unit.

Table 82 *Filip switching characters in the German Frog Story*

Switching characters	Referential devices	Total
Boy		3
	dem_pronoun	2
	indef.art+N	1
Boy, Dog		6
	dem_pronoun	4
	indef.art+Adj+N	1
	def.art+Num	1
Frog		5
	dem_pronoun	2
	pers_pronoun	3
Grand Total		14

The full transcript of Filip's *Frog Story* in German is illustrated in Table 83 and reveals an interesting opening to the storytelling. Filip appears to be familiar with the story, since he starts his narration with **die suchen** 'they search', indicating a very general introduction of the story with the search after the missing frog. The *Frog Story* was told in Croatian three months earlier, so he might at this point still be aware of the storyline.

The complete narration of Filip's *Frog Story* in German counts 28 (co)referential elements: 17 (61%) of which are textually incorrect utterances, whereas 11 (39%) are textually correct; similarly 10 (36%) are grammatically incorrect and 18 (64%) are grammatically correct. Error types on the textual level are mostly due to an unclear reference or to an incorrect coreference, as described for picture (6) and (13) in the table below. The grammatical error types, on the other hand, are mostly due to gender and number agreement. Number agreement is moreover overlapping with incorrect coreference, since Filip is, in the pictures mentioned above, using an incorrect coreference when he actually should be talking about the frog, yet, he is using the plural.

Table 83 Filip's *Frog Story* in German regarding (co)referential elements, textual and grammatical correctness

Utterance <i>and picture numbers</i>	Characters	Referential device	Textual correctness	Grammatical correctness
EX: WHAT HAPPENS HERE?				
CHI: die suchen ... They search...	Boy, Dog	dem_pronoun	incorrect (reference unclear)	correct
CHI: Žaba [CROATIAN]. Frog.	Frog	bare_N	incorrect (reference unclear)	correct
CHI: die suchen. They are searching...	Boy, Dog	dem_pronoun	incorrect (reference unclear)	correct
CHI: da ist es nicht. It is not there.	Frog	pers_pronoun	incorrect (reference unclear)	incorrect (gender agreement)
EX: WHO IS THAT?				
CHI: ein kleines Kind und eine [*] Hund, die suchen. ① A little child and a.INDEF.ART.FEM dog.N.MASC, they search.	Boy, Dog	indef.art+ Adj+N	correct	incorrect (gender agreement)
CHI: und der schläft. ② And that one sleeps.	Boy	dem_pronoun	correct	correct
CHI: und die wissen@m, wo es nicht [*] ist. ② And they know [overgeneralization of wissen.V.INF – weiß.V.3.PER.SG – wissen.V.3.PER.PL], where it is not.	Boy, Dog	dem_pronoun	incorrect (reference unclear)	incorrect (number agreement)

CHI: und da ist die noch. ② And there is that.DEM.PRO.FEM one still.	Frog	dem_pronoun	incorrect (reference unclear)	incorrect (gender agreement)
EX: WHO IS STILL THERE?				
CHI: die žaba [CROATIAN]. ② The.DEF.ART.FEM frog.N.FEM.	Frog	def.art+N	correct	correct
EX: VERY GOOD! AND WHAT HAPPENS THEN? YOU CAN TURN THE PAGE.				
CHI: und da ist sie nicht. ③ And she is not there.	Frog	pers_pronoun	incorrect (reference unclear)	correct
EX: WHO IS NOT THERE?				
CHI: die žaba [CROATIAN]. ④ The frog.	Frog	def.art+N	correct	correct
EX: WHO LOOKS FOR HER?				
CHI: die zwei. The two.	Boy, Dog	def.art+Num	incorrect (reference unclear)	correct
EX: WHO ARE THEY, AGAIN?				
CHI: hund und ... ④ Dog and...	Dog	bare_N	correct	correct
EX: THE DOG AND WHO ELSE IS THERE?				
CHI: ein Mensch. ④ A human.	Boy	indef.art+N	correct	correct
EX: AND THEN?				
CHI: die suchen und da ist das nicht. They look and that.PRO.DEM.NEUT one is not there. ⑤	Boy, Dog	dem_pronoun	incorrect (reference unclear)	correct
EX: WHAT ARE THEY DOING NEXT? GO AHEAD! WHERE ARE THEY HERE?				
CHI: die sind nicht da. ⑥ They are not there.	Frog	dem_pronoun	incorrect (incorrect coreference)	incorrect (number agreement)
EX: OKAY! AND THEN?				
CHI: dann schauen die da ... ⑦ Then they look there...	Boy, Dog	dem_pronoun	incorrect (reference unclear)	correct
CHI: und da ist sie. ⑦ And there she is.	Frog	pers_pronoun	incorrect (reference unclear)	correct
EX: WHO IS THAT?				
CHI: žaba [CROATIAN]. ⑦ Frog.				
EX: IS THAT THE ŽABA [FROG]?				
CHI: hm nein. ⑦ Hm no.				
EX: WHAT IS THAT?				

CHI: ein [*] Maus. ⑦ A.indef.ART.MASC/NEUT mouse.N.FEM.	Gopher	indef.art+N	correct	incorrect (gender agreement)
EX: AND THEN?				
CHI: jetzt suchen die da ... ⑧ Now they look there...	Boy, Dog	dem_pronoun	incorrect (reference unclear)	correct
CHI: und der fällt runter. ⑪ And that one falls down.	Boy	dem_pronoun	correct	correct
EX: WHERE DOES HE FALL DOWN [TURNS THE PAGE]?				
CHI: da unten. ⑫ Down there.				
CHI: die beide [*] fallen runter. ⑫ The two of them fall down.	Boy, Dog	def.art+qn_ pronoun	incorrect (reference unclear)	incorrect (number agreement)
EX: AND THEN?				
CHI: da drin sind ⑬ There inside are...				
EX: WHERE ARE THEY NOW?				
CHI: da sind sie nicht. ⑬ There they are not.	Frog	pers_pronoun	incorrect (incorrect coreference)	incorrect (number agreement)
EX: OKAY. AND THEN?				
CHI: da sind die schon. ⑭ There they are already.	Frog family	dem_pronoun	incorrect (reference unclear)	correct
EX: WHO IS THERE?				
CHI: da sind die žaba [CROATIAN] [*] schon. ⑭ There are the frog.N.FEM.SG already.	Frog family	def.art+N	correct	incorrect (number agreement)
CHI: da sind die Babys. ⑮ There are the babies.	Frog family	def.art+N	correct	correct
CHI: und da sind die allen [*]. ⑮ And there are them all [wrong case].	Frog family	def.art+N	correct	incorrect (case)
EX: AND THEN? WHAT HAPPENS AT THE END?				
CHI: die sagen tschüss. ⑮ They say bye.	Boy, Dog	dem_pronoun	incorrect (reference unclear)	correct
EX: AND WHERE ARE THEY GOING?				
CHI: in [*] Haus. ⑮ In house.				
EX: EXACTLY.				
CHI: fertig! Done!				

Picture numbers: (1) frog in glass (2) frog leaves the glass, boy and dog sleep (3) boy realizes that the frog went missing (4) boy and dog look for the frog in the room (5) boy and dog look for the frog outside (6) boy looks into a hole in the ground, dog in a beehive (7) a gopher bites the boy in the nose (8) boy touches the deer antler (9) deer runs away with the boy on top of his head (10) deer runs to an abyss (11) deer throws the boy down (12) boy and

dog fall into the water (13) boy and dog are sitting in the water hearing frogs croak (14) boy and dog find a frog couple (15) boy and dog find a frog family (16) boy leaves with the frog and waves to the frog family

The frog was continuously referred to in Croatian as **žaba**, yet, with German female article **die** ‘the’ according to Croatian gender marking, which was categorized as grammatically correct, since the frog is female in Croatian. This actually indicates a great deal of language awareness, as Filip adapts the German article system according to Croatian gender marking.

In pictures (6) and (13) Filip starts to refer to the frog in the third person plural, yet, it might also be possible that he refers to the frog family, since he seems to be familiar with the storyline. In picture (7) he is again referring to the frog with ‘she’, which is rather confusing. Nonetheless, due to the first appearance of multiple frogs in picture (14), all earlier (co)references regarding the frog, will be labeled incorrect for the use of the plural. Furthermore, the use of demonstrative or personal pronouns makes it difficult to be certain about the correct reference, which is one explanation for the reduced textual correctness in German (39%).

The macrostructural level concerning the onset of the plot, where the frog went missing and especially the following search after the frog is well described. However, the resolution of the plot is rather vague, as Filip ends the story with **die sagen tschüss** ‘they say bye’ and after the experimenter asks him where they were going, he simply replies ‘in house’, without mentioning anything about taking the frog back home. Interestingly, he has the same story ending in his Croatian narration.

The **comparison** of the results in **both languages** shows a better outcome in Croatian than in German. His textual and grammatical correctness is higher in Croatian with 52% textual correctness and only 39% in German, and 65% grammatical correctness in Croatian versus 64% in German, which is rather similar. Yet, the MLUw in Croatian is also longer with 3.6 compared to 2.7 in German.

What stands out is the fact that Filip achieves better results in Croatian than in German, which is contrary to the other children of this study. Yet, for the German textual correctness, it is important to highlight that he seems to be familiar with the plot and therefore he might also be referring to the frog family multiple times during the narration, where the use of the plural would actually be correct.

Table 84 Filip's results obtained on the Frog Story in Croatian and German for textual and grammatical correctness, MLUw and SD

Filip	Textual correctness	Grammatical correctness	MLUw	SD
Croatian	52%	65%	3.6	2.9
German	39%	64%	2.7	1.6

Book-reading habits elicited from the interviews with Filip's mother reveal that at age 3, he was read to multiple times a week in Croatian; at age 4 as well, yet, sometimes also in German. However, storytime in Croatian seems to have an effect on his narrative skills in Croatian. Furthermore, it appears to be important to the mother to foster Filip's Croatian skills. The parental educational aspiration is the most probable reason for his rather balanced outcome, especially when comparing the results with the other children in this study. In the research of Galindo and Sheldon (2012) with a representative sample of kindergartners in the US, positive correlations between parental educational expectations and achievement were found. The socioeconomic status of the family may be one influential factor for that matter. Yet, this will be discussed more thoroughly in the next chapter.

6.1.3.5 Comparative analysis of all four children

In the following, the narrative competences of all four children in this study will be outlined regarding the research question (1D), whether narrative competences diverge between the two languages.

Ivan's narrations in both languages are rather descriptive, yet, he and Ana reach the highest results in textual and grammatical correctness among all four children in both languages. Ivan's grammatical correctness in both languages is the highest one, while Ana's textual correctness in both languages is the highest. Vocabulary skills as well as book-reading habits appear to have an influence on that outcome. In some cases, lack of vocabulary concerning naming characters forces the children to use compensating strategies by using more demonstrative pronouns for example. Marko's results show a clear dominance in German as already mentioned in all of his other assessments, while Filip's results are quite balanced. What is interesting in all four children, is that Filip's results in Croatian are slightly better than in German, with the highest MLUw of 3.6, while the other children achieve higher results in German.

Regarding the research question (1D), it can be concluded that the children show better competences in one language than the other, depending on which language is fostered more at a certain time point – dominance can also shift.

Table 85 Overview of textual and grammatical correctness obtained on the Frog Story in Croatian and German

CROATIAN	Textual correctness	Grammatical correctness	MLUw	SD
Ivan	56%	68%	3.0	2.1
Ana	57%	57%	2.2	1.4
Marko	39%	33%	1.5	0.7
Filip	52%	65%	3.6	2.9
GERMAN				
Ivan	64%	84%	3.4	1.8
Ana	78%	81%	3.7	1.8
Marko	62%	71%	3.8	1.9
Filip	39%	64%	2.7	1.6

Book-reading habits appear to have a strong impact on narrative skills, especially when looking at Filip's Croatian outcome (MLU 3.6) and his mother's effort to read to him in Croatian. But also, the other children's book-reading sessions at home reveal that the more they are exposed to books in whatever language, the better their narrative results are. Therefore, it can be concluded that fostering book-reading habits is important for elaborate narrative skills in bilingual children.

6.1.4 CODE-SWITCHING AND CODE-MIXING

Milroy and Muysken (1995) call code-switching “perhaps the central issue in bilingualism research” (p. 7), therefore it is of interest to gain a better understanding of switches in different language combinations and social groups.

Due to the rather small sample, an exploratory approach seems to be an adequate way to describe switches in child and adult speech of Croatian- and Austrian German-speaking families of this study. Examples found in the data will be described and explained with comparable language contact phenomena established in the literature, as far as overlaps can be found. However, individual variations will be taken into account as well, which might imply an idiolectal aspect of code-switching (Li Wei, 2002).

As per the research questions posed in (1E) and (1F) data will be described separately for each child on the different kinds of code-mixes that appear in child speech (CS), child-directed speech (CDS), and adult-directed speech (ADS). First, the different kinds of code-mixes appearing in CS, CDS, and ADS will be described, followed by an analysis of the most frequently mixed word classes in child and parental speech.

Since code-switching is described as the alteration between sentences, the focus of the analysis is on the much more complex switches within a sentence or a clause, defined as code-mixing as mentioned in chapter 2.5. Due to the individual use of mixed utterances within the families, the following subchapters may be longer or shorter depending on the data sample.

The approach taken here is a qualitative one, describing different individual appearances of code mixing allowing to follow a ‘fuzziness’ according to Gardner-Chlores (2009, p. 167) without universal constraints. Nonetheless, theories entailing universal constraints can be overlapping and shall, therefore, be mentioned for reasons of further interest in in-depth research.

6.1.4.1 Code-mixing of case study 1 – Ivan

After analyzing Ivan’s spontaneous speech interactions at home with his family, data revealed a rather small use of code-mixed utterance. During the first recording, no mixing is yielded in his sample; due to his rather scarce speech production in general. In the following recording at age 3;6, Ivan only uses nouns in his code-mixed

utterances as visible from example (1), where he uses the German masculine word *Stift* ‘pen’ accompanied with the Croatian numeral *jedan* ‘one’ like an indefinite German article *ein* ‘one’. Example (2) is an inserted German prepositional phrase.

Examples for code-mixing in CS of Ivan at age 3;6:

(1) Treba	jedan	Stift. ²⁶
Need.V.PRES.3SG	one.NUM.MASC.NOM.SG	pen.N.MASC.
<i>“It needs one pen.”</i>		

(2) Ovako	tu	am	Boden.
Thus	there	on.PREP an~DET:art:def d-em	floor.N.MASC.
<i>“Like this here on the floor.”</i>			

At age 4;6, one year later, Ivan uses more different types of mixing in his spontaneous speech as illustrated in the examples below, where he declines the German noun according to Croatian case marking, which he omits at the earlier recordings.

Examples for code-mixing in CS of Ivan at age 4;6:

(3) Da	u	Kindergarten-u	u	parku.
Yes	in.PREP.LOC	preschool-N.LOC.SG	in.PREP.LOC	park.N.LOC.SG .
<i>“Yes, in preschool at the park.”</i>				

However, example (3) demonstrates a rather frequent occurrence found in this study – especially regarding adult speech. The German noun **Kindergarten** ‘preschool’ is adapted to Croatian sentence structure through case marking with the locative ending *-u* (see also example 6 of Ana; example 18 and 19 of Marko’s mother). In other examples of Ivan’s recording, where German nouns follow a Croatian preposition, morphological assimilation is not necessary, for example in *na Fasching* ‘at carnival’, the Croatian preposition *na* ‘at’ requires accusative case but no case marking at the end.

Ivan’s mixed utterances usually contain incorporated nouns in his data sample. However, he only switches a little between them, as well as within utterances, and in

²⁶ All mixed utterances from German language will be written in **bold** and *italic* to distinguish them within the sentence.

his spontaneous speech when talking to his parents. His last recording has only one mix (example 4), where he imbeds the German word **Puzzle** ‘puzzle’ into the sentence.

Examples for code-mixing in CS of Ivan at age 4;10:

- (4) Onaj **Puzzle** što si jednom drugi put dala.
 PRO.DEM.MASC.NOM.SG N.NEUT.SG that V.AUX.2SG.CLIT once second time
 give.V.PART.FEM.SG.
“That puzzle that you gave me once another time.”

Example (4) illustrates an intra-sentential switch, where the Croatian demonstrative pronoun *onaj* ‘that’ is masculine, whereas the German noun **Puzzle** is neuter. Yet, this issue of wrong gender marking is probably due to its English pronunciation of *puzzle* [ˈpazl] ending with an // and making a masculine gender marking more plausible.

Ivan’s parents are present at both the second and fourth recordings. While the mother emphasizes in the interviews that maintenance of Croatian heritage language is very important, her CDS and ADS shows consequently hardly any mixed utterances, whereas the father’s speech entails more code-switching. Interestingly, Ivan’s mother is, contrary to the other mothers of the children in this study, a first-generation immigrant to Austria and more proficient in her use of Croatian, which she tries to pass on to her children, far more than the father, who emigrated during puberty (first generation). Consequently, the time of emigration and the positive attitude towards Croatian appears to play an important role in switching, which is claimed in similar studies as well (e.g. Ritter, 2014). The child’s switching habits seem to reflect the parental use of both languages in the family domain.

As mentioned in the **research question (1F)**, it was hypothesized that nouns are the most frequently used **word class** embedded into code-mixing. It is important to emphasize at this point, that switching, and mixing is always unidirectional from Croatian to German in the entire data set. Yet, in general, only a few mixed tokens are found in Ivan’s data. At age 3, only 8 tokens are mixed word classes with a majority of nouns (87%) and only one preposition (13%). His mother’s mixed word classes during the same data collection reveal a similar picture with 11 nouns (92%) and one preposition (8%) (see Figure 5). One year later, at age 4, Ivan utters 11 mixed tokens, consisting of 82% nouns and 18% adverbs (see Figure 4). Interestingly, his mother

uses again the same word classes with 67% nouns and 33% adverbs, however, by uttering only 3 mixed tokens.

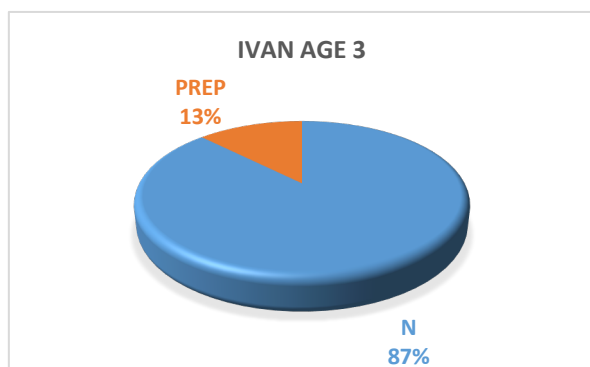


Figure 3 Most frequently used word classes in code-mixing of Ivan at age 3

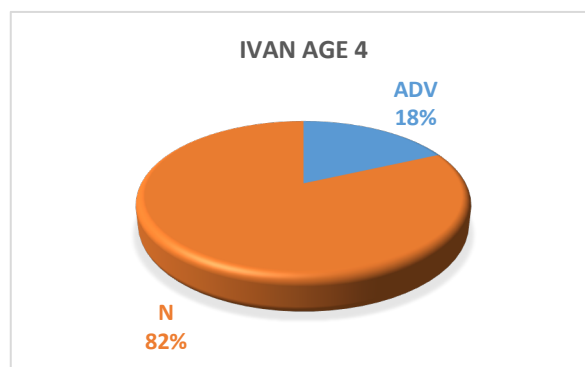


Figure 4 Most frequently used word classes in code-mixing of Ivan at age 4

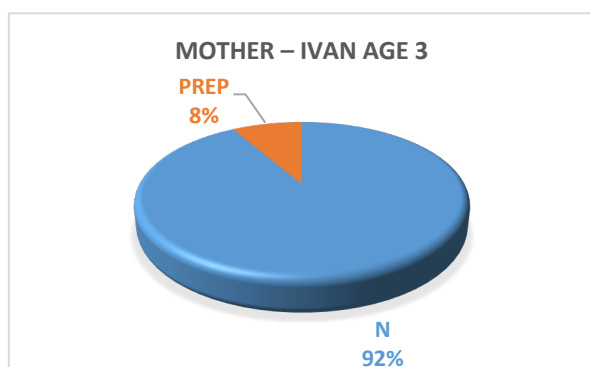


Figure 5 Most frequently used word classes in code-mixing of Ivan's mother (Ivan age 3)

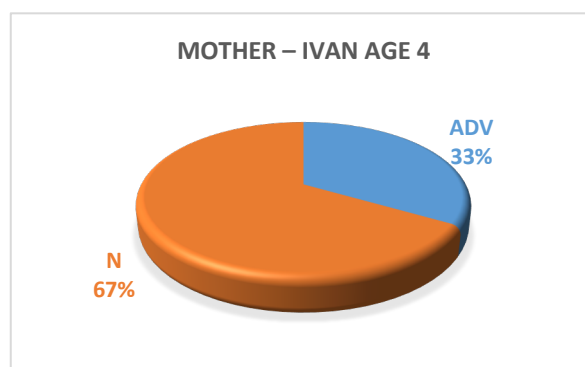


Figure 6 Most frequently used word classes in code-mixing of Ivan's mother (Ivan age 4)

In general, this family uses little code-switching and mixing in their spontaneous speech recordings, especially when observing mother-child interactions. However, the child's use of mixed word classes seems to be very much influenced by parental mix usage. Furthermore, the research question (1F) can be verified in this case, since nouns are definitely the most frequently used word class in code-mixing in CS as well as in CDS.

6.1.4.2 Code-mixing of case study 2 – Ana

Ana's language exposure is interesting since she is exposed to both languages at home and in preschool. The family uses both languages in their every-day communication, and Ana's two out of three best friends are Croatian/Bosnian-speaking girls.

When now analyzing her spontaneous speech production at home, the data reveals that Ana is using more German at the first recording at home than later on, which is mostly due to color-naming in German but also due to formulaic speech of singing German songs, which Ana learned in preschool. By the second and third recordings at home, the amount of German in Ana's total speech becomes less (5% at 2nd; 4% at 3rd), and her code-mixed utterances entail only single German words inserted into the Croatian sentence, like in the following example (5) with the German word **runter** 'down'.

Examples for code-mixing in CS of Ana at age 3;3:

- (5) Ne može **runter**.
 Not can.V.MOD.PRES.3SG down.ADV.
"Doesn't go down."

At age 4;3 Ana uses more elaborate mixes than the year before, with some overlaps to the other children's output at the same age. In some cases of mixed utterances, she uses Croatian case marking with the German word **Kindergarten** 'preschool', whereas in others she does not; this is observed in Ivan's data as well (see example 3). The same can be concluded for Ana's mother; in a few **Kindergarten** examples, she applies case marking according to the grammatical framework of the Croatian sentence, in others she does not. The notion of the German word **Kindergarten** will be discussed in chapter 6.1.3.4 more thoroughly.

Examples for code-mixing in CS of Ana at age 4;3:

- (6) Ja sam u **Kindergarten**-u.
 I be.V.AUX.1SG.CLIT in.PREP.LOC preschool-N.LOC.SG
"I am at preschool."
- (7) Ja sam **gepezt**.
 I be.V.AUX.1SG.CLIT tattle.V.PP.
"I have tattled."
- (8) Sad ćemo i jedne [*] **Blume**
 nacrtať.
 Now be.V.AUX.1PL.CLIT and one.NUM.FEM.ACC.PL [*] flower.N.FEM.SG
 draw.V.INF.
"Now we will draw one flower."

Example (7) demonstrates a form of the mixed present perfect tense, by using the Croatian auxiliary verb *biti* 'to be' in the first person singular in combination with the German participle **gepetzt** 'tattled'. German usually has two auxiliary verbs to build present perfect tense with – *sein* 'to be' or *haben* 'to have' – whereas Croatian has only *biti* 'to be'. Consequently, this could be a strategy utilized by the child to avoid choosing between these two options, and in parallel would indicate a necessity to fill a gap of not knowing the correct auxiliary verb in the German sentence. On the other hand, the 'gap' could also be a lexical one for Croatian, where the child doesn't know the equivalent for **gepetzt** 'tattled'. Yet, what seems more plausible, is a kind of 'schema' in Ana's speech. This phenomenon was postulated in the study of Quick, Lieven, Carpenter, and Tomasello (2018) concerning code-mixing as partially schematic units, describing them as "utterances containing a lexically fixed part and an open slot" (p. 486) that appeared more than once. This kind of schema with a lexically fixed part and an open slot *Ja sam* 'I am' + participle in German was also found in Marko's speech (see example 15).

The following example (8) on the other hand indicates a case of interference from German gender marking. The German feminine noun **Blume** 'flower' would actually require case marking in the accusative feminine singular for the number in a correct Croatian sentence structure (*jednu Blume* 'one flower'). However, *jedne Blume*, as produced by Ana, suggests an influence from German gender marking from **eine Blume** 'one flower' with the feminine -e ending. Cantone and Müller (2008) highlight this phenomenon in their study on Italian/German bilingual children aged 1;8–5 years, claiming that in mixed determiner phrases a noun's gender is the one influencing the determiner even if the determiner is in the other language, as in Ana's case. The authors explain this with the abstract lexical feature of nouns, and gender as an inherent feature of a noun that will be switched with the noun.

The next aspect of this research question (1E) of code-switching and code-mixing in child and adult speech focuses on parental CDS. Therefore, code-mixed utterances of Ana's mother are analyzed. No mixes are found in her ADS.

Ana's mother uses much more diverse word forms in her mixed utterances than the other mothers and emphasizes in her interview that switching happens very subconsciously. What she produces rather frequently, is the German word **schau** 'look' in her speech, as some kind of discourse marker.

The examples below show those kinds of mixes that do not simply embed one German word into a Croatian sentence, instead they comprise of more interesting types of mixes.

Examples for code-mixing in parental CDS:

- (9) Aj, **bring** tu kod Marine **bitte**.
 Go, bring.V.IMP.2SG there to.PREP.GEN Marina.N.prop.GEN.SG
 please.CO.
"Go, bring it to Marina, please."

- (10) Imaš tu stolicu u **Schrank-u**.
 Have.V.2SG that.PRO.DEM.FEM.ACC chair.N.FEM.ACC in.PREP.LOC closet.N.MASC.LOC.SG
 .
"You have that chair in the closet."

- (11) Pa ti si **schön** **angemalt**.
 But you be.V.AUX.2SG.CLIT nice.ADJ color.V.PP .
"But you colored that nicely."

For instance in example (9), Ana's mother alters between German and Croatian in the sentence, expressing the imperative **bring** 'bring' and the particle **bitte** 'please' in German, to emphasize the request. The other two examples on the other hand are reflected in child speech and indicate a possible influence of maternal input. Yet, parental mixing may also influence the child's use of code-mixing (Petitto et al., 2001).

Example (10) shows a similar phenomenon as the one mentioned earlier in example (6) with **Kindergarten** 'preschool', where Ana's mother applies locative case marking from Croatian sentence structure to the German word **Schrank** 'closet' by adding the suffix *-u* to the noun. The subsequent example (11) is analogous to Ana's mixed utterance in example (7), where she produces a similar structure by using the participle verb in German. These examples may indicate an influence from maternal input, as the same phenomenon is found in the speech of Ana's older sibling. However, since these kinds of mixes can be found in the other children's data as well, it may suggest a correlation to the use of mixed utterances in Croatian-German speakers.

In line with the **research question (1F)** regarding most frequently **mixed word classes**, the intra-sentential mixes from mothers and children shall be considered

separately for the period when the children are 3 (1st and 2nd time point) and 4 years (3rd and 4th time point) old. The focus here lies on nouns (N), which are hypothesized to be the most frequently used word class in code-mixed utterances.

In total, Ana produces 47 mixed words at age 3, and 41 mixed words at age 4; with a majority of nouns (N) as the most frequently used word class, namely 81% at age 3 (Figure 7) and 73% at age 4 (Figure 8). Ana's mother, on the other hand, has a total of 67 mixed words in her data sample when Ana was 3 years old, and only 33 mixed words when Ana was 4 years old. Yet, both pie charts illustrated in Figures 9 and 10 reveal that nouns predominate in maternal speech as well (52% and 61%), but not as much as in child speech.

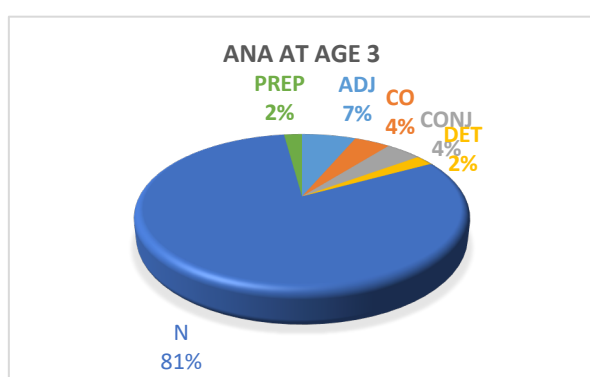


Figure 7 Most frequently used word classes in code-mixing of Ana at age 3

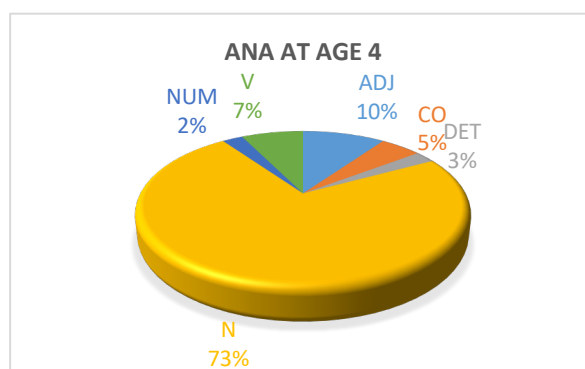


Figure 8 Most frequently used word classes in code-mixing of Ana at age 4

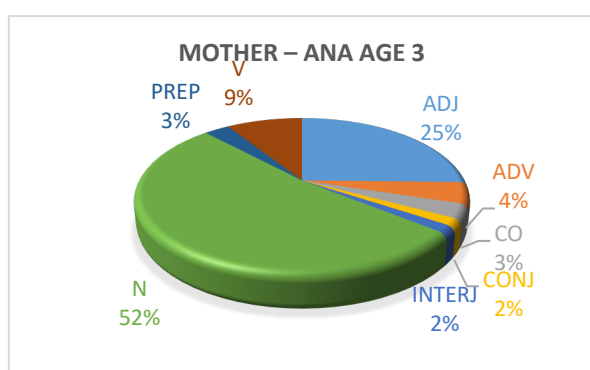


Figure 9 Most frequently used word classes in code-mixing of Ana's mother (Ana age 3)

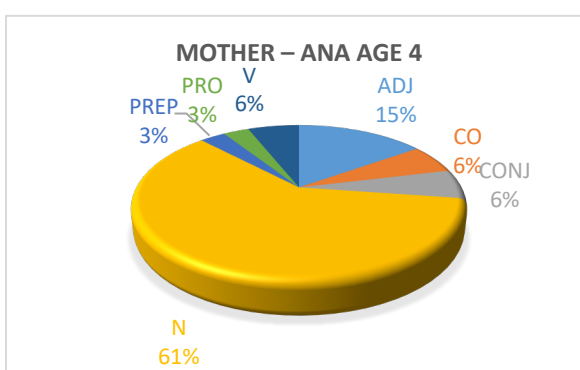


Figure 10 Most frequently used word classes in code-mixing of Ana's mother (Ana age 4)

Overall, these results indicate that nouns are in fact the most frequently mixed word class in child as well as adult speech, which can be traced back to their syntactic flexibility as described by Myers-Scotton and Jake (2000). Interestingly, the vast majority of the embedded German words to the Croatian sentence structure are content words like nouns (N), adjectives (ADJ), main verbs (V), and adverbs (ADV)

(Howell et al., 1999). Function verbs like pronouns (PRO), prepositions (PREP), conjunctions (CONJ), determiners (DET), communicators (CO), and interjections (INTERJ) appear far less. Ana uses 12% function words (PREP, CO, CONJ, DET) at age 3, and only 8% (CO, DET) at age 4. These results are contradictory to the study conducted by Quick, Lieven, Carpenter, and Tomasello (2018) on one bilingual child, showing that the child mixed mainly German function words, which was reported by other scholars as well (e.g. Lanza, 1992; Redlinger & Park, 1980; Vihman, 1985). However, a large number of studies suggests that this is due to imbalanced language skills (e.g. Bernardini & Schlyter, 2004; Eichler, 2011; Petersen, 1988). The use of content words could in some cases indicate a 'gap' filling as described by Gawlitzek-Maiwald and Tracy (1996). However, caution must be applied when working with a small sample size, as the findings may not be applicable for balanced or imbalanced bilinguals in general, since the use of both languages has shown to be very individual with respect to the children thus far.

6.1.4.3 Code-mixing of case study 3 – Marko

Marko's data sample shows the most extensive use of German in the home setting. Especially with the mother's use of mixed utterances, demonstrates a playful use of two mixed languages. Initially, CS shall be described by listing examples found in the data sample of Marko.

Examples for code-mixing in CS of Marko at age 3;0:

- | | | |
|----------------------------|----------------|---------------|
| (12) Nije | to | grün. |
| Not be.V.AUX-NEG.3SG | that | green. |
| <i>"That's not green."</i> | | |
| | | |
| (13) Jedno * | | Suppe. |
| One.NUM.NEUT.NOM.SG [*] | soup.N.FEM.SG. | |
| <i>"One soup."</i> | | |

At the first recording of Marko with 3;0 years, his language mixing mainly consists out of color-naming in German, whereas the rest of the sentence remains in Croatian, similar to the one in example (1). There are nine mixed utterances found in his data set at age 3;0 that looks similar to both mentioned here. Another example found is the one in example (2), where he describes what he had for lunch, using Croatian

numbering with the neuter ending in the nominative singular for the feminine German word **Suppe** 'soup'. The Croatian word for *juha* 'soup', however, is feminine as well, which excludes a possible interference of Croatian. This is probably an indication that Marko is still struggling with gender marking in general, as also described by Cantone and Müller (2008).

The following recording of Marko at age 3;3 contains only two examples of code-mixed utterances. One is visible in example (14) below, whereas the other one has just one inserted German word in the Croatian sentence.

Example for code-mixing in CS of Marko at age 3;3:

(14) Ich möchte nicht	sa	mamom	pinat*c ²⁷ .
I want not	with.PREP.INST	mom.N.FEM.INST.SG	chilpinat .
<i>"I don't want to pinat*c with mom."</i>			

Example (14) is a mixed utterance that is half German half Croatian, which makes it difficult to determine which one may be the main language. The bold font **Ich möchte nicht** 'I don't want' is a German clause that Quick, Lieven, Carpenter, and Tomasello (2018) might describe as partially schematic units. However, it would require more occurrences of the same schema according to the authors. Since, this sample from Marko is rather small, there is a possibility that in a larger sample, this kind of occurrence would appear more frequently. Yet, with age, his mixed utterances become less, and a preference towards German becomes more noticeable.

Marko's third spontaneous speech recording at age 4;3 is mostly held in German (71% of his total speech), which is a strong increase of German in the home setting compared to his two earlier recordings a year before (11% and 16%). Only two examples of mixed utterances are recorded at the third time point, as illustrated in example (15) and (16).

Example for code-mixing in CS of Marko at age 4;3:

(15) Ja	sam	wieder	gewonnen.
I	be.V.AUX.1SG.CLIT	again	win.V.PP.
<i>"I won again."</i>			

²⁷ Child-specific form without meaning.

(16) Ja imam **noch** **zwei** **Teile.**
 I have.V.PRES.1SG still two piece.N.NEUT.PL.
 "I still have two pieces."

Marko starts both mixed utterances in Croatian with *Ja* x 'I x' – either '*I am*' or '*I have*'. In example (15) he uses first person singular of the Croatian auxiliary verb *biti* 'to be' and the German participle **gewonnen** 'won'. German has two auxiliary verbs to build a sentence in the present perfect tense, which is *haben* 'to have' and *sein* 'to be' (similar to Romance languages), whereas Croatian has only *biti* 'to be'. To avoid choosing correctly between *haben* or *sein* in German present perfect construction, Marko may have chosen a strategy to use the Croatian auxiliary verb, since there is only one option. The other example (16) that has the subject and main verb in Croatian and **noch zwei Teile** 'two more pieces' in German, indicates a possible 'gap' of 'play language' that is tied to his rather high exposure to German in preschool which can be reflected by his use of German during play situations like this one, where he played a card game with his mother.

At the fourth recording at home at age 4;6, Marko speaks hardly any Croatian. He produces only one mixed utterance (17), similar to the one in example (13). Again, gender marking seems to be an issue in the numbers of Croatian, where he used masculine ending for the neuter German noun **Känguru** 'kangaroo'. However, the Croatian noun *klokan* 'kangaroo' is masculine, which consequently may indicate an interference. Yet, it might also simply be an association with a male animal that leads him to use masculine gender marking.

Example for code-mixing in CS of Marko at age 4;6:

(17) Jedan * **Känguru.**
 One.NUM.MASC.NOM.SG kangaroo.N.NEUT.SG
 "One kangaroo."

There is a clear preference toward using German in Marko's speech at age 4. This becomes evident, especially in this last recording in the home setting and the less necessity to switch between the languages, since he is basically only using German anyway (95% of his total speech). Even though his mother was talking in Croatian, his responses were mostly in German, as visible from the following conversation:

Marko (4;6 years) and mother:

- *Mother: Šta si danas radio u **Kindergarten**-u?
What did you do in kindergarten?
- *Marko: **Gespielt.**
Played.
- *mother: Šta si igrao?
What did you play?
- *Marko: **Nichts.**
Nothing.
- *Mother: Kako ništa?
How nothing?
- *Mother: A šta si ručao?
And what did you eat?
- *Marko: **Es war (...) Erdbeeren mit weiss ich nicht.**
It was (...) strawberries with I don't know.
- *Mother: **Erdbeeren?**
Strawberries.
- *Marko: **Ja.**
Yes.
- *Mother: Jesi ručao?
Did you eat?
- *Marko: Aha.
Aha [affirms].
- *Marko: **und Suppe.**
And soup.
- *Mother: **Ja.**
Yes.
- *Mother: Šta još?
What else?
- *Marko: **Und nichts mehr.**
And nothing else.
- *Mother: A šta je bilo * **Frühstück?**
*And what was * breakfast?*
- *Marko: **Aehm Brot.**
Aehm bread.
- *Marko: **Aber ich habe nicht gegessen.**
But I didn't eat.
- *Mother: Zašto?
Why?
- *Marko: **Weil ich habe keinen Hunger gehabt.**
Because I wasn't hungry.
- *Mother: nisi **Frühstück** ručao?
You didn't eat breakfast?
- *Marko: **Nein.**
No.
- *Marko: **Ich habe keinen Hunger gehabt.**
I wasn't hungry.
- *Mother: Zašto ljubavi?
Why my love?
- *Marko: **Aber ich habe Jause gegessen.**
But I ate a snack.
- *Mother: A **Mittagessen?**
And lunch?
- *Marko: **Mittagessen auch.**
Lunch too.

When now taking a closer look into parental CDS, it differs slightly to CS. As already revealed in the conversation above, Marko's mother uses quite frequently the German word **Kindergarten** 'preschool' (instead of the Croatian *vrtić*) embedded in the Croatian sentence structure.

(18) A šta si pjevao u ***Kindergarten-u?***
And what V.AUX.2SG.CLIT sing.V.PART.MASC.SG in.PREP.LOC preschool-N.LOC.SG?
"And what did you sing in preschool?"

Example (18) shows the matrix language Croatian providing the grammatical framework for the sentence, as Myer-Scotten (1993) would highlight, in her *matrix language frame model* (MLF), by including the Croatian locative ending *-u* in the German noun ***Kindergarten-u*** ‘preschool’. The dominant matrix language structure from Croatian is applied quite frequently by using Croatian case marking for the German word ***Kindergarten*** (see also Example 6). Yet, the paradigm of ***Kindergarten*** is a specific one, which may be more a case of borrowing than anything other, since pronunciation and grammatical structure is Croatian – as in most cases of this word.

Kindergarten is not only a high frequency word in the data sample of Marko's mother, it is also used in the same manner by the other mothers as well.

Frequency is a keyword in this case. Some scholars underline the necessity to consider 'frequency' in quantitative analysis, which was understudied in the research of code-mixing so far (Backus, 1996; Hakimov, 2016). Backus (1996, 1999, 2003) states that nouns that occur regularly in a certain form, with their plural marker, for example, are more likely to retain their EL plural marker in the matrix language clause. I would argue that due to the frequency of the German use of the word **Kindergarten**, its insertion into the Croatian matrix language becomes habitual because it is treated as a loanword. This assumption is furthermore accentuated by lexical borrowing that applies for the word. The German word is almost exclusively used by Marko's mother to refer to preschool; only one example was found in the whole data set, where she used *vrtić* 'preschool', but this was probably influenced by the experimenter's use of the Croatian word, which was repeated by the mother.

The other example (19) produced by Marko's mother shows another interesting phenomenon of grammatical mixing that is mostly observed in her speech recordings than in the other mother's recordings. She agglutinates the Croatian masculine participle singular ending *-io* onto the German infinitive verb **verkleiden** 'dress up' (*verkleiden-io*) to express the present perfect tense in Croatian. The Croatian masculine participle singular ending *-io* is usually built with Croatian infinitive verbs ending with *-iti* (e.g. *nositi* 'carry', *baciti* 'throw') or *-jeti* (*vidjeti* 'see', *živjeti* 'live'). The question remains unclear why bilingual speakers of Croatian and German tend to agglutinate Croatian verb suffixes to German an infinitive verb and not to the stem (e.g. *verkleid-io* or with another Croatian participle ending: *-ao*, *-eo*, *-uo*). This is additionally observed in other examples of this data sample (e.g. example 20), as well as in other studies on code-switching of Croatian speakers (e.g. Mikić, 2017, p. 74).

When analyzing all mixed utterances produced by Marko's mother, it becomes evident that she almost exclusively uses German content words in the Croatian sentences in CDS, which may influence him, even more, to respond in German, as the input of content words is predominantly German.

Concerning ADS, Marko's mother uses much more complex mixes in her speech directed to adults than to her children. She adapts her speech very systematically to her communication partners; while talking almost exclusively in Croatian with her younger son (one year). In contrast, she adjusts her language to Marko's speech, including more content words in German into her Croatian speech,

and using rather complex mixes in her speech with other bilingual adults. Additionally in order to be able to involve a positive mixing style without actively avoiding to speak in one language, a higher proficiency from all participants is required (Auer, 1999, 2009; Backus, 1996; Muysken, 2012; Poplack, 2000).

Examples for code-mixing in ADS:

- (20) On kad **auf** **stur** **schalten-i**.
 He when on.PREP stubborn **switch.V.INF.Ger**|PRES.3SG.Cro
 "When he is being stubborn."

Example (20) *On kad auf stur schalten-i* 'When he is being stubborn' contains the German verb phrase **auf stur schalten** 'being stubborn', yet, with the Croatian verb ending *-i* of the third person singular. Similar to example (19), the Croatian verb conjugation acts as a suffix to the German infinitive verb **schalten**, and not as an inflection to the stem *schalt-* 'switch'. This type of mixing phenomenon would require further inflectional morphology analyses of a denser sample of bilingual speech to determine possible verb suffixes to the German verb stem and the infinitive.

Another example of ADS is visible in example (21), where a possible interference from German morpho-syntactic structure is indicated, due to the insertion of the German noun **Paare** 'pairs'.

- (21) Pa **su** tu **bile** * možda pet šest **Paare**.
 So V.AUX.3PL.CLIT there be.V.PART.FEM.PL maybe five six pair.N.PL .
 "So, there were maybe five to six pairs."

- (21a) Pa **je** tu **bilo** možda pet šest **parova**.
 So V.AUX.3SG.CLIT there be.V.PART.NEUT.SG maybe five six pair.N.MASC.GEN.PL
 "So, there were maybe five to six pairs."

The Croatian verb paradigm *su bile* 'have been' is built with a participle feminine plural ending *bile* 'been' of the verb *biti* 'to be', probably because the German plural determiner is always feminine *die* (homophonous with the singular), and the Croatian participle verbs require an agreement in gender and number. However, the correct Croatian sentence structure would be the one from example (10a): Numbers in Croatian, from five onwards, necessitate verbs in the neuter singular, and nouns and pronouns to be genitive plural.

Nevertheless, it is only partially explained why and when bilingual speakers use one language or the other; or include mixing in their interactions (Grosjean, 2012). However, what becomes evident from this sample of child vs. adult speech is the more complex mixing among adult bilinguals, which can be traced back to their high language proficiency in both languages.

If we now turn to the **research question (1F)** regarding the most frequently **mixed word classes**, a more holistic picture of mixed utterances becomes evident. As illustrated in Figures 11 and 12, Marko's most frequently used word classes diverge at age 3 (38% nouns) to age 4 (25% nouns). At age 3 he produces predominantly nouns (N) in his intra-sentential switches, whereas at age 4, he inserts mostly adverbs (ADV 37%) in his mixed utterances. However, his recordings show only a small number of mixed utterances in total: 16 mixed utterances at age 3, and only 8 mixed utterances at age 4. Yet, the hypothesis of nouns being the most frequently mixed word classes cannot be verified in Marko's case at age 4, where he produces only 25% nouns.

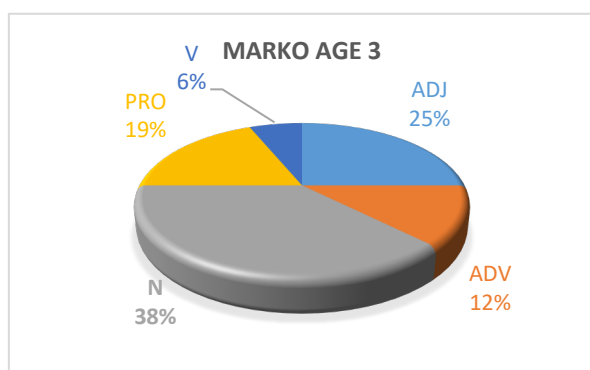


Figure 11 Most frequently used word classes in code-mixing of Marko at age 3

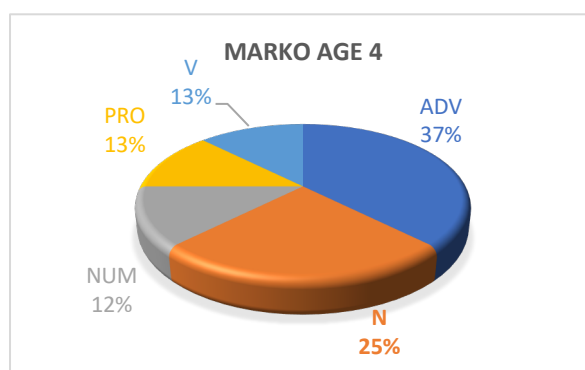


Figure 12 Most frequently used word classes in code-mixing of Marko at age 4

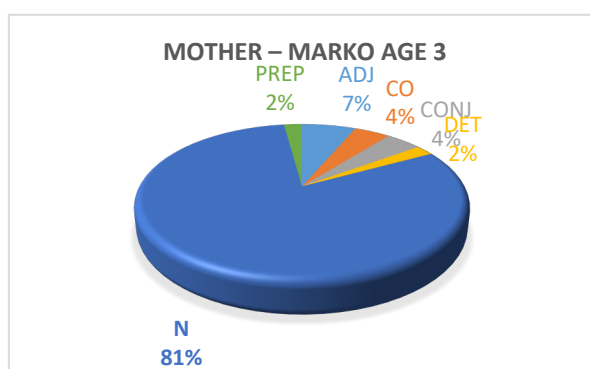


Figure 13 Most frequently used word classes in code-mixing of Marko's mother (Marko age 3)

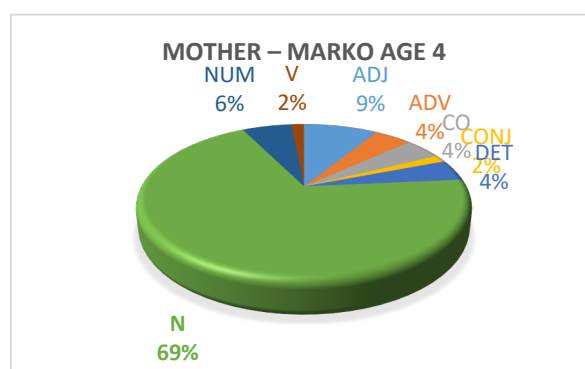


Figure 14 Most frequently used word classes in code-mixing of Marko's mother (Marko age 4)

Marko's mother, on the other hand, produces much more mixed utterances in her speech (47 tokens in Figure 13 vs. 68 tokens in Figure 14), with a vast majority of nouns (81% in Figure 13 vs. 69% in Figure 14). In addition, children generally show relatively low levels of code-mixed utterances compared to adults (Deuchar & Quay, 2000; N. Müller et al., 2015a).

Due to the very small number of mixed utterances in Marko's speech, it is difficult to conclude whether there is a preference in word classes when it comes to mixing his languages. A denser sample of his speech would be necessary to conclude on word classes in mixing. When it comes to word classes that are embedded from language A into the language structure of language B, nouns seem to be the word class that is most frequently used, due to their syntactic flexibility compared to other word classes as described by some scholars (e.g. Myers-Scotton & Jake, 2000; Romaine, 1995). Muysken (2012) listed the hierarchical governance of categories when it comes to code-mixing in the following way: "nouns < adjectives < adverbs < verbs < adpositions < conjunctions < ..." (p. 199).

In Marko's case, the predominant use of German influences the necessity for code-mixing. His language use at home shows a clear preference for the use of German in communications with his mother. While his number of German tokens was 11% and 16% at the first two recordings, one year later it increased to 71% at the third and even higher to 95% at the fourth recording. These results may indicate a slow extinction of code-mixes in his speech and furthermore a predominance for German.

6.1.4.4 Code-mixing of case study 4 – Filip

Filip's code-switching and code-mixing are in general very scarce. Therefore, data on CS, CDS and ADS on code-mixing is very small. Yet, the mother stated in the interview that she is not talking in German to her children, since she is eager to foster their Croatian skills. Consequently, the main family language is basically only Croatian, with a few exceptions that will be demonstrated here.

Filip and his mother use German words only in play situations referring to games with rules and their specificities like color-naming. Moreover, he is counting in German when playing *Ludo*²⁸. That is the only context where code-switching or mixing was observed.

²⁸ German: *Mensch ärgere dich nicht*.

Examples for code-mixing in CS of Filip at age 3;4:

- (22) Ovo stoji na **rot.**
 This stand.V.PRES.3SG on.PREP.LOC red.ADJ.
 "This stands on red."

- (23) Mama di je **blau?**
 Mama where be.V.AUX.3SG.CLIT blue.N.NEUT?
 "Mama where is blue?"

Filip uses the least code-mixes in his utterances, which is influenced by the general family language use at home. The examples illustrated in (22) and (23) show inserted German words referring to colors that are part of the game *Ludo*, a game Filip plays with his mother. Example (22) illustrates the German word **rot** 'red' with the Croatian preposition *na* 'on', which usually requires the locative case marking *-om*, as in *na crven-om* 'on red' and refers to the red field of the board game. However, the Croatian adjective *crven* 'red' with the locative case marking *-om* is probably very unlikely to appear in the same manner with the German word **rot** as in **rot-om** due to incomprehensibility.

The Croatian sentence structure in example (23) does not require any morphosyntactic adaptation to the German word **blau** 'blue'.

If we turn to parental CDS of code-mixed utterances, very little can be extracted from the data of Filip's parents. His mother does not use any code-mixes in the third and fourth recordings, and hardly any in the first two recordings.

Examples for code-mixing in CDS:

- (24) Nisi rekao **drei.**
 Not be.V.AUX-NEG.PRES.2SG say.V.PART.MASC.SG three.NUM.
 "You didn't say three."

Similar to Filip's language use, she inserts a few game-specific words as illustrated in example (24). The German word **drei** 'three' refers to the game *Ludo* and a situation where Filip was code-switching and counting his moves in German.

The present results are significant in at least two major respects. First, in a morphological sense, where an in-depth investigation would be necessary to clarify, why code-mixing as demonstrated in example (23) is incomprehensible with the

Croatian locative case marking of the German adjective *rot* 'red'; in contrast to nouns, where the case marking is quite common as described in the above-mentioned examples of the other children and their respective mothers.

Second, this outcome is contrary to those of the other children; where more code-mixing was observed. Simultaneously leading to the question, if a restricted use of speaking only Croatian within the family favors a balanced bilingual development. This, however, can be connected to other similar studies on input in bilingual development (e.g. De Houwer, 2007; Gathercole & Thomas, 2009; Oller & Eilers, 2002; Pearson et al., 1997; Place & Hoff, 2011), and replicated by the assumption that language development is influenced by the quantity of input children receive. Language input in Filip's case seems to be rather balanced in both languages, since he is similarly exposed to both languages. Consequently, there is moreover no need to code-switch as his languages are perfectly separated into different domains.

Turning now to the **research question (1F)** on most frequently **mixed word classes**, very little can be analyzed: at age 3, Filip produces 11 mixed tokens, while at age 4, he only produces 3 tokens. At age 3, he either uses nouns (45.5%) or adjectives (45.5%) as mixed word classes, as well as one adverb (9%). Although, at age 4 he uses only 2 nouns (67%) and 1 numeral (33%) during code-mixing as illustrated in Figure 16.

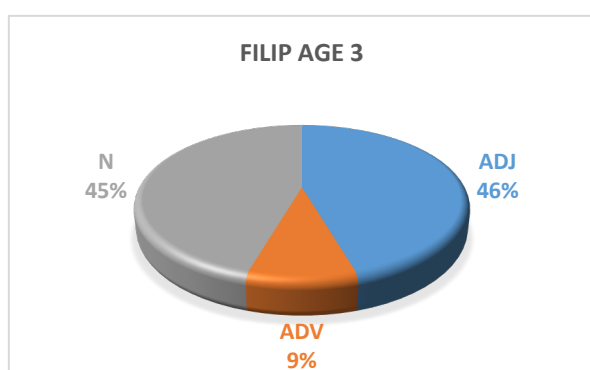


Figure 15 Most frequently used word classes in code-mixing of Filip at age 3

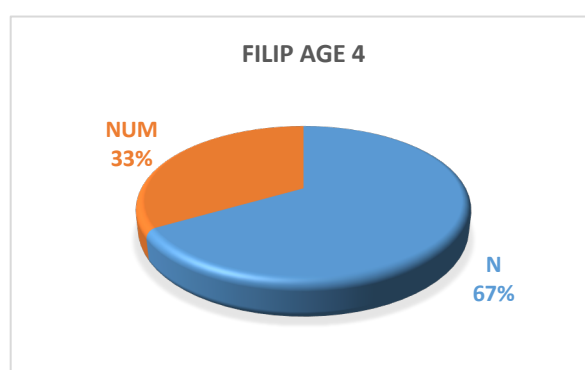


Figure 16 Most frequently used word classes in code-mixing of Filip at age 4

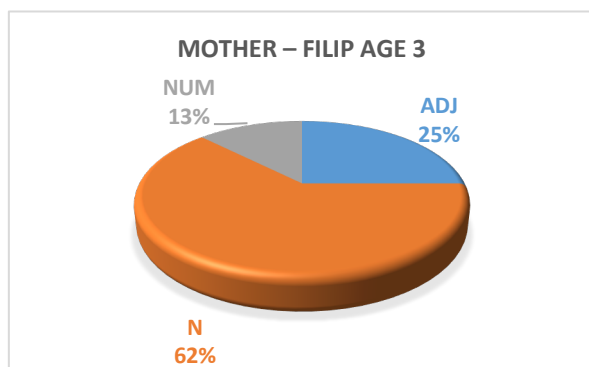


Figure 17 Most frequently used word classes in code-mixing of Filip's mother (Filip age 3)

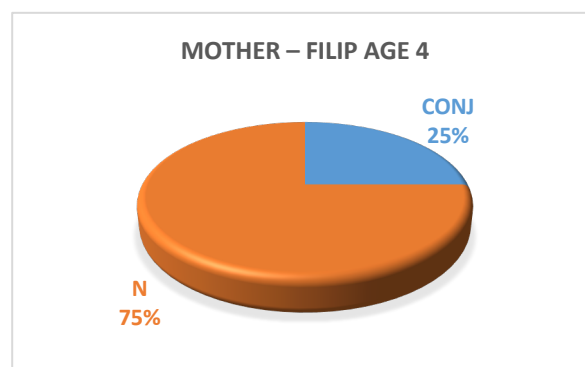


Figure 18 Most frequently used word classes in code-mixing of Filip's mother (Filip age 4)

His mother also predominantly uses nouns (62%), when Filip was 3 years old, followed by adjectives (25%) and numerals (13%), however with a total of 8 tokens. One year later she uses nouns (75%) and conjunctions (25%), which is calculated from 4 tokens. Her subsequent data revealed, in reference to the name of an event (*Wald und Wiesen Tage*) and can therefore be more or less ignored in terms of mixing.

Consequently, Filip's spontaneous speech data reveals only very little code-switching and mixing, indicating a separated use of his two languages, where German is used in a German-speaking surrounding, and Croatian in a Croatian-speaking surrounding.

6.1.4.5 Comparative analysis of all four children

As described at the beginning of this chapter, an idiolectal aspect of code-switching (Li Wei, 2002) can be implied for this study, since code-switching and -mixing data of all four children reveals a very individual language use within the families.

ADS has shown to be much more complex than CS, which is simply due to a higher language proficiency. However, parents seem to adapt their language alteration activities in CDS to their children's language skills, which becomes visible, when comparing the data when the children were 3 years old to those when they were 4 years old. Moreover, spontaneous speech recordings show that parents use more switching with older siblings than they do with younger ones. In some cases, it was observed that the parents adapted their language use to their children's. Namely, when due to preschool influence German became more dominant, some parents switched more likely to German than others, for instance in Ana's or Marko's mother's case. In

contrast, Ivan's and Filip's mothers applied a strict Croatian-only policy for their own communication with their children.

When looking at code-mixing regarding the research question (1F) on the most frequent mixed word classes, it can be verified that nouns are almost exclusively the most frequently used word class in mixed utterances. The only exception is Marko, who used slightly more adverbs than nouns in code-mixing at age 4.

6.1.5 GRADUAL INFLUENCE ON LANGUAGE DEVELOPMENT

An initial objective of the study was to identify whether better vocabulary and grammar skills result in better narrative competences and less necessity to code-switch between the languages, according to the research question (1G).

The purpose of this subchapter is to summarize the children's outcome obtained on the assessments of different linguistic areas as described in the chapters above for both of his two languages during a period of 18 months. Initially, the (a) Croatian outcome will be described followed by the (b) German one.

6.1.5.1 Case study 1 – Ivan

(a) Foremost, Ivan's vocabulary skills at age 3;3 show age equivalent results to monolingual 3;2-year-old peers in Croatia. By age 4;6 he manages to increase his raw score, yet, lags behind monolingual results with an age equivalent of 3;7-year-old peers – which is often the case in bilinguals as mentioned earlier. His receptive grammar skills obtained on TROG-2:HR show zero correct blocks at age 3;6, nevertheless, the Croatian version of TROG was standardized for children starting at age 4. By the next time point at age 4;10, Ivan achieves five correct blocks, with a centile of 39% and age equivalent results to 4;5-year-old monolingual peers.

His productive grammar skills in plural production attained on PET, on the other hand, show 4 (19%) correct forms, 9 (43%) incorrect singular repetitions and 2 (9%) overgeneralizations at age 3;6. The rest of the 6 (29%) remaining items were categorized as 'other forms' due to the child's object naming additionally using the adverb *puno* 'many', which requires a case marking in the genitive singular, but is used morphologically correct. At the next time point at age 4;9, Ivan utters 6 (29%) correct forms, 3 (14%) incorrect singular repetitions and 9 (43%) overgeneralizations. All nine overgeneralizations are incorrect -e plural suffixations. Parallel to his elicited plural production on PET, his spontaneous plural production from spontaneous speech recordings, only show a few plural nouns, however, most of them are used correctly.

When turning to his narrative skills obtained on the *Frog Story* at age 4;6, the micro-level analysis reveals a correctness rate of 56% in textual correctness and 68% in grammatical correctness, which is a little lower than in German. Nonetheless, his MLUw with a score of 3.0 is quite similar to German (MLUw of 3.4). Moreover, Ivan identifies the frog as the one that went missing, which is the plot of the story and in

general seldom elaborated very often in the children's narrations of this study. Ultimately, when analyzing his use of code-switching or code-mixing to German, there are few instances of language alteration occurring in Ivan's home setting.

(b) His German results, on the other hand, simultaneously show a remarkable growth in vocabulary within one year – from a raw score of 15 at age 3;3 to a raw score of 59 at age 4;6, which was the highest result among all four children in this study. Similarly, his receptive grammar results in German at age 3;6 increase from a raw score of 2, a t-score of 41 and a centile of 17% (which however was interrupted prematurely) compared to monolinguals of the norm-standardized cohort, to a raw score of 7, a t-score of 50 and a centile of 50% at age 4;9.

Ivan's productive grammar in plural production shows a predominant use of incorrect zero plurals at both elicitations, namely 18 (86%) at age 3;6 and 15 (71%) at age 4;9. Moreover, 3 (14%) correct plural forms are produced at age 3;6 and 5 (24%) at age 4;9, as well as one (5%) overgeneralization at the latter time point. Spontaneous plural production, contrarily, consists almost exclusively of the correct forms of plural nouns.

Furthermore, his narrative skills in German elicited by using the *Frog Story* at age 4;9 expose a better outcome than in Croatian as mentioned above. His textual correctness shows 64% and his grammatical correctness 84%, with a MLUw of 3.4. Ultimately, Ivan's spontaneous speech recordings in preschool reveal the use of code-switching activities in preschool, yet, no use of code-mixing. The use of Croatian in preschool is probably most influenced by Croatian speaking peers and the Croatian speaking preschool teacher (see chapter 5.1.3.3).

It can be concluded that Ivan's vocabulary development is rather consistent in both languages. Similarly, his grammar results obtained on TROG reveal a stable development in both languages as well, and similar age equivalent results to monolingual peers for both languages by the second tp at age 4;9. His plural production discloses mostly correct plural forms in spontaneous production as well as metalinguistic awareness. Moreover, different strategies for testing situations are applied, for example by replacing omission with commission errors or using the paraphrase 'many' in the plural elicitation – which requires case marking in the genitive singular – instead of a simple clause ("There are ..."), yet, in its correct form. This strategy also displays Ivan's linguistic competences in dealing with testing situations. However, it remains unclear, whether this strategy is applied due to the lack of

knowledge regarding the nominative noun plural, or more likely – it is produced spontaneously by admiring the eliciting picture depicting ‘many’ objects.

According to the initial claim that better vocabulary and grammar skills result in better narrative competences and a decreased need to code-switch, Ivan’s results can verify this assumption. His continuous increase in vocabulary and grammar testing shows a positive outcome in his narrative competences as well as a decreased need to code-switch, especially in German.

The Croatian results, however, indicate a better outcome in grammar at the second testing, revealing progress in receptive and productive grammar, while in vocabulary the first testing reveals better results, when comparing data to monolingual norms. When looking at the need to code-switch between the languages in the home setting, he uses German only partially and especially for preschool related nouns, as do his parents; which indicates that the family uses German in discourse-related situations (Auer, 1999). Ivan’s balanced language skills are probably fostered by the maintenance of Croatian within the family domain, where the main language remains Croatian throughout the 18 months of investigation.

As hypothesized at the beginning of this chapter, bilinguals that score higher in vocabulary and grammar display a decreased need to code-switch to the other (stronger) language. This claim was also observed by Ribot and Hoff (2014), who stated that more balanced bilinguals with receptive and expressive vocabulary skills showed a decreased need to switch between English and Spanish. In Ivan’s case, this assumption can be verified, since he obtains quite constant results in both assessments of receptive vocabulary and grammar even comparable to monolingual norms. His narration has a rather high MLUw in both languages, however, the correctness rate in German shows a higher outcome. Nonetheless, there is no significant indication that he needs to compensate through language alteration in either direction.

6.1.5.2 Case study 2 – Ana

(a) Ana’s receptive vocabulary assessment in Croatian at 3;0 years shows a raw score of 24 points, a centile of 37% and age equivalent norms to 2;8-year-old monolinguals. One year later, at age 4;3, she increased her results to 36 points, with a centile of 32% and age equivalent norms to 3;7-year-old monolinguals. Her receptive grammar testing reveals the following: at age 3;3 she obtains a raw score of one, and at age 4;7 a raw

score of five, a centile of 39% and age equivalent norms compared with 4;5-year-old monolingual peers.

The productive grammar in plural production, on the other hand, indicates a decrease from 7 (34%) correct forms and 11 (52%) incorrect singular repetition forms at age 3;3 to 3 (14%) correct forms and 7 (34%) incorrect singular repetitions at age 4;7, and an increase of overgeneralizations of 3 (14%) to 7 (34%). This shows developmental progress in Croatian plural production, since omission errors are replaced by commission errors, indicating that she is using different plural markers instead of avoiding them. Her spontaneous speech plural production, however, displays a production of an almost exclusive correct use of plurals, except for one overt overgeneralization at the second recording. However, spontaneous speech data contains other plural case markings as well (i.e. accusative and genitive plurals), predominantly in the feminine nouns. She shows in general great progress in spontaneous plural production, especially when compared to the other children in this study.

Ana's narrative skills in Croatian show textual and grammatical correctness of 57%, which is lower than in German, yet, the story structure is quite overlapping in her two narrations. Her utterances in Croatian are shorter with an MLUw of 2.2 and Ana is basically only mentioning the main characters of the story. Ultimately, language alteration is rather common in Ana's family and appears to be part of the family language. Aside from that, code-switching is also part of preschool, since she has Croatian/Bosnian-speaking peers in her group.

(b) In terms of the German assessments, Ana's receptive vocabulary results at age 3;0 show a raw score of 22 and at age 4;3 a score of 54. Her German receptive grammar at age 3;3 displays a raw score of three, a t-score of 45, and a centile of 31%. At age 4;7 her raw score is five, with a t-score of 41, and the centile 18%.

Ana's productive plural production obtained on PET illustrates an increase of correct forms from 5 (24%) to 11 (52%), zero incorrect forms decrease from 14 (67%) to 10 (48%), and 2 (9%) overt overgeneralizations are only produced at the first tp. Her spontaneous plural production shows a solid number of correctly used plural nouns, except for two incorrect zero plurals and one overt overgeneralization.

Regarding the question of narrative skills, Ana achieves a better result in textual (78%) and grammatical (81%) correctness than in Croatian, however, there are quite a few similarities in her storytelling style. Her German utterances are longer (MLUw 3.7), which may be a correlation to her vocabulary development in German. As

discussed above, Ana is switching in both of her languages and is using Croatian in her German-speaking environment of preschool due to her bilingual peers, yet, it was within the limitations of this study to record a longer spontaneous speech sequence among the girls.

The two languages of Ana appear to be part of her family surrounding as well as the institutional surrounding of preschool. She receives input from different monolingual as well as bilingual native speakers, which is described as a 'positive quality indicator' by Place and Hoff (2016). The authors (*ibid.*) claim that the number of native speakers a child has in his/her surroundings as well as the input (s)he receives is a predictor for positive (bilingual) language development. Consequently, Ana's two languages develop gradually with a slight decrease of Croatian scores at the second time point compared to the German scores. This finding is contrary to previous studies (e.g. Bernardini & Schlyter, 2004; Gawlitzek-Maiwald & Tracy, 1996) which have suggested that higher scores in one language lower the necessity to code-switch to the other language.

However, language alteration appears to be quite common in Ana's speech for both languages. A possible explanation for this might be the influence of her two older siblings, who are preferably speaking German to Ana than Croatian. The impact of school-aged older siblings on language growth in bilinguals was described by Hoff, Welsh, Place and Ribot (2014) in a similar manner.

6.1.5.3 Case study 3 – Marko

(a) Firstly, his Croatian results shall be summarized for each language assessment: Marko's Croatian vocabulary increases from 16 points at age 3;0 – a centile of 14%, and an age equivalent of 2;0 years compared to the results of monolingual peers – to 29 points at age 4;3, with a centile of 18%, and an age equivalent of 3;1 years to monolinguals. He basically lacks one year behind monolinguals in his vocabulary results. Surprisingly, his grammar scores obtained on TROG-2:HR in Croatian show a decrease from age 3;3 to age 4;6 from a raw score of two to a raw score of one. A centile is only available for age four, since TROG-2:HR is standardized from age four onwards and showed a centile of 9% on monolingual results.

When looking further into grammar, the plural production on the PET reveals no progress in the correct plural production of Croatian, where Marko produces only one (15%) correct form, 17 (81%) incorrect singular repetitions, and 2 (9%)

overgeneralizations at both elicitations. The same can be concluded for his spontaneous speech outcome in plural production, implying the use of solely rote-learned forms. His Croatian plural production is rather poor, since he hardly produces any plurals in spontaneous speech (only two at first tp, and one at second tp), and only one other plural case marking besides nominative plurals, namely an accusative plural. It is evident that Marko's linguistic outcome in Croatian decreases from age 3 to age 4, which is furthermore underlined by his extensive use of German in spontaneous speech at home and a preference to code-switch to German.

This preference towards German is visible in his narration of the *Frog Story* as well, which contains numerous German words and a rather short MLUw of 1.5. Micro-level analysis of his Croatian narration reveals a textual correctness rate of 39% and a grammatical correctness of 33%. Finally, German certainly plays a dominant role especially in Marko's speech at age four. His last recording at the home setting discloses a decreased necessity to switch between the languages, since he is hardly using any Croatian, while 95% of his total speech is in German. The first two evaluations at age 3, however, show a diverging outcome: his total amount of German words is 11% and 16%.

(b) Marko's German results show, on the other hand, that his vocabulary skills increase noticeably compared to his Croatian results. He scored 19 points at age 3;0 on the PPVT in German, and 55 points 1;4 years later. Similarly, his German results on the grammar test increase significantly from a raw score of 2 to 9, a centile of 17% to 77%, and a t-score from 41 to 57 on monolingual results; which is rather high also among monolingual children (Fox-Boyer et al., 2016, p. 21).

The plural production on the PET reveals an increase of 3 (14%) to 12 (57%) correct forms in German, where no increase is obtained in Croatian. The incorrect zero plurals decrease from 18 (86%) to 6 (29%) by age 4;6. Furthermore, he produces 3 (14%) overt plural overgeneralizations at the second time point of PET, all with an overt *-n* plural. In his spontaneous production, Marko utters between one correct plural form at his first recording up to nine correct forms one year later at the third recording. No incorrect zero plurals or overgeneralizations are found in his spontaneous speech.

Additionally, his narrative competences obtained on the *Frog Story* show rather fluent storytelling, especially when compared to his Croatian narration. His utterances are furthermore much longer with an MLUw of 3.8 and a correctness rate of 63% regarding textual correctness and 71% regarding grammatical correctness, when analyzing the micro-level structure of the narration. Since Marko appears to be more

dominant in German than in Croatian, only unidirectional switching is observed from Croatian to German, but not the other way around.

The positive outcome of the different elicitation tasks in German is also visible in his predominant use of German at home. Therefore, exposure time to German may have a positive effect on Marko's German skills. His exposure time to Croatian at age 3;3 was 37% on weekdays, whereas at age 4;3 it was only 17% on regular weekdays. This effect becomes also evident in his spontaneous speech recordings, where the amount of Croatian speech decreases noticeably, and his German use at home increases within that year (from an average of 14% at age 3 to an average of 83% at age 4). Consequently, his exposure time shows an effect in his Croatian outcome.

A study conducted by MacLeod, Fabiano-Smith, Boegner-Page, and Fontolliet (2013) indicates a correlation between exposure time and the majority language of simultaneous bilinguals' receptive vocabulary, yet, no connection to the receptive vocabulary of the minority language can be found. Consequently, other factors seem to influence the development of bilinguals' vocabulary skills in their minority language. The authors (*ibid.*, p. 140) furthermore suggest using non-word repetition tasks to study the influence of working memory and the ability to learn new words, as possible factors for vocabulary skills.

Marko's exposure time to German is rather high at age four, since he spends nine hours a day in preschool and is furthermore exposed to German in the family domain as well. Yet, according to a study by Klassert and Gagarina (2010) on Russian speaking immigrants in Germany, the German development of preschool children is not positively influenced by the German exposure at home, however, the heritage language skills are affected by the amount of Russian spoken within the family. This leads to the conclusion that Marko's language development in Croatian is diminishing because of the high exposure to German. On the other hand, his German language skills are positively influenced by the higher exposure to a German-speaking environment, as his results on the German tasks at the second time point on vocabulary and grammar showed. This was observed by Paradis (2011) as well, who claimed that vocabulary and verb morphology in the second language of immigrant children was significantly influenced by the length and richness of L2 exposure outside of the home.

These results support the idea of a stronger and weaker language and the need to compensate for the weaker language throughout language alteration.

6.1.5.4 Case study 4 – Filip

(a) Filip's receptive vocabulary testing in Croatian shows very surprising results, namely the lowest score at age 3;1 and the highest at age 4;4 among all four children: at age 3;1 he attains a raw score of 14, a centile of 8% and age equivalent norms to under 2-year-old monolingual peers; at age 4;4 he achieves a raw score of 46, a centile of 47% and age equivalent norms to 4;3-year-old monolinguals, which is rather high for a bilingual child. In contrast, his receptive grammar testing shows the same raw score, namely two at both time points. The second testing at age 4;7 comprises a centile of 14% and age equivalent norms for below 4-year-old monolingual peers (the test was devised from age 4 onwards).

Productive grammar in plural production of Croatian at age 3;4 shows 2 (10%) correct forms, 15 (70%) incorrect singular repetitions and 2 (10%) overgeneralizations, whereas at age 4;7 he obtains 8 (38%) correct forms, 4 (19%) incorrect singular repetitions and 7 (33%) overgeneralizations. His overt overgeneralizations are mostly incorrect -e plural suffixations. When looking at his spontaneous plural production from home recordings, Filip's data shows only a few plural nouns, yet, most of them are in the correct forms. However, data reveals also overt overgeneralizations in spontaneous production as well as the use of other plural case markings, indicating developmental progress in plural production.

Additionally considering narrative skills in Croatian, which reveal a better outcome than the German ones. Filip's textual correctness reaches 52% and grammatical correctness 65%. His MLUw for the Croatian narration is 3.6 and also longer than the German one. Finally, when looking at his code-mixing and code-switching habits, it can be concluded that Filip's data reveals only a little code-switching and mixing and indicates a rather separated use of his two languages, with Croatian within the family domain, and German within the school domain.

(b) Regarding the German outcome, the first time point in receptive vocabulary shows the lowest score among all four children of this study with a raw score of nine at age 3;1. Yet, the second time point is quite close to the other children's with a raw score of 50 at age 4;4. The receptive grammar, however, shows a steady result at both time points of grammar assessment with a raw score of 1 at age 3;4, a t-score of 35 and a centile of 6%, and at age 4;7, a raw score of 3, a t-score 35 and a centile of 7%, which is almost identical.

Filip's productive plural production obtained on PET at 3;4 years discloses 2 (10%) correct plural forms, 16 (76%) zero incorrect forms. For 3 (14%) items he switches to the Croatian word illustrated in the picture, which is the only appearance of code-switching towards Croatian in the whole data set of this study. At 4;7 years he produces 8 (38%) correct plural forms, 3 (14%) zero incorrect forms, and 10 (48%) overt overgeneralizations, which is quite overlapping with his Croatian results obtained on PET. The spontaneous speech plural data shows rather few plurals – only two different plurals are produced at the first and third time point, zero at the second one, and only one at the last recording.

On the question of narrative skills, Filip's outcome in textual correctness is 39% and in grammatical correctness it is 64%, which is below the results of the Croatian narration as already mentioned, analogously to the MLUw with 2.7 in German vs. 3.6 for Croatian. Ultimately, it is necessary to mention his use of code-switching to Croatian in certain aspects. Interestingly, Filip quite often uses Croatian terms in his assessments of plural elicitation and during the narration of the Frog Story in German for example. Other than that, only a little code-switching and mixing was observed during his data collection.

Filip appears to develop both languages at an equal pace, indicating that he may qualify for a balanced bilingual. In general, his languages are rather separated in the home vs. the preschool environment, where the speakers mostly speak one language. Therefore, his exposure to both languages may be quite similar, which appears to favor the acquisition of his heritage language Croatian as well as German. Many scholars (e.g. Gathercole & Thomas, 2009; MacLeod et al., 2013; Ribot & Hoff, 2014; Thordardottir, 2011) claim that equal exposure is in fact an important factor to support the minority language.

Moreover, it is relevant to emphasize the input of native speakers that Filip is surrounded with. Hoff, Rumiche, Burridge, Ribot and Welsh (2014) found that the use of a non-native language by parents of Spanish/English 4-year-old bilingual children in the US was only a weak predictor of the children's English skills, though, if one parent was a native speaker of English, a significant correlation was found in English expressive vocabulary skills. The use of the heritage or minority language within the family, however, appears to be an important predictor for maintaining that same language (e.g. De Houwer, 2007; Klassert & Gagarina, 2010; Pearson, 2007; Portes & Hao, 1998), which is certainly the case in Filip's family surrounding.

6.1.6 DISCUSSION

This chapter aimed was to reflect on the first of the three main areas of this research, which is the individual simultaneous bilingual language development in specific linguistic domains of all four children. It was emphasized several times that children acquire their language(s) at their own pace and also in their own way. This may be the case in the present study as well, especially when referring to the complementary research question (1G) regarding the influence of vocabulary and grammar on narrative competences and the necessity to code-switch to the other language.

There are numerous studies (e.g. Davidson et al., 2017; Marchman et al., 2004; Parra et al., 2011) discussing the influence of lexical and grammatical development on each other. These studies found that the influence between language specific areas is stronger within each language than across languages, which was observed in the present data as well. Similarly, Hoff, Quinn and Giguere (2018) found no evidence in their studies with bilingual English/Spanish children in the US of lexicon and grammar influencing each other. However, they emphasized input to be the key factor in the correlated growth of lexicon and grammar.

The results obtained from the children in this study lead to the assumption that not only high scores in vocabulary and grammar may influence the narrative competences or may decrease the need to switch to the other language, but that other influential factors have to be considered, likewise the quantity and quality of input as discussed by Hoff et al (ibid.). These results therefore need to be interpreted with caution regarding the research question (1G), since receptive vocabulary and grammar are too narrow to interpret narrative competences and language alteration outcomes solely with those two. A much broader and perhaps dynamic view of influential factors and language, in general, is necessary. Libben et al. (2017) elaborates in their book on the bilingual mental lexicon, how lexical processing of bilinguals is to a great deal characterized by dynamicity and integration, and their interaction with each other. Therefore, both languages seem to be in interplay, even when only one language is used during comprehension or production (Kroll, 2017).

Precaution applies furthermore for studies on code-mixing that suggest a higher language proficiency resulting in less of a need to code-mix, as claimed in the study by Petersen (1988). She (ibid.) described in her *Dominant Language Hypothesis* that the dominant language contains fewer mixed utterances and if they occur, the syntax is deriving from the stronger language and mixes appear because they need to fill a

lexical or grammatical gap. Supporting this theory are a few other studies (e.g. Bernardini & Schlyter, 2004; Gawlitzek-Maiwald & Tracy, 1996). Yet, there is also a vast body of literature (e.g. N. Müller et al., 2015b; Quick et al., 2018) disproving these assumptions and stating that children mix function words from their weaker language as well, stating furthermore that bilingual language profiles are too individual to simply put them into a generic set of constraints that are accountable for all. The very recent study by Smolak, de Anda, Enriquez, Poulin-Dubois, and Friend (2019) on bilingual preschool-aged Spanish/English-speaking children in the US and French/English-speaking children in Canada found that code-switching was performed more often than code-mixing, mostly using content words and switching predominantly from Spanish or French to English, which would support the results of this study.

Very often, however, sociolinguistic contexts may influence the use of mixed utterances, due to the characteristics of the community or the bilingual communication partners involved, as Paradis and Nicoladis (2007) claim. Consequently, bilingual children are more likely to mix utterances when they know that their counterparts understand both languages (Grosjean, 2012). Mishina-Mori (2011) found in her case study of English/Japanese 2-year-olds that the way parents react to their children's inappropriate language choice, has a significant impact on the children's language separation.

Some of the issues emerging from these findings relate specifically to the very individual language development in home settings and the various variables influencing the children's linguistic outcome. The analyses of the children's environment reveal a possible influence of Croatian-speaking peers in preschool of Ivan and Ana and the possible influence of older siblings, promoting the use of German at home. Consequently, exposure time is a key variable in these two cases, indicating that the number of B/C/S-speaking peers in preschool and older siblings using German at home support a diverse use of both languages, possibly influencing balanced bilingualism.

The number of siblings, the number of native speakers, parental education, and code-switching within the families are only some of the factors mentioned. Yet, as pointed out in a very recent study by Peter, Durrant, Jessop, Bidgood, Pine and Rowland (2019) – shall at least be mentioned in this psycholinguistic research – other important factors are cognition and processing speed. The authors (ibid.) predict a processing speed to be directly associated with syntactic development, which subsequently is one more variable that would require further analyses. Hence, it could

conceivably be hypothesized that multiple factors are influencing a child's language acquisition and it is almost impossible to account for all variables. Yet, case studies with a detailed description of the child's environment help understand the complexity and the individual factors that may either have a stronger or weaker impact on their language acquisition.

6.2 INFLUENCE OF SES ON SIMULTANEOUS BILINGUAL LANGUAGE ACQUISITION

Numerous studies (e.g. DeAnda et al., 2016; Hoff et al., 2012; Hoff & Core, 2013; Korecky-Kröll, Czinglar, et al., 2016; Oller & Eilers, 2002) in bilingual research have shown a less significant effect of SES in bilingual language acquisition than in monolingual language acquisition. Korecky-Kröll et al. (2018, p. 24) indicates that the socioeconomic background of Austro-Turkish families is more heterogeneous than of the monolingual families of the INPUT project, which seems to be the case for the Austro-Croatian sample as well, and therefore less significant in bilingual children's results.

Due to the small sample of this multiple-case study, no assumption can be made regarding the influence of SES on the Croatian-speaking community in Austria. However, the individual socioeconomic background of all four children will be related to their personal linguistic outcome as one of the many influencing factors of different linguistic domains. Yet, one important distinction has to be made immediately when looking into the group of high vs. low SES children: the two low SES children have older siblings, which may have a significant effect on their language development especially at an early age (Barton & Tomasello, 1994; Bridges & Hoff, 2014a).

6.2.1 VOCABULARY SKILLS AND SES

The composition of research questions regarding the influence of SES on vocabulary, grammar, narration, and code-switching activities will be discussed in the following, starting with vocabulary skills in both languages of high vs. low SES children.

Research question (2A) focuses on the subject of higher SES resulting in presumably better vocabulary skills, since a large number of studies suggest so.

While comparing the two groups of high vs. low SES children of this study, it can be observed that Ivan and Ana, the two low SES children, score higher in the first time point of receptive vocabulary at age 3 in Croatian, as visible in **Figure 19**. By age 4, all children increase their raw score, yet, Filip the one high SES boy that scores the least (14 points) at the first time point, outperforms the other children at age 4 (46 points). His results in German illustrated in **Figure 20**, in contrast, show a similar outcome to that of the other children. Ivan (LSES) and Filip (HSES) have the lowest

score at the first time point in German but increase their results the most (Ivan \uparrow 44 points; Filip \uparrow 41 points) and obtain similar results to the other children (average 54.5 points) that achieve comparable results at age 4 (Ivan 59 points; Filip 54 points). Interestingly, the highest scores in Croatian at age four are obtained by Filip and Ana (Figure 19), who scored the least at German at the same age (Figure 20), while Ivan and Marko obtain the highest score in German and the least in Croatian at age 4. Yet, in both languages with only a slight difference in numbers.

When comparing the results of all four children of this study, one stronger language could be detected for each child, when looking solely at the receptive vocabulary assessment and the results among each other. However, this is a general tendency that one language is the dominant one (Pearson, 2009). What stands out in these two figures is the higher growth from the first to the second time point in German in Figure 20 among all the children, while the Croatian growth in Figure 19 is much smaller, except for Filip's vocabulary scores. Higher exposure to German is likely in most cases a reason for higher vocabulary scores.

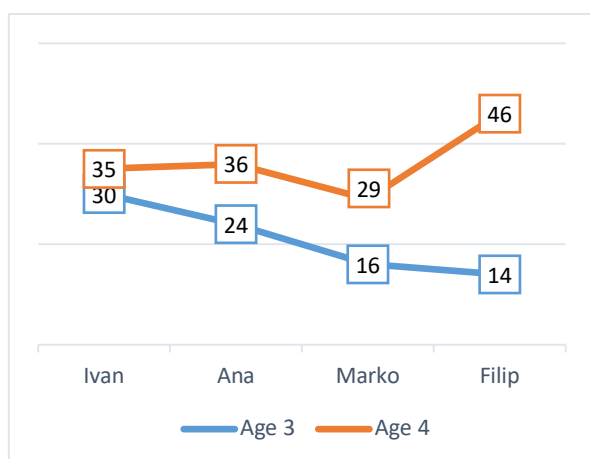


Figure 19 Raw scores of the Croatian PPVT-III-HR of all four children at age 3 and 4

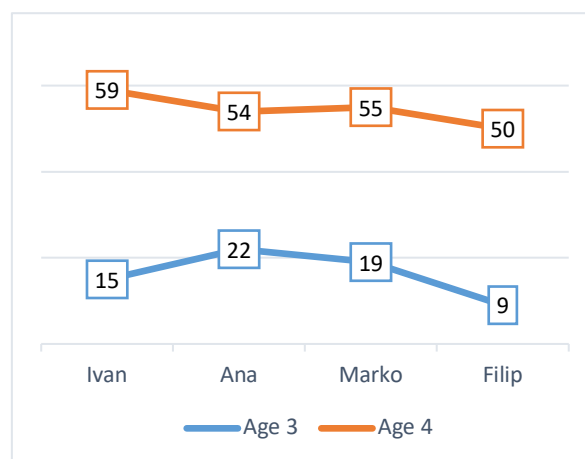


Figure 20 Figure 20 Raw scores of the German research version of PPVT-4 of all four children at age 3 and 4

Filip's low scores at the first time point in both languages may indicate a developmental phase that he went through at age 3, which is rather typical in language acquisition at that age. Furthermore, it is important to highlight the fact that vocabulary is highly contextualized in young children and therefore very individual (Kovacevic et al., 2009, p. 175), which may have affected his early assessment at age 3. His high score and age equivalent results to monolingual peers in Croatian at the second time point (Figure 19), however, indicate high vocabulary skills. Yet, whether this can be

accounted for by a high SES is disputed. It is far more plausible that he scores higher than the other children, due to his higher exposure to Croatian compared to the other children; which is supported by similar studies (e.g. Gathercole & Thomas, 2009; Hoff, 2006; Hoff, Rumiche, et al., 2014; Oller & Eilers, 2002; Pearson et al., 1997). Yet, when looking at his German results in parallel to the Croatian ones, the high scores in both languages may indicate that Filip has reached a possible critical threshold in German, which allowed him to attain high results even with less exposure (Dahl & Vulchanova, 2014; Vulchanova et al., 2012). Dahl and Vulchanova (2014) explain this with a possible knowledge of concepts and equivalents in the other language (Croatian) that make vocabulary acquisition easier in German. Therefore, it can be presumed that vocabulary skills are linked to the children's exposure, a type of critical threshold (especially in early L2 acquisition) and input of the language in question as compared to their SES background.

The study by Korecky-Kröll, Dobek, Blaschitz, Sommer-Lolei, Boniecki, Uzunkaya-Sharma and Dressler (2018) on Austro-Turkish successive bilinguals evaluated with the same assessments similarly showed no significant correlation between vocabulary results in both languages and SES, while among monolinguals SES was a significant factor. When comparing the Austro-Turkish children from the INPUT project with the Austro-Croatian children from this study, diverging results in the raw score of receptive vocabulary assessment were obtained: the average raw score among the 27 successive Turkish L1 children was 38.5, while average raw score among the four simultaneous bilinguals was 54.5. The early preschool attendance of the Austro-Croatian children is most likely the reason for the higher scores. Furthermore, preschool exposure was found to be the most important influential factor for L2 vocabulary acquisition, but the number of German-speaking peers, as well as the type of preschool, were mentioned to have an impact as well (Korecky-Kröll, Dobek, et al., 2018). Regarding the heritage language Croatian, the home literacy environment is certainly one important factor (Willard et al., 2015), which may explain Filip's advanced outcome in vocabulary.

6.2.2 GRAMMAR SKILLS AND SES

Research question (2B) focuses on the grammar skills that are found to be better in high SES children than in low SES, as confirmed by many scholars (e.g. Hoff, 2006; Ravid & Schiff, 2006; Schiff & Lotem, 2011).

Figure 21 presents the results obtained on the Croatian receptive grammar assessment and shows a higher increase in the results of the two low SES children (Ivan & Ana), while the two high SES children (Marko & Filip) either obtain the same result at both time points (Filip) or even score lower than the year before (Marko). The high SES children, however, score higher at the first time point at age 3 (raw score 2) than the low SES children at the second time point at age four. Yet, at the second time point the low SES children, Ivan (age 4;10) and Ana (age 4;7), in Croatian score within the range of age equivalent monolingual norms (4;5 years).

The German grammar results in **Figure 22**, on the other hand, show a different picture. Ivan, Ana and Marko score at both time points in German among monolingual norms, while Filip scores a little bit lower. Only Filip's scores remain below the scores of monolingual norms in both languages, while the other children score at least in one language among monolingual results. Ivan's and Marko's German increase the most within one year compared to the others. Marko's outperforming results at age four in German simply reflect his German dominance, which was mentioned numerous times in this paper, and which is also visible in his decreasing Croatian scores in Figure 21. The two figures clearly indicate a very individual grammar knowledge among the children of this study, which can hardly be linked to SES in this case.

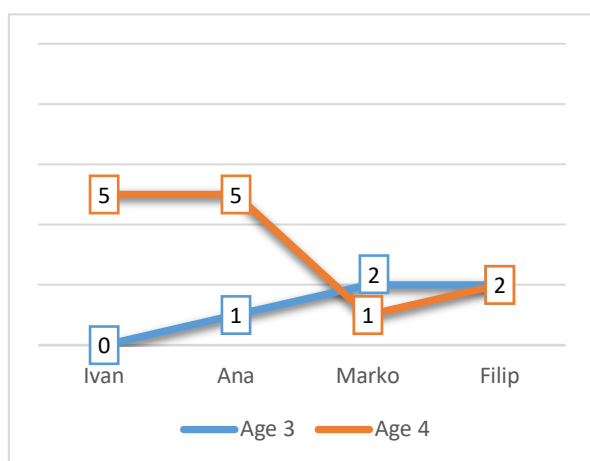


Figure 21 Raw scores of Croatian TROG-2:HR of all four children at age 3 and 4

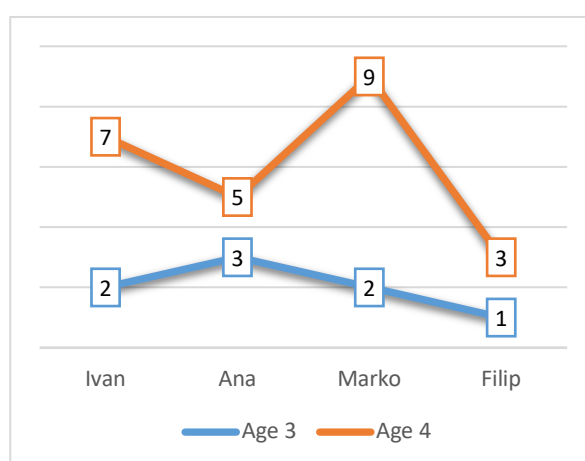


Figure 22 Figure 22 Raw scores of German TROG-D of all four children at age 3 and 4

Interestingly, the two low SES children (Ivan & Ana) obtain in both language assessments close to age equivalent results to monolingual peers, whereas the two high SES children performed poorer. Yet, this does not imply that the children performed badly, on the contrary, all results obtained on the TROG can be interpreted

as typical, since bilinguals can lag behind the monolingual results. Bilinguals are usually less exposed to the one language monolinguals hear all the time. However, bilingual children can of course be exposed to a high amount of input in both languages and therefore achieve monolingual results, especially in their stronger language (Hoff et al., 2012). This may be the case in Marko's German results.

Equivalently to the lexical outcome above, no correlation between socioeconomic background and language assessment is visible in his results of receptive grammar. Suggesting again that other factors are more important in bilingual language acquisition.

Results on **productive grammar**, more precisely, on plural production obtained on an elicitation task (PET) as well as on spontaneous production reveal additionally very individual results without a visible influence of SES:

The two **low SES** children, Ivan and Ana, show progress in their plural production of both languages. However, more omission errors are found in the German task, possibly due to the existence of zero plurals in German. Spontaneous production of plurals reveals predominantly correct plural forms in both languages, which implies that Ivan is producing rote-learned plurals, while Ana is producing considerably more spontaneous plural forms especially when looking at other plural case markers of Croatian (see chapter 6.1.2.5).

The two **high SES** children, Marko and Filip, show different outcomes. Marko's Croatian plural production reveals a poor outcome, indicating no progress, while his German outcome prospers by an increase of correct forms on the task as well as spontaneous production. His data indicates a clear dominance of German productive grammar skills. Filip, on the other hand, reveals constant plural progress in both languages on the task, while he produces more spontaneous plurals in his Croatian data. However, this may simply be due to the recorded play situations, requiring less plural object naming.

Additionally to the receptive grammar skills and the influence of SES on the same, no indication is found that SES has an impact on the children's productive grammar of plural production. This outcome may further be explained by input and exposure time.

6.2.3 NARRATIVE SKILLS AND SES

The following subchapter will focus on answering the research question (2C) regarding high SES children scoring higher in narrative assessments as compared with low SES children.

Table 85 illustrates the micro-level analysis data obtained on the narration of the Frog Story in Croatian and German at age four. The two low SES children, Ivan and Ana, achieve a higher correctness rate in almost every aspect of micro-level analysis, only Filip's grammatical correctness is higher in Croatian than Ana's. Other than that, both low SES children score higher. When looking at the correctness rates of the high SES children, it becomes evident that Marko achieves much higher results in German than in Croatian, while Filip's results are rather identical.

Table 86 Correctness rate obtained on narrative elicitation of the Frog Story in Croatian and German

Child - SES	CROATIAN		GERMAN	
	Textual correctness	Grammatical correctness	Textual correctness	Grammatical correctness
Ivan – low SES	56%	68%	64%	84%
Ana – low SES	57%	57%	78%	81%
Marko – high SES	39%	33%	62%	71%
Filip – high SES	52%	65%	39%	64%

The present results show no correlation between correctness rate and SES, when regarding the analysis chosen for this purpose. The same outcome can be observed in the study by Korecky-Kröll et al. (2018) as well. No correlation was found regarding the total number of correct referential elements and SES in Austro-Turkish bilinguals (ibid.). It seems far more plausible to interpret the outcome by connecting it to the book-reading habits within the family and the language exposure in general.

Analyzing more thoroughly the characters introduced, maintained or switched during the elicitation of the Frog Story in Croatian and German as illustrated in Table 86, no SES effect is visible. The highest number of characters mentioned during the introduction was found in Ivan's data for German (7) and Marko's data for Croatian (7), while the other numbers of maintained or switched characters ranged between 2 and 6.

Table 87 Number of introduced, maintained and switched characters elicited in the Frog Story for Croatian and German

Child - SES	Introducing characters		Maintaining characters		Switching characters	
	CROATIAN	GERMAN	CROATIAN	GERMAN	CROATIAN	GERMAN
Ivan – low SES	3	7	6	2	6	5
Ana – low SES	2	3	3	4	4	5
Marko – high SES	7	4	2	4	3	3
Filip – high SES	3	4	4	4	6	3

When comparing these results to a very similar study conducted by Korecky-Kröll et al. (2018a) on Austro-Turkish as well as L1 German-speaking children, similarities can be detected: no SES effect was found in either group, however, language background was found to be significant when comparing L1 to L2 children.

A study conducted by Kuyumcu and Senyıldız (2011) focuses on preschool children with Russian and Turkish as their L1 in the context of immigration in Germany and their literacy experiences in the families. The authors (ibid.) state that literacy is diverging according to the cultural and individual experiences of families, especially concerning oral and written language and less according to SES. Different studies (e.g. Goody, 2000; Kuyumcu, 2008; Paris & Ball, 2009) imply that Russian-speaking immigrants show a preference towards written language, whereas Turkish-speaking immigrants are more drawn to oral language. Therefore, family literacy, and consequently book-reading habits and narrative competences can only be partially explained by the socioeconomic background of immigrant families. Similar outcomes can be seen in the studies by Mayo and Leseman (2008), and Evans, Kelley, Sirkoa, and Treiman (2010).

6.2.4 CODE-SWITCHING, CODE-MIXING AND SES

This section will focus on SES and the impact it has on bilingual families and their necessity to switch between their two languages. Starting from the assumption that high SES children are more encouraged by their parents to achieve academic and

linguistic goals than low SES children (D'Angiulli et al., 2004), it was hypothesized that bilingual low SES parents pay less attention to language use within the family and therefore switch more than high SES families.

As visible from the two figures (23 and 24) below, there is a difference between the two age groups from when the children were three years old and when they were four years old. The code switches and mixes are extracted from spontaneous speech data and accounted for age 3 from the first two recordings, and for age four from the last two recordings. All of the utterances that were solely in German were accounted as switches, whereas a word or clause within an utterance was accounted as mixes. In general, many more switches were used, which is for one due to the length of sentences in contrast to single words or clauses. While Ivan (LSES) and Marko (HSES) increase their use of code-switching (Ivan from 1% to 11%; Marko 12% to 82%) and decrease code-mixing from 2% to 1%, Ana (LSES) and Filip (HSES) decrease their switches from 8% to 5% (Ana) and 5% to no switching at all (Filip). Ana used the same amount of mixes at both ages (2%), while Filip used 1% mixes in his speech at age 3 and used less than 1% one year later. Parental use of switches and mixes is lower than the children's, except in Ana's case, where the use of switches and mixes seems to be overlapping.

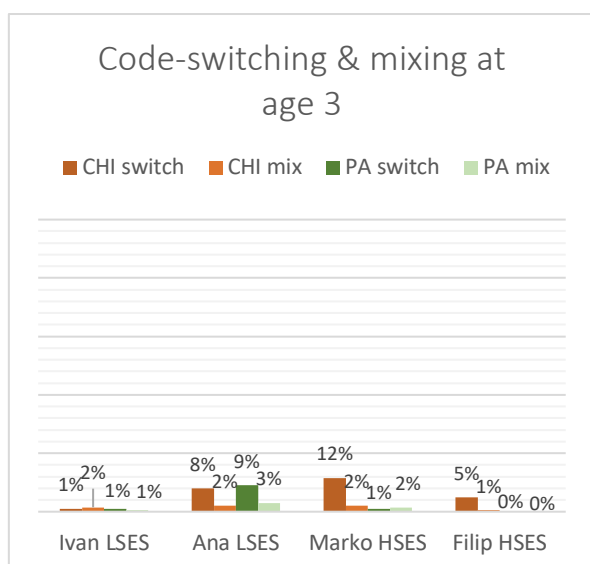


Figure 23 Code-switching and mixing of children and parents at age 3

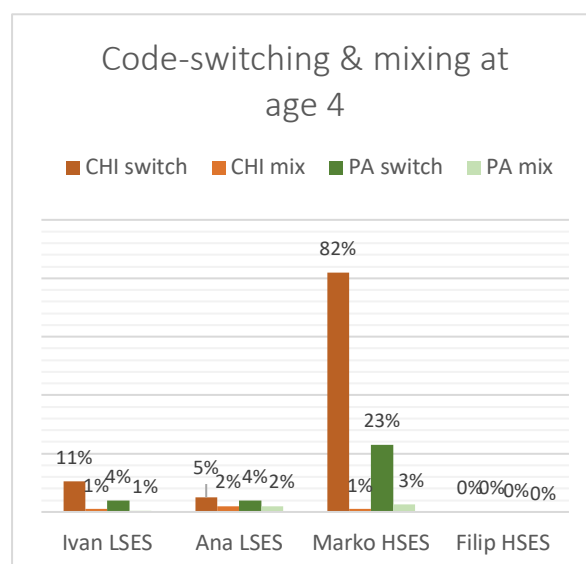


Figure 24 Code-switching and mixing of children and parents at age 4

In Ivan's case, both parents were accounted at the 2nd and 4th recording, which is, however, counterbalanced as one was added to the first figure and the other one to the second figure. The father uses many more switches and mixes than the mother

does, yet, it simultaneously reflects the home language use of the family. What is surprising in this study, is the substantial increase in Marko's switches within one year. By age 4, 82% of his speech was in German, which is completely contrary to the hypothesis of high SES children using less code-switching and mixing in their home environment. However, Marko's mixed utterances may have a positive impact on his German skills as described by Place and Hoff (2016; 2011), where the dominant English mixing of bilingual children in the US was positively associated with their English skills. Spanish-dominant mixing, on the other hand, was less significant, yet, still positively associated with Spanish skills.

Correspondingly, the other children's use of switches and mixes does not correlate with their SES, but far more with individual home language use and the preference and motivation of parents, as suggested by different scholars (e.g. De Houwer, 2007; Willard et al., 2015). In general, and supported by the literature (e.g. Deuchar & Quay, 2000; N. Müller et al., 2015a), code-mixing is rather infrequent in child speech, yet, may be influenced by the parental codemixed input (Comeau et al., 2003). To confirm this assumption for this group of children, a much denser sample of home recordings would be necessary. Nonetheless, code-switching and code-mixing do not appear to be influenced by the socioeconomic background of Croatian-speaking families in Austria.

6.2.5 DISCUSSION

As already discussed in chapter four on the limitations of SES in bilingual children, social stratification for family life is missing in regard to gaining a full picture of family background in immigrant families, since very often different variables for SES are used in research (Ensminger & Fothergill, 2012, p. 25; Rindermann & Baumeister, 2015; Smith & Graham, 1995). Especially in communities with a large number of immigrants, it becomes difficult to set equal standards for the highest achieved education for example – which is only one key component in measuring SES. Other factors may consequently play a greater role in attaining better results in academic achievements than only education, occupation, and income, which are the variables most frequently used for measuring SES. However, numerous studies (e.g. Evans et al., 2010; Fuligni, 1997; Protzko et al., 2013; Rindermann et al., 2011; Strand, 2014a, 2014b) have found other factors to be more important than those three, as parental educational behavior, their parenting styles, their academic aspiration, their involvement in book reading

activities, their selection of high-quality schools and their effort to create a learning environment does.

In this data sample SES – which was operationalized by the highest education and occupational status – appears to show no evidence of SES difference in receptive vocabulary results of the children. Yet, what has shown to foster vocabulary and verbal reasoning among low SES children in African-American fathers is the posing of *wh*-questions, as the study conducted by Rowe, Leech and Cabrera (2017) indicates. In the same vein, other literature (e.g. Hirsh-Pasek et al., 2015; Scheele et al., 2010; Tamis-LeMonda et al., 2004) suggests a strong influence on parental high-quality conversation with their children on their vocabulary learning, namely by sharing information about their surroundings, asking questions or using a diverse vocabulary. The same can be concluded for grammar results in this study. There is no indication of high SES resulting in higher scores on grammar assessment, nor on spontaneous plural production. On the contrary, the low SES children show rather constant results in both time points, while the high SES children show diverging results. The narrative assessment suggests furthermore that narration can rather be interpreted with book-reading habits than SES. Moreover, especially the data on code-switching and code-mixing reveals very individual language use, which can hardly be attributed to socioeconomic background, yet, far more to individual parental motivation to use one language or the other (De Houwer, 2007; Willard et al., 2015). However, knowledge of language acquisition and bilingualism seems to enrich the children's language development and may have an impact on them becoming a balanced bilingual.

Due to the limitations of this study, it was not possible to extract all the information on parental communication, however, implications can be made, on the different factors that may influence the linguistic outcome of the children:

Firstly, maternal education shall be revisited in this matter, since numerous studies (e.g. Goodwin et al., 2015; Hoff, 2003; Hoff, Burridge, et al., 2018; Place & Hoff, 2016; Ravid & Zimmerman, 2017) found maternal education to be a predictor for children's language skills. This is especially interesting in regard to Filip's mother, who is an interpreter and very well aware of how to foster child language acquisition. Filip's results also indicate a balanced bilingual outcome, which was less evident in the other children's results.

Secondly, what could be observed regarding older siblings is that parents tend to adapt to their children's linguistic behavior, which means, the older the children get,

the more they use the majority language, and simultaneously the parents also do so. This was observed in the language use of Ana's and Ivan's parents, when talking to their older children, as well as in the language use of Marko's mother, who suddenly used more German when talking to her younger son during the last two recordings (compared to the first two), when Marko was 4 years old and he used more German in his every-day speech. Ana's mother also used more German when talking to her two older school-aged children. Therefore, it can be claimed that SES is simply too limited to account for the linguistic outcome of children especially in immigrant communities, due to very different parental educational backgrounds achieved in different countries.

Thirdly, the parental social background was shown to play a key role in heritage language acquisition. If parents are insecure about their heritage language use and the opportunities they can provide to foster language (via books, television, learning programs, assess to other native speakers), it is difficult to pass on their heritage language to their children. The so-called home literacy environment as Willard et al. (2015) put it, is therefore a crucial factor in heritage language vocabulary.

6.3 LANGUAGE USE OF THIRD-GENERATION IMMIGRANT CHILDREN

When describing language use within the family, it is important to look into language domains according to Fishman (2000) – as described in chapter two – to draw a clearer picture of the families' language use. It is of interest to distinguish between different situations in which families prefer using either one language or the other, before going into further detail. Therefore, the subdivision in public (informal) and private life (intimate) of the families, as listed in Figure 1, intended to extract the families' preferences to either one language or the other in those specific situations. The questionnaire (see APPENDIX C) used at the fourth time point elicited the mothers' impressions on what language the parents use (always, mostly, more often than the other language) in different contexts with their children. Contexts of public life were supermarkets and stores; doctors; public transportation; preschool (e.g. while picking up the child); playground. Contexts of private life were play activities; conflict situations; cooking, domestic work; lunch, dinner with family; hygiene: brushing teeth, bathing; singing, rhyming; reading, storytelling. Furthermore, parents were asked about situations, where they avoid using one language or the other, and why. The latter was primarily done to elicit a possible effect of avoidance of using the heritage language (Croatian) in public contexts.

This chapter is based on the premise that bilingualism is mostly found in second generation immigrants and diminishes from third-generation onwards (Herzog-Punzenberger, 2017a; Oller & Eilers, 2002). Concurrently, it has been observed that heritage languages are most likely preserved in immigrant communities, where they are used within the families (e.g. Biedinger et al., 2015; De Houwer, 2007; Klassert & Gagarina, 2010). Therefore, this chapter focuses on a socio-linguistic perspective regarding the research question (3A), whether heritage language skills deteriorate in third-generation immigrant children.

6.3.1 LANGUAGE USE OF IVAN

Ivan is technically a second-generation immigrant child, since both of his parents – contrary to the other three children in this study – are born in Croatia (mother) and Bosnia (father). This fact shall be considered regarding the use and maintenance of the heritage language Croatian.

However, first this chapter shall describe Ivan's language use within the family domain, starting with describing language preferences in the public and private situations of the family. Ivan is surrounded mostly by Croatian within the family domain. Private family situations are always in Croatian, except for singing and rhyming, which is performed in both languages. Reading books and storytelling is mostly presented in Croatian. The mother reports furthermore that the father *mixes* the languages subconsciously; he does so, because sometimes he can't come up with the Croatian word right away, as she states. Ivan's mother avoids using German with her children, as she wants them to speak their heritage language, which she emphasizes in the interview.

The maternal motivation to preserve the heritage language may, therefore, have an impact on maintaining Croatian beyond third-generation. Similar to Filip's home language use, the mothers of both boys have a 'Croatian-only' language policy at home. However, Ivan has one older sibling, who uses German quite frequently, when talking to him, which is not the case for Filip, since he is the oldest child. Even though Ivan's mother has no linguistic educational background, she tries to use a diverse vocabulary and pays attention to the children's idiom. In summary, these results indicate the importance of motivation towards preserving the heritage language, as suggested by Ritter (2014) as well. Parallel to these circumstances in the home environment, where both languages are used, his preschool environment offers a diverse set of language input as well, namely through preschool teachers with a Croatian background and other peers, who speak B/C/S as their heritage language. Nonetheless, due to the limitations of this study, it was not possible to extract the amount of Croatian use in preschool.

6.3.2 LANGUAGE USE OF ANA

Ana's mother reports that in public situations (supermarket, doctor, picking up from preschool), German is used in most cases of their communication. However, when using public transportation, Croatian is used more often than German, yet, this depends on the child's preferences at that moment. On the playground, on the other hand, it is half the time, as she points out in the interview.

In private situations within the family, Croatian is used more often than German (conflict situations; play, puzzles, and other games; cooking, domestic work). The mother mentions that less Croatian is spoken when the siblings are present – in a one-

on-one conversation with Ana, she preferably talks in Croatian. Furthermore, at family dinners Croatian is mostly spoken, whereas in hygiene situations, like brushing teeth or bathing, German is mostly used; also, when singing and rhyming. Interestingly, the mother reports that reading books is done in German more often than in Croatian, yet, storytelling is mostly told in Croatian.

The language usage within Ana's family is rather unorthodox, since they switch rather often between the languages among the different domains, where no pattern is detectable. Ana's mother mentions in her interview that she is choosing her language(s) rather subconsciously. What is important to underline is the fact that Ana's mother was born in Austria and finished her school education in German, therefore her academic language skills are far more elaborate in German than in Croatian, which may have an impact on choosing German over Croatian when talking about more complex topics (the same holds for Marko's mother). This outcome is likely to be related to Ana's Croatian skills as well, since there is no visible academic input for Croatian in her home surroundings. Consequently, it remains unclear how third immigration children shall be able to achieve higher language skills in their heritage language if no compulsory education is offered to them. There is abundant room for further progress in determining whether from just an unspecified point in family immigration only basic language skills can be preserved.

6.3.3 LANGUAGE USE OF MARKO

Language use within the family domain was elicited throughout a semi-structured questionnaire at the fourth time point. Marko's mother reports using German in public situations, like supermarkets; doctors; public transportation, more often than Croatian. On the other hand, when picking Marko up from preschool, she rather uses Croatian. On the playground they mostly speak Croatian, however, when he starts talking German, she adapts to the child's linguistic behavior. In private family situations at home the main language is Croatian, she always uses Croatian in conflict situations, also during cooking and family dinners. However, play situations, singing and rhyming, reading books and storytelling is mostly performed in German. The mother claims that she consciously switches to Croatian, when she realizes that they have spoken only German for some time. She also tries to avoid mixing the languages, yet, uses German expressions when she can't come up with the Croatian word.

What is apparent in Marko's language use is the dominance of German that increases noticeably at age four. The high exposure to German in preschool as well as at home defines itself in his language assessments. Similar to Ana's mother, Marko's mother was born in Austria and speaks German at a native level and had never attended a Croatian school or compulsory schooling in Croatian. Therefore, her academic language skills are far more elaborate in German, which is also visible from her interview, where she mentions choosing German in play situations, singing and rhyming as well as when reading books. This preference of German may be explained with easier access to German vocabulary to describe games with rules (since they are mostly purchased in Austria or known from preschool) or also easier access to German-speaking children's books. Consequently, the dominance of German flourishes at the expense of Croatian, which is rather peculiar, since Austrian language policy is very determinant in fostering German among immigrant children, while putting little effort in preserving heritage languages. Ehlich et al. (2008, p. 164) describe this phenomenon to be quite common in the diaspora, where institutional support in the minority language is rather limited. Especially after the beginning of elementary school, it is difficult to expect language development to be comparable to monolingual minority language speakers.

6.3.4 LANGUAGE USE OF FILIP

The language used within the family domain of Filip is to the most part exclusively in Croatian. Only singing and rhyming are performed more often in German. Book reading, and storytelling is done in both languages, however, mostly in Croatian. The mother emphasizes that she wants her children to speak Croatian proficiently and avoids mixing the languages. Spontaneous speech at home is therefore Croatian-dominant, implying that there is a rather strict division between family domain and Croatian input at home versus preschool domain and German input.

However, individual (family) factors like maintenance of heritage language, number of native speakers also including the family members of Ana's nuclear family, aspiration for the education of children, and quality and quantity of input, as a line of research (e.g. De Houwer, 2007; Gathercole & Thomas, 2009; Hoff, Quinn, et al., 2018; Pearson, 2007; Pearson & Amaral, 2014), can be found in Filip's data, indicating a positive influence towards Filip's balanced bilingualism.

The family background of Filip's and Ana's family is quite overlapping, since their fathers are brothers. While Ana's father was categorized as a low SES, Filip's father was considered a high SES due to his highest education achieved. Yet, in both cases, the maternal education and aspiration towards bilingual language development appeared to be more significant in the children's linguistic outcome. Overall, these results indicate that more linguistic awareness and knowledge of bilingual language acquisition is necessary to promote children's dual language development.

6.3.5 DISCUSSION

Children undergo important developmental stages of cognitive, socio-emotional and linguistic growth during preschool age. Some children reach these stages faster than others, as visible throughout the results conducted within this study, which indicates simultaneously the significance of longitudinal research. Nonetheless, only a little research (e.g. De Houwer, 2007; Gagarina et al., 2017; Korecky-Kröll, Dobek, et al., 2018; Unsworth, 2013a, 2016) has been done so far on bilingual development across preschool age in immigrant communities in Europe. However, several recent studies (e.g. Bialystok, 2017; Byers-Heinlein et al., 2019) have attested positive outcomes of bilingualism in different domains of child development.

The present results are significant in at least three major respects. For one, it is important to emphasize the importance of maintaining heritage language within the family regarding the children's dual language development. Numerous scholars (e.g. De Houwer, 2007; Klassert & Gagarina, 2010; Pearson, 2007; Portes & Hao, 1998) found that L1 input at home played an important role in the children's maintenance of the minority language, which can, of course, vary among different immigrant communities, depending on their attitudes towards their heritage languages and their reason for emigration. Ritter (2014) discovered in a similar study on Russian immigrants in Germany that the language attitudes of every family member may influence the language use of the family. To maintain the heritage language, she (ibid.) underlines the importance of the first generation's positive attitude towards the heritage language Russian and their motivation to teach it to their children and grandchildren. Pauwels (2005) similarly discusses in her paper possible strategies to maintain the heritage language in the family and points out that the family is still the main domain to preserve the heritage language and to guarantee bilingual upbringing. She (2005,

p. 128) lists persistent use of heritage language in the family, consistency of language use especially in early language acquisition, and parental use of learning techniques like word games to foster the children's language competences. The socioeconomic background of families was found not to be significant in the heritage language retention of Portes and Hao's (1998) large-scale study on 5,000 second-generation adolescents in the US, but the language input was found to be significant, as well as the use of the heritage language by both parents.

Furthermore, the influence of native speakers on the heritage language acquisition has been accentuated by numerous studies of bilingual research (e.g. Czinglar et al., 2017; Place & Hoff, 2016; Ritter, 2014; Willard et al., 2015). In the same vein, some studies (Pauwels, 2005; Ritter, 2014) particularly underline a tendency towards receptive bilingualism, where the parental use of the majority language was broader within the family. This may be a result of Marko's future language development as well, if majority language use will be continued in the same manner as observed at age four. However, these families described in the studies mentioned above usually also had less contact with their heritage culture and their relatives living in the country of origin, which simultaneously limited the language contact to the nuclear family. Ritter (2014) concludes in her study on Russian-speaking immigrants in Germany that by the third or at least fourth generation a loss of Russian is very likely. Claiming from the outcome of this study, I would argue that especially Croatian academic language is very likely to be lost from the second generation onwards, yet, basic language skills used in colloquial speech may overcome more than three generations of immigrants.

The second major aspect that shall be discussed regarding the present study is language in the diaspora. Since the parental heritage language is very much influenced by the regional dialects from their regions of origin, discrepancies to standard Croatian language were quite likely. Influences from other languages as Bosnian or Serbian are rather common as well. One explanation may be the linguistic purism implemented during the Tuđman era in Croatia that may have had less influence on first and second-generation immigrants than on domestic population, as also mentioned in a study by Voß and Jusufi (2013, p. 190). Therefore, the use of Serbisms in the families' speeches may appear for certain language phenomena. One phenomenon observed rather frequently among the probands of this study was the use of *da*-constructions, which are influenced by the Serbian language. Moreover, diaspora makes it difficult for subsequent generations to acquire the heritage language especially standard language as emphasized by Schroeder and Stölting (2005, pp. 64–66) for Turkish

immigrants in Germany. There is usually less support in maintaining minority languages in countries with a “monolingual habitus” (Gogolin, 1994).

Ultimately, I want to point out the criticism postulated by Hoff, Quinn and Giguere (2018b) that the cultural context – in their case of Spanish communities in the US – jeopardizes the language growth of minority language and transfers it to the present study. Jeopardizing is certainly a key term in this regard as the surrounding can have an impact on the speakers’ linguistic behavior. How certain languages or language backgrounds are perceived by the majority, can make speakers of minority languages avoid using those languages (Becker & Tuppatt, 2018; Gomolla & Radtke, 2002). Societal attitudes towards different minority languages, and language policies supporting multilingualism are indeed improvable. In most immigrant communities preserving heritage or minority language(s) is a matter of the family. Biedinger, Becker, and Klein (2015) have shown that the family domain is most influential for maintaining the heritage language skills of Turkish immigrant preschool children in Germany. Yet, once children enter school, exposure to the minority language becomes less and the need to fulfill certain school language requirements in the majority language becomes crucial. Austria is a country with school children of very diverse cultural backgrounds and various first languages. Consequently, different language policies have been implemented to foster the German language in schools (as well as preschools). However, only a little is done to foster the heritage languages of children with a different first language other than German.

Austria, nevertheless, has its own policy in offering ‘mother tongue’ classes, yet, it is a voluntary parental decision and dependent on the number of registered children with the same first language to install these kinds of classes (Garnitschnig, 2019). According to the report issued by the Austrian Ministry of Education (BMBWF, Garnitschnig, 2019, p. 37) for the school year 2017/18, 14.5% of all children with a different first language other than German attended *mother tongue classes*, the majority of them in Turkish, followed by Bosnian/Croatian/Serbian. The report (ibid., p. 39–40) not only lists numbers, but also reasons influencing the attendance of such classes. It emphasizes the importance of societal attitude towards other languages other than German to be crucial for parents whether inscribing their children to *mother tongue classes* or not. Presumably, public discourse and language policy supporting solely German as the language of education may negatively impact on immigrant communities and their motivation in maintaining their heritage language. Studies (e.g. Biedinger et al., 2015; Bylund & Díaz, 2012; Fresow et al., 2012; Oh & Fuligni, 2010;

Willard et al., 2015) focusing on fostering heritage language(s) underline the importance of maintaining those languages not only to becoming fully bilingual, but also regarding their cultural identity. However, the Austrian public schooling system is hardly providing any kind of bilingual program supporting dual language education as compared with cases in the US or Canada with different kinds of programs, such as dual immersion programs, where language-minority students are educated in both languages (Herzog-Punzenberger, 2017b).

These findings raise intriguing questions for further socio-linguistic research considering the nature and extent of the maintenance of the heritage language in immigrant communities and the necessity for compulsory education to be able to sustain bilingualism among immigrant children from the second generation onwards.

7 CONCLUSION

The aim of the present research was threefold: First, to investigate the individual simultaneous bilingual language development of four children considering specific aspects of the lexical, grammatical, and narrative skills, as well as code-switching. Second to examine the influence of SES on bilingual language acquisition, and third, to identify from a socio-linguistic perspective the use of two languages in third-generation immigrant preschoolers in Austria. Therefore, this chapter will be structured in that order.

Formost, individual simultaneous bilingual language development can be considered a rather accurate description of the children's linguistic outcome in general, since language development is indeed very individual. Therefore, the first major finding considering the first set of research questions (1A-G) showed that a large (receptive) vocabulary and elaborate grammar skills appear to be insufficient to explain narrative competences or the need to switch to the other language solely with those (see chapter 6.1). Additionally, various (individual) variables seem to influence the children's linguistic outcome as well. As pointed out by numerous other studies on bilingual preschool children (e.g. Bridges & Hoff, 2014b; Cartmill et al., 2013; Czinglar et al., 2017; De Houwer, 2009, 2015; Hoff, Quinn, et al., 2018; Unsworth, 2016), age of acquisition, number of siblings, contact to native speakers or quality and quantity of input have to be considered likewise. Input received through CDS seems to be a crucial factor in CS, which becomes evident in the paper by Hržica, Čamber and Kaštelančić (in preparation) on prepositional phrases – including the children of this study – as well as the CDS in code-switching and -mixing (see chapter 6.1.4 and 6.2.4). To be precise, code-switching or code-mixing appears to be much more influenced by the family language use at home, as well by bilingual peers/relatives/friends, who understand both languages (e.g. De Houwer, 2007; Grosjean, 2012; Paradis & Nicoladis, 2007; Willard et al., 2015).

The present findings have shown that language development among simultaneous bilinguals in certain linguistic domains (receptive vocabulary and grammar, narration, code-switching) may evoke a similar outcome in the results of both languages, if a bilingual is exposed to both languages rather equally or a certain critical threshold has been reached in order to obtain stable results in the other language (Dahl & Vulchanova, 2014; Vulchanova et al., 2012). Exposure time is nonetheless a key

variable when analyzing the children's linguistic environment of the home and the preschool domain. The findings revealed a possible influence of Croatian-speaking peers in the preschool of Ivan and Ana and the possible influence of their older siblings, promoting the use of German at home, and possibly influencing balanced bilingualism throughout native exposure to both languages in both domains.

Yet, the hypothesis that high vocabulary and grammar scores determine such elaborate skills as narrative competences, is most likely too narrow and cannot be confirmed in this way, since language development comprises numerous components as described above. However, narrative competences or literacy, in general, seems to be much more predisposed by book-reading habits within the family, which on the other hand may influence vocabulary and grammar skills.

Secondly, parental SES is one additional major variable, which was evaluated regarding the children's linguistic outcome in vocabulary, grammar, narration and code-switching activities (see chapter 6.2). SES was operationalized here by the highest education and occupational status of parents. However, there is no indication among the children in this study of high SES resulting in higher scores on vocabulary or grammar assessments, neither on narrative skills, as hypothesized for those three linguistic domains in the research questions 2A–C. Furthermore, SES can hardly explain code-switching or code-mixing activities among the children, but rather the individual parental motivation to use one language or the other, which was attested in other similar studies as well (e.g. De Houwer, 2007; Smolak et al., 2019; Willard et al., 2015).

The findings from this present research indicate, on the other hand, that maternal education and maternal language awareness can foster children's balanced bilingualism when looking at the mothers of Ivan (low SES) and Filip (high SES). The maternal aspiration towards fostering especially heritage language use at home seems to affect balanced linguistic results. The importance of heritage language among family members appears to be more important than family SES to foster language skills of the heritage language. However, since maternal education and language awareness can be attributed to their educational background and educational aspiration for their children, which is often used as a measurement for operationalizing SES of parents (Bornstein & Bradley, 2012), the hypotheses on SES being to a certain extent influential can at the very least not be disconfirmed.

However, further studies (e.g. Evans et al., 2010; Fuligni, 1997; Protzko et al., 2013; Rindermann et al., 2011; Strand, 2014a, 2014b) have found other factors to be

more important than the highest achieved education or occupational status, namely: parental educational behavior, parenting styles, academic aspiration, involvement in book reading activities, selection of high-quality schools and an effort to create a learning environment – which seems to conform with the families observed in this research. However, this does not exclude an interplay of some of these factors with SES.

Ultimately, the last aim of this study was to investigate, from a socio-linguistic perspective, the use of two languages in second/third²⁹-generation immigrant preschoolers in Austria and a possible deterioration of their heritage language (see chapter 6.3). Maintaining heritage languages in immigrant communities especially over more than two generations has been investigated by numerous scholars (e.g. Backus, 2004; Pauwels, 2005; Pearson & Amaral, 2014; Portes & Hao, 1998; Ritter, 2014; Willard et al., 2015). However, other multiple factors appear to collude in guaranteeing a successful bilingual upbringing. The most prominent factors in the literature (ibid.) mentioned above were a positive attitude towards the heritage language and culture, L1 input at home, persistent use of the heritage language in the family, number of native speakers, as well as the use of the heritage language by both parents. Furthermore, the number and order of siblings may have had an impact on the language used within the family, since older siblings often tended to use the majority language due to stronger school and peer influence (e.g. Barton & Tomasello, 1994; Bridges & Hoff, 2014b; Hoff, Rumiche, et al., 2014).

What could be observed in the parental linguistic behavior of this study, when talking to the older siblings, was the adaptation to the children's majority language use. Regarding the participants in this study, the same influential factors can be acknowledged. When turning to the hypothesis of the research question (3A), it can be confirmed that children do indeed deteriorate in their heritage language skills, simply due to stronger educational support of the majority language that increases with age. However, if the child is fostered in the heritage language, a balanced outcome in both languages is possible, as was shown in Filip's case (high SES).

Yet, what appears to be missing in research debates is the loss of the written educational language skills in heritage languages among immigrant children from second-generation onwards. Language use is a dynamic process influenced by various external factors. Therefore, it is important to consider the standard Croatian

²⁹ Ivan is a second-generation immigrant, since both of his parents were born abroad, whereas at least one of the other parents was born in Austria.

language in the diaspora. Since Croatian use of the parents in this study is very much influenced by regional dialects from their specific places of origin, discrepancies to standard Croatian were likely. Furthermore, influences from Bosnian and Serbian language were observed as well, since those languages are very similar. The influence from these languages is of course much stronger in an immigration context than in Croatia itself (see chapter 5.3.1 on research participants). Consequently, diaspora may eventually hinder subsequent generations from acquiring a standard Croatian language.

Likewise, the majority society influences the preservation of the heritage languages, since societal attitude towards immigrant languages has proven to be one reason for the low attendance of *mother tongue classes* in Austria (Garnitschnig, 2019). This may be explained with a possible less prestigious view on immigrant languages such as Croatian or Turkish, than on languages such as French or English. Nonetheless, political actions towards fostering heritage languages of immigrants shall be reconsidered, to be able to sustain bilingualism among immigrant children from the second-generation onwards. Herzog-Punzenberger (2017b) emphasizes in her report on the Austrian schooling system and multilingualism, the necessity of bilingual programs to guarantee a positive cognitive and linguistic outcome of immigrant children, which was attested by other successful bilingual schooling programs (e.g. dual immersion program) especially in the US or Canada.

Since there are broad public, political, and scientific discussions on fostering German as L2, regarding educational achievement, especially among immigrant children in Austria, the discussion on supporting the children's other language(s) vanishes almost completely from the public discourse. In other words, children growing up with two or more languages, and attending preschools or other public (or private) educational institutions, eventually get more exposed to the majority language. This leaves parents with the obligation to nurture the child's other language on their own – which in most cases is not offered to them in an institutional setting. Consequently, the use of Croatian will probably be restricted to the family domain, which may foster basic language skills used in colloquial speech, yet, the Croatian written educational language is very likely to be lost from the second-generation onwards (see chapter 6.3).

Overall, this study strengthens the idea that multiple factors influence a successful simultaneous bilingual language acquisition. As already emphasized multiple times in

this study, children acquire their language(s) at their own speed and also in their own way. Therefore, one attempt of this research was to give an overview of the factors most influential for a successful 2L1 acquisition according to the data from this research as well as other relevant research mentioned in this particular context.

The following Figure 25 illustrates four superordinate constituents, namely exposure time, home (parental) environment, school environment and psychological development to be major influential factors for bilingual language acquisition. These four constituents were chosen firstly in accordance to the methodological approach of evaluation procedure of home vs. preschool environment, and secondly regarding the extensive literature on exposure (e.g. Bialystok & Feng, 2009; Hoff et al., 2012; MacLeod et al., 2013; Scheele et al., 2010; Unsworth et al., 2014; Thordardottir, 2011) and child development (e.g. De Houwer, 2005; MacWhinney, 2005; Reich, 2008; Unsworth, 2016) that are proven to be crucial for 2L1 acquisition.

The four superordinate constituents are assembled as follows:

(1) **Exposure time** may be influenced by contact with native speakers, and the quality and quantity of input as is often the subject of the literature mentioned above.

(2) **Home (parental) environment** may be influenced by parenting styles, which can comprise of parental educational aspirations, or play and book-reading activities to foster children's language development; by maternal education, which can comprise of language skills in both languages, and knowledge on language acquisition to foster the child's bilingual upbringing; by aspirations for maintaining the heritage language and its importance in general, which is, however, simultaneously influenced by societal attitudes towards the minority language; by siblings, especially older ones can influence the use of the majority language; and by the language use and the diversity of input involving literacy and book-reading activities as well as the parental language level in both languages, implying that a parent is less likely to use one language if (s)he is not proficient enough in that same language.

(3) **Preschool environment** may be influenced by the start and duration of preschool; by the continuity of preschool attendance; by the number of German-speaking children; and by the number of B/C/S-speaking children.

(4) **Psychological development** may be influenced by the motivation towards using both languages; by the child's developmental stage; or by their age of acquisition in each language, which is again the subject of the literature mentioned above.

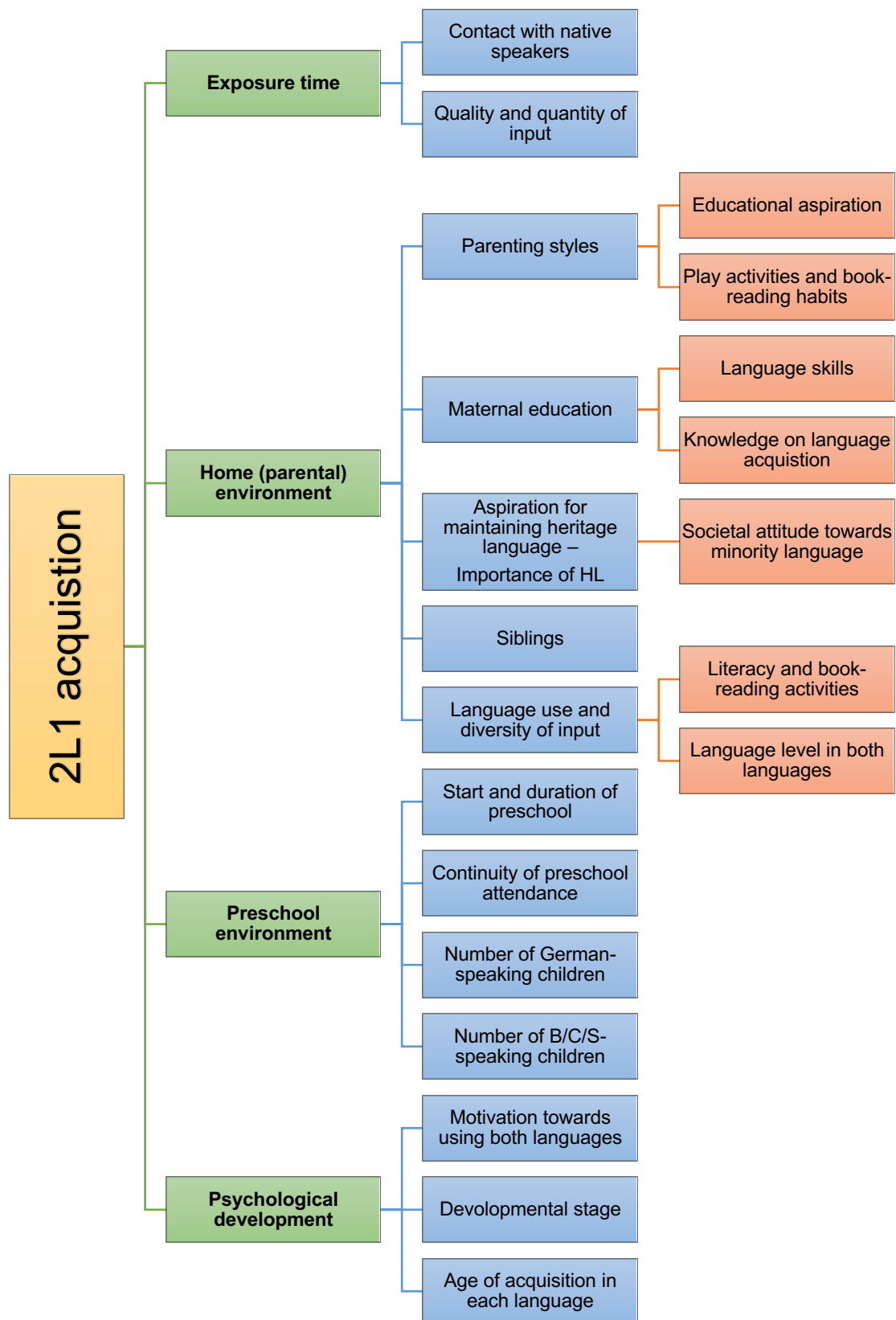


Figure 25 Factors influencing simultaneous bilingual language acquisition

The various subdivided components are interdependent and can be connected flexibly since the start and duration of preschool can likewise be linked to *Exposure time* as well as *School environment* for example. This holds for the other components as well.

The major limitation of this study is due to its nature of a relatively small sample. Interindividual differences in the four children of this study were inevitable. Even though attempts were made to match the children in age, SES, start of preschool, and other categories, further analysis showed rather individual language backgrounds.

First, the number and order of siblings was difficult to match, yet, this is one important variable in child language acquisition as the present research showed and shall, therefore, be considered in subsequent analyses. Similarly, SES has to be considered with caution. For one, due to the very small sample size, but mainly due to the fact that two fathers of the children (Ana and Filip) were brothers, which showed an overlapping family background of the same relatives/friends. Moreover, the high number of peers who spoke either Bosnian, Croatian, or Serbian (B/C/S) in the preschool (and were treated as one language group) was a surprising result and may have affected the children's language exposure on the one hand, and on the other hand, the linguistic outcome in the results.

Yet, it is important to emphasize that within the limits of this study, it was not possible to specify the influence of B/C/S-speaking peers on the simultaneous bilingual language development. The examination of peer talk among immigrant children of the same heritage language in preschool should be explicitly pre-planned in future psycholinguistic and socio-linguistic research – or as in this case similar heritage languages, including regional variations.

Furthermore, early attendance of preschool is in general an important field of research in immigrant children, especially when investigating its impact on later school readiness as suggested by Magnuson, Lahaie and Waldfogel (2006) as well. Further research might explore the longitudinal effects of the specific constituents mentioned in this research on later adulthood bilingualism and the possible loss of heritage languages from third-generation onwards.

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APPENDIX A: Items of the short version of German *Plural elicitation task* (Laaha et al. 2006), Form B

(A, B, C = training items, numbered items = test items)

No.	Singular	Plural	Plural marker	Gender	Translation
A	Auto	Autos	s	NEUT	cars
B	Baum	Bäume	umlaut + e schwa	MASC	trees
C	Banane	Bananen	(e)n	FEM	bananas
1	Ball	Bälle	umlaut + e schwa	MASC	balls
2	Baby	Babys	s	NEUT	babies
3	Vogel	Vögel	umlaut	MASC	birds
4	Schneemann	Schneemänner	umlaut + er	MASC	snowman
5	Bild	Bilder	er (a schwa)	NEUT	pictures
6	Stift	Stifte	e schwa	MASC	pencils
7	Teller	Teller	zero	MASC	plates
8	Maus	Mäuse	umlaut + e schwa	FEM	mice
9	Hase	Hasen	(e)n	MASC	rabbits
10	Oma	Omas	s	FEM	grandmas
11	Apfel	Äpfel	umlaut	MASC	apples
12	Kuh	Kühe	umlaut + e schwa	FEM	cows
13	Zug	Züge	umlaut + e schwa	MASC	trains
14	Katze	Katzen	(e)n	FEM	cats
15	Mantel	Mäntel	umlaut	MASC	coats
16	Schiff	Schiffe	e schw	NEUT	ships
17	Fenster	Fenster	zero	NEUT	windows
18	Pyjama	Pyjamas	s	MASC	pyjamas
19	Haus	Häuser	umlaut + er	NEUT	houses
20	Mädchen	Mädchen	zero	NEUT	girls
21	Bett	Betten	(e)n	NEUT	beds

Appendix B: *Items of Croatian plural elicitation task, adapted for Croatian according to Laaha et al. (2006)*

(A, B, C = training items, numbered items = test items)

No.	Singular	Plural	Plural suffixes	Gender	Translation
A	auto	auti	-i	MASC	cars
B	drvo	drva	-a	NEUT	trees
C	banana	banane	-e	FEM	bananas
1	djevojčica	djevojčice	-e	FEM	girls
2	krevet	kreveti	-i	MASC	beds
3	mačka (maca)	mačke (mace)	-e	FEM	cats
4	dijete	djeca	-a	NEUT	children
5	vlak	vlakovi	-ovi	MASC	trains
6	ptica (ptičica)	ptice (ptičice)	-e	FEM	birds
7	avion	avioni	-i	MASC	planes
8	jaje	jaja	-a	NEUT	eggs
9	prozor	prozori	-i	MASC	windows
10	pidžama	pidžame	-e	FEM	pyjamas
11	tigar	tigrovi	-ovi	MASC	tigers
12	šešir	šeširi	-i	MASC	hats
13	kuća	kuće	-e	FEM	houses
14	tanjur	tanjuri	-i	MASC	plates
15	jabuka	jabuke	-e	FEM	apples
16	brod	brodovi	-ovi	MASC	ships
17	selo	sela	-a	NEUT	villages
18	polje	polja	-a	NEUT	fields
19	miš	miševi	-evi	MASC	mice
20	srce	srca	-a	NEUT	hearts
21	zec	zečevi	-evi	MASC	rabbits

APPENDIX C: Questionnaires for the main caretakers at home from 1st to 4th time point

Note: The following four questionnaires were used in the INPUT project and were adapted for the purposes of this thesis.

Leitfaden Elterninterview – Teil 1 (erste Sitzung)

Name/N des Kindes: _____ Geburtsdatum: _____ Geburtsort: _____

Datum/Ort: _____ I: _____

Ziele: Abfragen der Variablen, die für Auswahl der Familien entscheidend sind (SES, Mono- bzw. Bilingualität D und DT), gutes Gesprächsklima und Vertrauen herstellen, daher möglichst als freies Gespräch führen

Ich danke Ihnen vielmals für Ihre Bereitschaft zum Gespräch. Es geht uns um die frühe sprachliche Förderung von Kindern, die ein- oder mehrsprachig aufwachsen. In unserem Projekt geht es erst mal darum, herauszufinden, was Kinder so reden und wie ihr sprachliches Umfeld ist. Wenn wir genauer wissen, was Kinder sprachlich erleben, können wir neue Möglichkeiten entdecken, die Kinder zu fördern. Deshalb wollen wir mit Ihnen, mit den Eltern der Kinder, sprechen.

Im ersten Interview wird es mehr um die Familie des Kindes gehen, also um die Eltern und die Geschwister und darum welche Sprache(n) sie sprechen und früher gesprochen haben. Das hilft uns, die Familien auswählen zu können, die wir weiter untersuchen wollen.

Niemand wird Ihren Namen, die von Ihnen genannten Namen, den Namen der Kinder und Eltern oder den Kindergarten erfahren. Die Information ist vertraulich. Auch die PädagogInnen und LeiterInnen der Kindergärten werden den Inhalt der Gespräche nicht erfahren. Für unsere Untersuchung wird alles anonymisiert. Keine Frage MUSS von Ihnen beantwortet werden. Wenn Sie eine Frage nicht beantworten möchten, sagen Sie es uns und wir gehen über zur nächsten Frage. Wenn Sie unsere Fragen möglichst genau beantworten, dann hilft uns dies natürlich sehr. Bitte bedenken Sie, dass es uns am meisten hilft, wenn Sie sich ganz auf Ihr persönliches Gefühl und Urteil verlassen. Wenn Ihnen später noch etwas zu einer Frage einfällt, können Sie das jederzeit ergänzen.]

Notizen / andere Reihenfolge der Frage etc.:

1 Wie haben/erleben Sie die Eingewöhnungsphase im Kindergarten erlebt?

2 War N vor dem jetzigen Kindergarten/Kindergruppe bereits ...

... in einem anderen Kindergarten / in einer Krabbelstube / in einer Krippe?

nein – ja Dauer: ____ Jahre ____ Monate Stunden/Woche: ____

Sprache: _____ Stunden/Tag _____ an wievielen Tagen/Woche _____

... bei einer Tagesmutter/einem Tagesvater?

nein – ja Dauer: ____ Jahre ____ Monate Stunden/Woche: ____

Sprache: _____

... in einer Spielgruppe?

nein – ja Dauer: ____ Jahre ____ Monate Stunden/Woche: ____

Sprache: _____

3 In welchem Alter kam Ihr Kind erstmals in eine deutschsprachige Betreuungseinrichtung?

____ Jahre ____ Monate

4 Was waren Kriterien bei der Wahl des KIGA?

Bei der Wahl des Kindergartens war mir wichtig (Reihung):

- ___ Entfernung
- ___ städtischer Kindergarten
- ___ private Kindergruppe/Kindergarten
- ___ Kontakt mit deutscher Sprache
- ___ Kosten
- ___ Ganztagsbetreuung/Ferienbetreuung
- ___ keine bewusste Entscheidung

5 Wie sieht ungefähr ein Tag von N aus? Können Sie mir erzählen, was N gestern/heute den ganzen Tag gemacht hat? Mit wem hat N gestern Zeit verbracht?

Zeit	von – bis	# Stunden	mit wem? (Aufsicht, Bezugsperson)	was wird gemacht?
vor dem Kindergarten				
im Kindergarten				
nach dem Kindergarten				
Abend				

Zeit	von – bis	# Stunden	mit wem? (Aufsicht, Bezugsperson)	was wird gemacht?
Schlafenszeit				

6 Mit welchen Personen, Gleichaltrigen/Freunde spricht ihr Kind regelmäßig? (G)

Bezugspersonen des Kindes?	Sprache	Mehrere Male in einer Woche	Nur 1x /Wo	Nur 1x/ Monat

Personen im Haushalt mit dem Kind insgesamt _____

7 Welche Sprachen spricht bzw. versteht N?

Sprache	Gesprochen	Verstanden

8 Wie wichtig ist Ihnen, dass ihr Kind diese Sprachen spricht? (G)

Sprache_____ sehr wichtig – wichtig – neutral – nicht wichtig – weiß nicht/keine Meinung
 Sprache_____ sehr wichtig – wichtig – neutral – nicht wichtig – weiß nicht/keine Meinung
 Sprache_____ sehr wichtig – wichtig – neutral – nicht wichtig – weiß nicht/keine Meinung

9 Welche Sprachen sprechen Sie?

Deutsch _____ Kroatisch _____ andere Sprachen:

Können Sie sich erinnern, wann Sie angefangen haben, diese Sprachen zu sprechen?

seit wann	Sprachen
schon immer (soweit ich mich zurück erinnern kann)	
bevor ich in die Schule gegangen bin	
erst als ich in die Volksschule gegangen bin (ca. 6 Jahre)	
erst als ich eine höhere Schule besucht habe (ca. 10 Jahre)	

erst als Erwachsene/r	
-----------------------	--

10 Welche Sprache oder welche Sprachen sprechen Sie mit ihrer Familie?

- Mit meinem Partner spreche ich hauptsächlich
- Mit meinen Eltern spreche ich hauptsächlich
- Mit unseren Verwandten hier in Wien spreche ich hauptsächlich
- Mit den Nachbarn spreche ich hauptsächlich
- Mit den Freunden spreche ich
- Mit meinen Kindern spreche ich hauptsächlich

11 Sie haben gesagt, Sie sprechen mit Ihrem Kind Wie entscheiden Sie, welche Sprache Sie im Alltag mit Ihrem Kind sprechen?

_____ das habe ich/ haben wir einmal bewusst entschieden. Nach welchen Prinzipien gehen Sie vor?

1. Eine Person – eine Sprache
2. Familiensprache – Umgebungssprache
3. wir entscheiden situativ, wie wir sprechen

(je nach Thema, Ort, mehr- oder einsprachiger Gesprächspartner)

Wenn ja: Wann fiel dieser Entschluss? vor der Geburt – nachdem das Baby geboren war – in den ersten 12 Monaten – später

_____ ich entscheide das in jeder Situation neu und mache mir darüber nicht allzu viele Gedanken

12 Was waren Ihre Gründe dafür, zuhause Kroatisch zu sprechen? nicht vorlesen!

wenn Kroatisch zuhause: ____ ich erledige meine Alltagstätigkeiten auf Kroatisch (Arbeit, Einkaufen, Restaurant, etc.)

____ mein Kind soll besser Kroatisch sprechen

____ mein Kind soll die Großeltern verstehen

Ihre Gründe _____

wenn Deutsch zuhause: ____ mein Kind soll besser Deutsch lernen

____ die älteren Geschwister sprechen Deutsch mit dem jüngeren Kind

andere Gründe _____

13 Können Sie mir sagen, was das Lieblingsbuch Ihres Kindes ist?

_____ Sprache _____

_____ Sprache _____

_____ Sprache _____

14 Können Sie mir sagen, welche Fernsehsendungen ihr Kind am liebsten sieht? In welchen Sprachen? Wie lang?

_____ Sprache _____

_____ Sprache _____

_____ Sprache _____

15 Was für Kinderreime fallen Ihnen ein?

_____ Sprache _____

_____ Sprache _____

_____ Sprache _____

16 Wann hat Ihr Kind zu sprechen begonnen? (BESK-DAZ)

in der Muttersprache

erste Wörter z.B. *Mama, Papa, Katze* ... mit ca.

1 Jahr 1 ½ Jahren 2 Jahren 2 ½ Jahren später

Erinnern Sie sich an das erste Wort, die ersten Wörter? _____

erste Wortverbindungen (z.B. da rein Puppe, Mama kochen, Garten geh'n) mit ca.

1 ½ Jahren 2 Jahren 2 ½ Jahren 3 Jahren später

[Familiensprache Kroatisch] Wissen Sie auch noch, wann das Kind zum ersten Mal Deutsch gesprochen hat?

Wann? _____

Erstes Wort/Wörter? _____

17 Sind Ihnen bei Ihrem Kind irgendwelche Entwicklungsprobleme bekannt?

Z. B. Sieht oder hört es schlecht? Hat es Schwierigkeiten beim Sprechen oder bei Bewegungen (z. B. beim Gehen, Laufen, Greifen)?
Therapie? _____

Gab es irgendwelche Besonderheiten bei der Geburt? Ist N vielleicht eine Frühgeburt gewesen? Gab es irgendwelche Komplikationen?

Abschließend einige statistische Fragen

18 Falls Geschwister: Wie heißen die Geschwister von N? Wie alt sind sie bzw. wann sind sie geboren?

Kind 1: _____ ☐ Bub ☐ Mädchen Geburtsdatum: _____ Geburtsort: _____
Kind 2: _____ ☐ Bub ☐ Mädchen Geburtsdatum: _____ Geburtsort: _____
Kind 3: _____ ☐ Bub ☐ Mädchen Geburtsdatum: _____ Geburtsort: _____
Kind 4: _____ ☐ Bub ☐ Mädchen Geburtsdatum: _____ Geburtsort: _____

19 Wann und wo sind Sie geboren und aufgewachsen?

Geburtsdatum: _____ Geburtsort: _____ Sprache: _____

20 Seit wann leben Sie in Österreich?

21 Wann sind Sie das erste Mal mit der deutschen Sprache in Berührung gekommen?

_____ Und wie haben Sie Deutsch gelernt?

22 Wann und wo ist Ihr/e Partner/in geboren und aufgewachsen?

Geburtsdatum: _____ Geburtsort: _____ Sprache: _____

23 Seit wann lebt Ihr Partner/Ihre Partnerin in Österreich?

24 Wann ist er/sie das erste Mal mit der deutschen Sprache in Berührung gekommen?

_____ Und wie haben hat er/sie Deutsch gelernt?

25 Wie viele Jahre sind Sie insgesamt in die Schule gegangen?

Österreichisches Schulsystem:

1 2 3 4 5 6 7 8 9 9 10 11 12 13
Volksschule Hauptschule/AHS Polytech. Berufsschule+Lehre/BMS/BHS/AHS/HAK/HTL ...

Anzahl Schuljahre
in Österreich:

Kroatisches Schulsystem:

1 2 3 4 5 6 7 8 9 10 11 +1
Volksschule Mittelschule AHS/Berufsschule opt.Vorbereitungsjahr

Anzahl Schuljahre
in
Kroatien/Bosnien:

Anzahl der Schuljahre insgesamt

26 Der höchste Abschluss, den Sie erreicht haben, ist ?

Antwort _____

Zuordnung

- keine Schule besucht
- Schule besucht, aber **nicht abgeschlossen** / **Sonderschulabschluss**
- Pflichtschule/ Hauptschule/ Polytechnikum **abgeschlossen**
- berufliche Fachausbildung (Lehre, BMS, Berufsschule, Handelsschule...) begonnen, aber **nicht abgeschlossen**
- berufliche Fachausbildung (Lehre, BMS, Berufsschule, Handelsschule...) **abgeschlossen**
- AHS-Gymnasium, BHS, HAK oder HTL begonnen, aber **nicht abgeschlossen**
- AHS-Gymnasium, BHS, HAK oder HTL mit Matura **abgeschlossen**
- PädAk, Sozialakademie, andere Akademie, Fachhochschule begonnen, aber **nicht abgeschlossen**
- PädAk, Sozialakademie, andere Akademie, oder Fachhochschule **abgeschlossen**
- Universität begonnen, aber **nicht abgeschlossen**
- Universität mit Bachelor, Diplom/Magister/Master oder Doktorat **abgeschlossen**

zusätzliche Aus- und Weiterbildungen (Kurse, berufliche bzw. AMS-Schulungen, Sprachkurse etc.):

27 Welche Berufe haben Sie in Ihrem Leben bereits ausgeübt?

Beruf	Wo?	Wie lange?

28 Was machen Sie zur Zeit?

Beruf/Position _____

Zuordnen:

in Karenz (Wiedereinstieg oder Berufswechsel geplant?)
auf Arbeitssuche
Teilzeit
Heimarbeit
im Familienbetrieb mithelfend
Hausfrau

Ehrenamtliche Tätigkeit
Student/in
Freiberuflich/Selbständig
Angestellt
ungelernte/r Arbeiter/in
Facharbeiter/in/Schlüsselkraft

29 Und wie viele Jahre ist Ihr Partner/Ihre Partnerin (Vater/Mutter des Kindes) insgesamt in die Schule gegangen?

Österreichisches Schulsystem:

1 2 3 4 5 6 7 8 9 9 10 11 12 13
Volksschule Hauptschule/AHS Polytech. Berufsschule+Lehre/BMS/BHS/AHS/HAK/HTL ...

Anzahl Schuljahre
in Österreich:

Kroatisches/Bosnisches Schulsystem:

1 2 3 4 5 6 7 8 9 10 11 +1
Volksschule Mittelschule AHS/Berufsschule opt.Vorbereitungsjahr

Anzahl Schuljahre
in
Kroatien/Bosnien:

Anzahl der Schuljahre insgesamt

30 Der höchste Abschluss, den Ihr/e Partner/in erreicht hat, ist ?

- keine Schule besucht
- Schule besucht, aber **nicht abgeschlossen** / **Sonderschulabschluss**
- Pflichtschule/ Hauptschule/ Polytechnikum **abgeschlossen**
- berufliche Fachausbildung (Lehre, BMS, Berufsschule, Handelsschule...) begonnen, aber **nicht abgeschlossen**

- berufliche Fachausbildung (Lehre, BMS, Berufsschule, Handelsschule...) **abgeschlossen**
- AHS-Gymnasium, BHS, HAK oder HTL begonnen, aber **nicht abgeschlossen**
- AHS-Gymnasium, BHS, HAK oder HTL mit Matura **abgeschlossen**
- PädAk, Sozialakademie, andere Akademie, Fachhochschule begonnen, aber **nicht abgeschlossen**
- PädAk, Sozialakademie, andere Akademie, oder Fachhochschule **abgeschlossen**
- Universität begonnen, aber **nicht abgeschlossen**
- Universität mit Bachelor, Diplom/Magister/Master oder Doktorat **abgeschlossen**

zusätzliche Aus- und Weiterbildungen (Kurse, berufliche bzw. AMS-Schulungen, Sprachkurse etc.):

31 Welche Berufe hat Ihr/e Partner/e in seinem/ihrem Leben bereits ausgeübt?

Beruf	Wo?	Wie lange?

32 Was macht Ihr/e Partner/in zur Zeit?

Antwort _____

Zuordnen:

in Karenz (Wiedereinstieg oder Berufswechsel geplant?) auf Arbeitssuche Teilzeit Heimarbeit im Familienbetrieb mithelfend Hausfrau	Ehrenamtliche Tätigkeit Student/in Freiberuflich/Selbständig Angestellt ungelernte/r Arbeiter/in Facharbeiter/in
---	---

33 Wenn Sie die Mittel zusammenrechnen, die Ihnen im Monat zur Verfügung stehen: Wie beurteilen Sie die wirtschaftliche Lage Ihres Haushalts?

..... sehr gut gut mittelmäßig schlecht sehr schlecht

34 Haben Sie in Wien schon in anderen Bezirken gewohnt? Wo?

35 Haben Sie von den nächsten 1-2 Jahren umzuziehen?

_____ innerhalb von Wien _____ außerhalb von Wien

Was ist der Grund für den Umzug?

36 Wohnen Sie in einer Mietwohnung?

- _____ Wir wohnen in unserem eigenen Haus/Wohnung (Eigentümer).
- _____ Wir mieten das Haus/die Wohnung, in der wir wohnen (Mieter).
- _____ Wir mieten eine Gemeindewohnung (Mieter).
- _____ Wir leben bei einem Elternteil.
- _____ Anderes: _____

37 Wieviele m2 Wohnfläche stehen Ihnen ungefähr zur Verfügung?

38 Haben Sie in der Wohnung einen Computer? Mit Internetanschluss?

- ☐ Computer ohne Internet Anschluss
- ☐ Computer mit Internet-Anschluss

Leitfaden Elterninterview – Teil 2, Endversion CC 4.12.2012

Name des Kindes: _____ Bezugsperson: _____ Datum/Ort: _____ I: _____

Ziele: Informationen zum sprachlichen Input des Kindes, fehlende Informationen, gutes Gesprächsklima und Vertrauen herstellen, daher möglichst als freies Gespräch führen

Legende: KB= Katharina Brizić, G=Gathercole, U=Unsworth, SLM = Scheele/Lesemann/Mayo, BESK-DaZ

Vorbereitung: Vor Interview 2 nochmals Antworten auf Interview 1 durchgehen!

Allgemeine Hinweise am Beginn des Interviews

Ich danke Ihnen vielmals, dass Sie bei unserer Studie mitmachen. Wir wollen herausfinden, was Kinder sprachlich erlebe. Denn so können wir neue Möglichkeiten entdecken, Kinder sprachlich zu fördern. Deshalb wollen wir mit Ihnen, mit den Eltern der Kinder, sprechen. In diesem Interview wird es hauptsächlich um Ihr Kind und seine sprachlichen Erfahrungen gehen.

Niemand wird Ihren Namen, die von Ihnen genannten Namen, den Namen der Kinder und Eltern oder den Kindergarten erfahren. Die Information ist vertraulich. Auch die PädagogInnen und LeiterInnen der Kindergärten werden den Inhalt der Gespräche nicht erfahren. Für unsere Untersuchung wird alles anonymisiert.

Keine Frage MUSS von Ihnen beantwortet werden. Wenn Sie eine Frage nicht beantworten möchten, sagen Sie es und wir gehen über zur nächsten Frage. Wenn Sie unsere Fragen möglichst genau beantworten, dann hilft uns dies sehr.

Bitte bedenken Sie, dass es uns am meisten hilft, wenn Sie sich ganz auf Ihr persönliches Gefühl und Urteil verlassen. Wenn Ihnen später noch etwas zu einer Frage einfällt, können Sie das jederzeit ergänzen.

1. Wie sieht ungefähr ein Tag von N aus? Können Sie mir erzählen, was N z.B. gestern den ganzen Tag gemacht hat? Mit wem hat N gestern Zeit verbracht? (U)

Zeit	von – bis	# Stunden	mit wem? (Aufsicht, Bezugsperson)	was wird gemacht?
vor dem Kindergarten				
im Kindergarten				
nach dem Kindergarten				
vor dem Schlafengehen				
Schlafenszeit				

Sie bzw. Ihr Partner verbringen also vor und nach dem Kindergarten ungefähr _____ Stunden mit Ihrem Kind bzw. Ihren Kindern.

2. Finden Sie bzw. Ihr Partner in dieser Zeit – neben dem Kochen, dem Haushalt und den anderen Kindern (falls relevant) – auch manchmal die Zeit, mit Ihrem Kind / N ein direktes spontanes Gespräch zu führen?

zum Beispiel	Sprache	täglich	mehrmals/ Woche	1x/Woche	mehrmals/ Monat	nie
sich spontan mit ihrem Kind zu unterhalten, z.B. beim Essen oder Baden, z.B. über Erlebnisse (z.B. im Kindergarten) oder gemeinsame Erinnerungen	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
oder beim gemeinsamen Spielen, z.B. Lego, Puzzle, Basteln, Zeichnen/Malen, Puppe/Zug spielen, Rollenspiele, Brettspiele etc. anderes:	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Bis jetzt (auch im 1. Interview) haben Sie folgende Personen als Hauptbezugspersonen erwähnt:

3. Wer von den genannten Bezugspersonen spricht in welcher Sprache mit dem Kind? Wie gut sprechen sie diese Sprache(n)? (U, G, BESK)

mögliche Bezugspersonen (mind. 1-2x/Monat): Mutter, Vater, Geschwister, Großeltern des Kindes, Verwandte, Babysitter

M.Spr = Muttersprache, Skala: 1 = kann ausführliche Gespräche führen, 2 = kann einfache Gespräche führen, 3 = kennt nur einige Wörter

Bezugsperson	Sprache (bei mehreren Sprachen ca. Häufigkeit angeben)	M.Spr	1	2	3	Sprache, in der das Kind antwortet (falls anders)
		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	

War das früher ähnlich? Gab es früher noch andere Bezugspersonen?

_____ (wenn ja, wie oben einschätzen)

4. Welche Sprachen versteht und spricht Ihr Kind und wie gut, Ihrer Meinung nach? (KB, G)

M.Spr ... Muttersprache, Skala: 1 = kann ausführliche Gespräche verstehen/sprechen, 2 = kann einfache Gespräche verstehen/sprechen, 3 = versteht/sprechen nur einige Wörter

versteht folgende Sprache(n)	M.Spr	1	2	3

spricht folgende Sprache(n)	M.Spr	1	2	3

5. Im Urlaub sieht der Alltag Ihres Kindes oft anders aus. Ein anderer Tagesablauf, andere Menschen, andere Sprachen ... Können Sie mir sagen, wie oft bzw. wie lang Sie im Durchschnitt auf Urlaub fahren? (KB, U)

mehrmals im Jahr, ca. _____ mal, ca. Wochen _____

einmal im Jahr, ca. Wochen _____

jedes zweite Jahr, ca. Wochen _____

nie

6. Fahren Sie häufig in dasselbe Land? Wenn ja, welches?

Land _____

7. Gibt es Bezugspersonen, die besonders im Urlaub mit ihrem Kind sprechen? In welcher Sprache? (U)

Bezugsperson	Sprache(n)	Sprache(n) in denen das Kind antwortet

8. Fühlen Sie sich ausreichend unterstützt bei der Betreuung des Kindes? Bekommen Sie Hilfe von Familien, Freunden, Nachbarn? Gibt es jemanden, an den Sie sich wenden können, wenn Sie Rat brauchen oder wenn Sie nicht weiter wissen?

soziales Netzwerk

9. Wünschen Sie sich mehr Unterstützung von Institutionen z.B. dem Kindergarten, Ihrem Arbeitgeber etc.?

soziales Netzwerk

10. Können Sie sich erinnern, welches Buch Sie Ihrem Kind zuletzt vorgelesen haben? (G)

_____	Sprache _____
_____	Sprache _____
_____	Sprache _____

11. Welche Kinderbücher liest Ihr Kind bzw. lesen Sie mit Ihrem Kind am liebsten? Welche Kinderlieder (Gedichte, Reime)?

_____	Sprache _____
_____	Sprache _____
_____	Sprache _____

12. Nutzen Sie das örtliche Angebot an städtischen Büchereien?

13. Können Sie sich erinnern, wann Ihr Kind das erste Mal in Kontakt mit einem Buch kam (Stoffbuch, Bilderbuch, Stoffmusikbüchlein)?

14. Können Sie mir sagen, wie oft und in welcher Sprache Sie (oder eine andere Bezugsperson) mit Ihrem Kind folgende Dinge tun? (KB, SLM, BESK-DaZ)

Aktivität	Sprache	täglich	mehrmals/ Woche	1x/Woche	mehrmals/ Monat	nie

Aktivität	Sprache	täglich	mehrmals/ Woche	1x/Woche	mehrmals/ Monat	nie
gemeinsam mit dem Kind Bilderbücher anschauen, Ihrem Kind Bücher/ Geschichten vorlesen	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
erfundene Geschichten, Märchen, gelesene Geschichten (nach)erzählen	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lieder singen, Reime aufsagen, Aufzählungen, Satzspiele	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

15. Auch durch Fernsehen, Youtube, Smartphones, Radio, Filme, Hörbücher (Kassetten, CDs) und Ähnliches kommt Ihr Kind mit Sprache in Kontakt. Hört Ihr Kind gern Radio oder sieht es gern Filme etc.? In welcher Sprache?

Medienangebot	Sprache	täglich	mehrmals/ Woche	1x/Woche	mehrmals/ Monat	nie
Youtube, Internet, Smartphone z.B.	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Medienangebot	Sprache	täglich	mehrmals/ Woche	1x/Woche	mehrmals/ Monat	nie
Fernsehen, Filme z.B.	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hörbücher Radio	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
anderes						

Falls noch nicht vorgekommen:

Schaut sich Ihr Kind nur Kinderprogramme an, oder auch Programme für Erwachsene? Was z.B. ?

16. Nun geht es darum, ungefähr abzuschätzen, wie viel Zeit Ihr Kind mit diesen Aktivitäten ungefähr verbringt. Dabei geht es v.a. ums Lesen, um Fernsehen/Youtube und um spontane Gespräche.

Wiederholung der gegebenen Information:

Frage 1: Am Anfang haben Sie gesagt, dass Sie (und Ihr Partner) insgesamt ca. _____ Stunden pro Tag mit Ihrem Kind verbringen.

Frage 2: Sie kommen täglich / mehrmals pro Woche / 1mal pro Woche (Häufigkeit) dazu, Ihr Kind direkt anzusprechen.

Frage 14: Sie lesen Ihrem Kind _____ (Häufigkeit) vor. **Frage 15:** Und Ihr Kind schaut _____ (Häufigkeit) fern.

Ungefähr in der der Genauigkeit schätzen lassen (Plausibilität gemeinsam überprüfen!):

bis 15 Min. bis 30 Min. ca. 30-60 Min. ca. 60- 90 Min. ca. 2h etc. pro Tag / Woche / Monat (nach Angabe oben)

Aktivität	Sprache (falls relevant)	Zeitschätzung in Minuten oder Stunden (genau angeben!)
Wie lang lesen Sie (oder Ihr Partner) Ihrem Kind <u>pro Tag</u> (<u>Woche / Monat, je nach Angabe</u>) vor? <i>(hier können auch andere Kinder dabei sein)</i>		
Wie lang schaut Ihr Kind <u>pro Tag</u> (<u>Woche / Monat, je nach Angabe</u>) ungefähr fern?		
Wie lange sprechen Sie <u>pro Tag</u> (<u>Woche / Monat, je nach Angabe</u>) mit ihrem Kind spontan und allein? <i>(Einzelkind bzw. Gespräche ausschließlich mit diesem Kind)</i>		
<i>Bei mehreren Kindern:</i> Wie lange sprechen Sie <u>pro Tag</u> (<u>Woche / Monat, je nach Angabe</u>) spontan mit N und		

seinen Geschwistern gemeinsam?		
andere wichtige sprachbezogene Aktivität: Singen, Geschichten erfinden ...		

17. Machen Sie sich schon Gedanken darüber, was für eine Ausbildung Ihr Kind einmal machen soll? Oder in welche Schule Ihr Kind einmal gehen soll? (KB)

18. Was wünschen SIE sich für das Kind und seine berufliche Zukunft? Was soll Ihr Kind einmal für einen Beruf ausüben?

19. Was haben Sie selbst für Fähigkeiten, die Sie für wichtig halten und die Sie dem Kind gerne weitergeben würden? (KB)

oder Ihr Partner? oder eine andere Bezugsperson?

20. Gibt es etwas, das Sie selbst (Partner) in Ihrer Jugend und Schulzeit nicht lernen konnten, aber Ihr Kind unbedingt lernen soll? (KB)

21. Falls noch nicht gefragt: Als Ergänzung zum ersten Interview möchte ich Sie noch fragen, ob es irgendwelche Besonderheiten bei der Geburt gegeben hat: Ist N vielleicht eine Frühgeburt gewesen? Gab es irgendwelche Komplikationen?

22. Möchten Sie zum Schluss noch irgendetwas ergänzen? Gibt es noch etwas, das Ihnen wichtig ist?

Leitfaden Elterninterview – Teil 3 Endversion, 3.10.2013

Name des Kindes: _____ Bezugsperson: _____ Datum/Ort: _____ I: _____

Ziele: Informationen zum sprachlichen Input des Kindes, fehlende Informationen, gutes Gesprächsklima und Vertrauen herstellen, daher möglichst als freies Gespräch führen

Legende: KB= Katharina Brizić, G=Gathercole, U=Unsworth, SLM = Scheele/Lesemann/Mayo, BESK-DaZ

Vorbereitung: Vor Interview 3 nochmals Antworten auf Interview 1+2 durchgehen!

Allgemeine Hinweise am Beginn des Interviews

Ich danke Ihnen vielmals, dass Sie bei unserer Studie mitmachen. Wir wollen herausfinden, was Kinder sprachlich erlebe. Denn so können wir neue Möglichkeiten entdecken, Kinder sprachlich zu fördern. Deshalb wollen wir mit Ihnen, mit den Eltern der Kinder, sprechen. Im diesem Interview wird es hauptsächlich um Ihr Kind und seine sprachlichen Erfahrungen gehen.

Niemand wird Ihren Namen, die von Ihnen genannten Namen, den Namen der Kinder und Eltern oder den Kindergarten erfahren. Die Information ist vertraulich. Auch die PädagogInnen und LeiterInnen der Kindergärten werden den Inhalt der Gespräche nicht erfahren. Für unsere Untersuchung wird alles anonymisiert.

Keine Frage MUSS von Ihnen beantwortet werden. Wenn Sie eine Frage nicht beantworten möchten, sagen Sie es und wir gehen über zur nächsten Frage. Wenn Sie unsere Fragen möglichst genau beantworten, dann hilft uns dies sehr.

Bitte bedenken Sie, dass es uns am meisten hilft, wenn Sie sich ganz auf Ihr persönliches Gefühl und Urteil verlassen. Wenn Ihnen später noch etwas zu einer Frage einfällt, können Sie das jederzeit ergänzen.

1. Wie sieht ungefähr ein Tag von N aus? Können Sie mir erzählen, was N z.B. gestern den ganzen Tag gemacht hat? Mit wem hat N gestern Zeit verbracht? (U)

Zeit	von – bis	# Stunden	mit wem? (Aufsicht, Bezugsperson)	was wird gemacht?
vor dem Kindergarten				
im Kindergarten				
nach dem Kindergarten				
vor dem Schlafengehen				
Schlafenszeit				

Sie bzw. Ihr Partner verbringen also vor und nach dem Kindergarten ungefähr _____ Stunden mit Ihrem Kind bzw. Ihren Kindern.

War das vor einem Jahr ähnlich? Was war anders?

2. Finden Sie bzw. Ihr Partner in dieser Zeit – neben dem Kochen, dem Haushalt und den anderen Kindern (falls relevant) – auch manchmal die Zeit, mit Ihrem Kind / N ein direktes spontanes Gespräch zu führen?

zum Beispiel	Sprache	täglich	mehrmals/ Woche	1x/Woche	mehrmals/ Monat	nie
sich spontan mit ihrem Kind zu unterhalten, z.B. beim Essen oder Baden, z.B. über Erlebnisse (z.B. im Kindergarten) oder gemeinsame Erinnerungen	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
oder beim gemeinsamen Spielen, z.B. Lego, Puzzle, Basteln, Zeichnen/Malen, Puppe/Zug spielen, Rollenspiele, Brettspiele etc. anderes:	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. Gibt es gegenüber vor einem Jahr neue Bezugspersonen für das Kind? Wenn ja, welche Bezugsperson spricht in welcher Sprache mit dem Kind? Wie gut sprechen sie diese Sprache(n)? (U, G, BESK)

mögliche Bezugspersonen (mind. 1-2x/Monat): Mutter, Vater, Geschwister, Großeltern des Kindes, Verwandte, Babysitter

M.Spr = Muttersprache, Skala: 1 = kann ausführliche Gespräche führen, 2 = kann einfache Gespräche führen, 3 = kennt nur einige Wörter

Bezugsperson	Sprache (bei mehreren Sprachen ca. Häufigkeit angeben)	M.Spr	1	2	3	Sprache, in der das Kind antwortet (falls anders)
		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	

4. Können Sie mir sagen, wie oft und in welcher Sprache Sie (oder eine andere Bezugsperson) mit Ihrem Kind folgende Dinge tun? (KB, SLM, BESK-DaZ)

Aktivität	Sprache	täglich	mehrmals/ Woche	1x/Woche	mehrmals/ Monat	nie
gemeinsam mit dem Kind Bilderbücher anschauen, Ihrem Kind Bücher/ Geschichten vorlesen	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
erfundene Geschichten, Märchen, gelesene Geschichten (nach)erzählen	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lieder singen, Reime aufsagen, Aufzählungen, Satzspiele	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. Auch durch Fernsehen, Youtube, Smartphones, Radio, Filme, Hörbücher (Kassetten, CDs) und Ähnliches kommt Ihr Kind mit Sprache in Kontakt. Hört Ihr Kind gern Radio oder sieht es gern Filme etc.? In welcher Sprache?

Medienangebot	Sprache	täglich	mehrmals/ Woche	1x/Woche	mehrmals/ Monat	nie
Youtube, Internet, Smartphone z.B.	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Medienangebot	Sprache	täglich	mehrmals/ Woche	1x/Woche	mehrmals/ Monat	nie
	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fernsehen, Filme z.B.	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hörbücher	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Radio	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
anderes						

War das vor einem Jahr ähnlich? Was war anders?

6. Nun geht es darum, ungefähr abzuschätzen, wie viel Zeit Ihr Kind mit diesen Aktivitäten ungefähr verbringt. Dabei geht es v.a. ums Lesen, um Fernsehen/Youtube und um spontane Gespräche.

Wiederholung der gegebenen Information:

Frage 1: Am Anfang haben Sie gesagt, dass Sie (und Ihr Partner) insgesamt ca. _____ Stunden pro Tag mit Ihrem Kind verbringen.

Frage 2: Sie kommen täglich / mehrmals pro Woche / 1mal pro Woche (Häufigkeit) dazu, Ihr Kind direkt anzusprechen.

Frage 14: Sie lesen Ihrem Kind _____ (Häufigkeit) vor. **Frage 15:** Und Ihr Kind schaut _____ (Häufigkeit) fern.

Ungefähr in der Genauigkeit schätzen lassen (Plausibilität gemeinsam überprüfen!):

bis 15 Min. bis 30 Min. ca. 30-60 Min. ca. 60- 90 Min. ca. 2h etc. pro Tag / Woche / Monat (nach Angabe oben)

Aktivität	Sprache (falls relevant)	Zeitschätzung in Minuten oder Stunden (genau angeben!)
Wie lang lesen Sie (oder Ihr Partner) Ihrem Kind <u>pro Tag</u> (<u>Woche / Monat, je nach Angabe</u>) vor? <i>(hier können auch andere Kinder dabei sein)</i>		
Wie lang schaut Ihr Kind <u>pro Tag</u> (<u>Woche / Monat, je nach Angabe</u>) ungefähr fern?		
Wie lange sprechen Sie <u>pro Tag</u> (<u>Woche / Monat, je nach Angabe</u>) mit ihrem Kind spontan und allein?		

(Einzelkind bzw. Gespräche ausschließlich mit diesem Kind)		
Bei mehreren Kindern: Wie lange sprechen Sie <u>pro Tag</u> (Woche / Monat, je nach <u>Angabe</u>) spontan mit N und seinen Geschwistern gemeinsam?		
andere wichtige sprachbezogene Aktivität: Singen, Geschichten erfinden ...		
War das vor einem Jahr ähnlich? Was war anders?		

7. Wie viele Bücher gibt es bei Ihnen zuhause (alle Bücher zusammen/ auch geliehene Bücher)?

cf. OECD 2010

- ... keine oder sehr wenige (0-10 Bücher)
- ... genug um ein Regalbrett zu füllen (11-25 Bücher)
- ... genug um ein Bücherregal zu füllen (26-100 Bücher)
- ... genug um zwei Bücherregale zu füllen (101-200)
- ... genug um drei bis fünf Bücherregale zu füllen (201-500)
- ... mehr als fünf Bücherregale (über 500 Bücher)

Wie viele davon sind ungefähr Kinderbücher? _____

8. Wo bzw. von wem lernt Ihr Kind Ihrer Meinung nach mehr neue Wörter ?

zu Hause Eltern ZH Geschwister ZH Großeltern ZH FreundInnen Kiga (PädagogIn/FreundInnen) Medien
(Youtube, Fernsehen)

9. Was wünschen Sie sich, dass N im Alter von 5 Jahren schon kann? Oder gibt es etwas, das Ihrem Kind wichtig ist? Also so ungefähr bis zum nächsten Geburtstag?

10. Angenommen Ihrem Kind ist langweilig, wie gehen Sie damit um?

11. Finden Sie, dass Ihr Kind Ihnen manchmal ähnelt? Wenn ja, in welchen Punkten?

13. Möchten Sie zum Schluss noch irgendetwas ergänzen? Gibt es noch etwas, das Ihnen wichtig ist?

Leitfaden Elterninterview – Teil 4 (vierte Sitzung)

Name/N des Kindes: _____ Bp1: _____ Datum/Ort: _____
I: _____

Ziele: Veränderungen bei den SES Variablen

Ich danke Ihnen vielmals für Ihre Bereitschaft zum Gespräch.

Niemand wird Ihren Namen, die von Ihnen genannten Namen, den Namen der Kinder und Eltern oder den Kindergarten erfahren. Die Information ist vertraulich. Für unsere Untersuchung wird alles anonymisiert.

Keine Frage MUSS von Ihnen beantwortet werden. Wenn Sie eine Frage nicht beantworten möchten, sagen Sie es uns und wir gehen über zur nächsten Frage.

Wenn Sie unsere Fragen möglichst genau beantworten, dann hilft uns dies natürlich sehr. Bitte bedenken Sie, dass es uns am meisten hilft, wenn Sie sich ganz auf Ihr persönliches Gefühl und Urteil verlassen. Wenn Ihnen später noch etwas zu einer Frage einfällt, können Sie das jederzeit ergänzen.

1. Wie zufrieden sind Sie mit dem Kindergarten bzw. mit der Kindergruppe bzw. mit der PädagogIn des Kindes?

bei Kiga-Wechsel: Warum haben Sie den Kindergarten gewechselt?

2. Nur bei Veränderung: Wieviel Zeit verbringt N im Kindergarten?

Veränderungen bei der Bildung:

3. Haben Sie oder Ihr/e Partner/in in der Zwischenzeit irgendwelche Aus- oder Weiterbildungen absolviert?

Bp1:

neuer höchster Abschluss

zusätzliche Aus- und Weiterbildungen (Kurse, berufliche bzw. AMS-Schulungen, Sprachkurse etc.):

Bp2:

neuer höchster Abschluss

zusätzliche Aus- und Weiterbildungen (Kurse, berufliche bzw. AMS-Schulungen, Sprachkurse etc.):

Veränderungen beim Beruf:

4. Was machen Sie zur Zeit?

Berufliche Tätigkeit _____ Position _____

Gibt es noch eine andere Bezeichnung für die Tätigkeit?

Beschreiben Sie Ihre Tätigkeiten genauer, nennen Sie bitte einige Aufgaben. (Verantwortungsbereich, MitarbeiterInnen, Führungsposition?)

5. Was macht Ihr/e Partner/in zur Zeit?

Berufliche Tätigkeit _____ Position _____

Gibt es noch eine andere Bezeichnung für die Tätigkeit?

Beschreiben Sie Ihre Tätigkeiten genauer, nennen Sie bitte einige Aufgaben. (Verantwortungsbereich, MitarbeiterInnen, Führungsposition?)

Veränderung der Wohnsituation:

6. Hat sich bei Ihrer Wohnsituation etwas verändert?

- ___ Wir wohnen in unserem eigenen Haus/Wohnung (Eigentümer).
- ___ Wir mieten das Haus/die Wohnung, in der wir wohnen (Mieter).
- ___ Wir mieten eine Gemeindewohnung (Mieter).
- ___ Wir leben bei einem Elternteil.
- ___ Anderes: _____

_____ m²

Wie viele Personen wohnen in der Wohnung? _____

7. NEU: sprachliche Domänen

In welchen der folgenden Situationen verwenden Sie welche Sprache mit Ihrem Kind? Und warum?

Family domain subdivided in different contexts (cf. Fishman 2000, p. 95)

Öffentliche Situationen	Deutsch			Kroatisch		
Supermarkt	<input type="checkbox"/> immer	<input type="checkbox"/> meistens	<input type="checkbox"/> häufiger als die andere Sprache	<input type="checkbox"/> immer	<input type="checkbox"/> meistens	<input type="checkbox"/> häufiger als die andere
Arzt	<input type="checkbox"/> immer	<input type="checkbox"/> meistens	<input type="checkbox"/> häufiger als andere	<input type="checkbox"/> immer	<input type="checkbox"/> meistens	<input type="checkbox"/> häufiger als die andere
Öffentliche Verkehrsmittel	<input type="checkbox"/> immer	<input type="checkbox"/> meistens	<input type="checkbox"/> häufiger als die andere	<input type="checkbox"/> immer	<input type="checkbox"/> meistens	<input type="checkbox"/> häufiger als die andere
Abholen vom Kindergarten bzw. im Kindergarten	<input type="checkbox"/> immer	<input type="checkbox"/> meistens	<input type="checkbox"/> häufiger als die andere	<input type="checkbox"/> immer	<input type="checkbox"/> meistens	<input type="checkbox"/> häufiger als die andere
Spielplatz	<input type="checkbox"/> immer	<input type="checkbox"/> meistens	<input type="checkbox"/> häufiger als die andere	<input type="checkbox"/> immer	<input type="checkbox"/> meistens	<input type="checkbox"/> häufiger als die andere

Private Situationen	Deutsch			Kroatisch		
Familiäre Konfliktsituationen, Ermahnungen aussprechen	<input type="checkbox"/> immer	<input type="checkbox"/> meistens	<input type="checkbox"/> häufiger als die andere	<input type="checkbox"/> immer	<input type="checkbox"/> meistens	<input type="checkbox"/> häufiger als die andere
Spielen, basteln, Puzzle	<input type="checkbox"/> immer	<input type="checkbox"/> meistens	<input type="checkbox"/> häufiger als die andere	<input type="checkbox"/> immer	<input type="checkbox"/> meistens	<input type="checkbox"/> häufiger als die andere
Haushalt, gemeinsam Kochen	<input type="checkbox"/> immer	<input type="checkbox"/> meistens	<input type="checkbox"/> häufiger als die andere	<input type="checkbox"/> immer	<input type="checkbox"/> meistens	<input type="checkbox"/> häufiger als die andere
Essen mit der Familie	<input type="checkbox"/> immer	<input type="checkbox"/> meistens	<input type="checkbox"/> häufiger als die andere	<input type="checkbox"/> immer	<input type="checkbox"/> meistens	<input type="checkbox"/> häufiger als die andere
Hygiene: baden, Zähne putzen, anziehen etc.	<input type="checkbox"/> immer	<input type="checkbox"/> meistens	<input type="checkbox"/> häufiger als die andere	<input type="checkbox"/> immer	<input type="checkbox"/> meistens	<input type="checkbox"/> häufiger als die andere
Singen, reimen	<input type="checkbox"/> immer	<input type="checkbox"/> meistens	<input type="checkbox"/> häufiger als die andere	<input type="checkbox"/> immer	<input type="checkbox"/> meistens	<input type="checkbox"/> häufiger als die andere
Vorlesen, Geschichten erzählen	<input type="checkbox"/> immer	<input type="checkbox"/> meistens	<input type="checkbox"/> häufiger als die andere	<input type="checkbox"/> immer	<input type="checkbox"/> meistens	<input type="checkbox"/> häufiger als die andere

8. Gibt es Situationen, in denen Sie die eine oder andere Sprache vermeiden? Warum? (Nachfragen: Kommt es nie vor, dass ..?)

APPENDIX D: Questionnaires for main caretakers in preschool from 1st and 3rd time point

Note: The following two questionnaires were used in the INPUT project and were adapted for the purposes of this thesis.

Fragen u.a. übernommen von: BESK/DaZ, Brizic 2007, SISMIK, Version 3.9.2012

9) Wie spricht das Kind hauptsächlich mit seinen Freunden?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Deutsch	Kroatisch	etwa gleich viel Deutsch und Kroatisch	andere Sprache	gar nicht

10) Deutschkompetenz des Kindes bei Eintritt in den Kindergarten:

Sprachverständnis:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	sehr gut	gut	wenig	gar nicht
Sprachproduktion:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	sehr gut	gut	wenig	gar nicht

11) Wo tut sich das Kind schwer? _____

12) Sind Ihnen bei dem Kind irgendwelche Entwicklungsprobleme bekannt?

Z. B. Sieht oder hört es schlecht? Hat es Schwierigkeiten beim Sprechen oder bei Bewegungen (z. B. beim Gehen, Laufen, Greifen)?

Therapie? _____

13) Bekommt es eine spezielle Förderung in Deutsch? ☐ ja ☐ nein

Wenn ja, durch wen und wie oft? _____

14) Gibt es im Kindergarten Erwachsene, die mit dem Kind in seiner Familiensprache sprechen?

15) Wenn Sie hören, wie das Kind in seiner Familiensprache spricht, haben Sie den Eindruck, es spricht

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
längere Passagen	mehrere Wörter	einzelne Wörter

16) Wenn das Kind von Verwandten/Bekannten in seiner Familiensprache angesprochen wird (z. B. beim Abholen), antwortet das Kind

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
meist in Familiensprache	teils Familiensprache, teils Deutsch	meist auf Deutsch

17) Wen kennen Sie aus der Familie des Kindes am besten?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mutter	Vater	Großmutter	Großvater	Jemand anderen	Niemanden
				Wen? _____	

18) Wie ist Ihr Kontakt zu den Eltern?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
sehr intensiv	intensiv	durchschnittlich	wenig Kontakt	kein Kontakt

19) Wie groß ist das Interesse der Eltern am Kindergarten?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
sehr groß	groß	durchschnittlich	gering	kein Interesse

20) Wie gut spricht die Mutter Deutsch?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
sehr gut	gut	durchschnittlich	schlecht	gar nicht

21) Wie gut spricht der Vater Deutsch?

☐ sehr gut ☐ gut ☐ durchschnittlich ☐ schlecht ☐ gar nicht

22) Persönlichkeit der Mutter? Selbstvertrauen?

- 1 auffallend sicher
- 2 durchschnittlich
- 3 auffallend unsicher
- 4 ausgeprägte Persönlichkeit
- 5 unauffällig
- 6 freundlich
- 7 höflich, eventuell zurückhaltend
- 8 zielgerichtet, eventuell Druck ausübend

23) Persönlichkeit des Vaters? Selbstvertrauen?

- 1 auffallend sicher
- 2 durchschnittlich
- 3 auffallend unsicher
- 4 ausgeprägte Persönlichkeit
- 5 unauffällig
- 6 freundlich
- 7 höflich, eventuell zurückhaltend
- 8 zielgerichtet, eventuell Druck ausübend

24) Bildungsweg der Mutter bekannt?

☐ Kein Abschluss ☐ Pflichtschule ☐ Lehre ☐ Matura ☐ Studium ☐ weiß nicht

25) Bildungsweg des Vaters bekannt?

☐ Kein Abschluss ☐ Pflichtschule ☐ Lehre ☐ Matura ☐ Studium ☐ weiß nicht

26) Beruf der Mutter bekannt? _____

27) Beruf des Vaters bekannt? _____

28) Haben Sie den Eindruck, die Eltern lesen ihrem Kind vor (z. B. Gute-Nacht-Geschichten)?

☐ ja ☐ nein ☐ weiß nicht

29) Wenn ja, in welcher Sprache?

☐ Deutsch ☐ Kroatisch ☐ beides ☐ andere Sprache ☐ weiß nicht

30) Wie ist – Ihrem Eindruck nach – das Verhältnis zwischen Eltern und Kind?

31) Wie sieht ungefähr ein Kindergarten-Tag des Kindes aus, z.B. gestern/vorgestern. Was hat N gemacht und mit wem hat es Zeit verbracht? (frei beschreiben lassen!)

Zeit	von – bis	# Stunden	mit wem? (Aufsicht, Bezugsperson)	was wird gemacht?
z.B. Ankunft Ausziehen				
Frühstück				
Morgenkreis				
Anziehen				

32) Zu wem geht das Kind im Kindergarten meistens in den folgenden Situationen?:

beim Eintreffen in der Früh:

in emotionalen Situationen:

Abschließend möchten wir Sie noch nach Ihrem eigenen Ausbildungsweg fragen:

33) Was ist Ihre jetzige Position hier im Kindergarten/in der Kindergruppe?

... Kindergruppen-AssistentIn (HelferIn, keine Kinderbetreuung)
 ... Kindergruppen-BetreuerIn
 ... Kindergruppen-LeiterIn (KinderbetreuerIn und kann selbst eine KiGru eröffnen)

... Kindergarten-Assistentin
 ... Kindergarten-Pädagogin

.....

34) Welche Ausbildung bzw. Zusatzausbildungen haben Sie dazu absolviert?

35) Wie viele Jahre sind Sie insgesamt in die Schule gegangen?

Österreichisches Schulsystem:

1 2 3 4	5 6 7 8	9	9 10 11 12 13
Volksschule	Hauptschule/AHS	Polytech.	
Berufsschule+Lehre/BMS/BHS/AHS/HAK/HTL ...			

Anzahl der Schuljahre insgesamt

36) Der höchste Abschluss, den Sie erreicht haben, ist ?

Antwort _____

Zuordnung

- keine Schule besucht
- Schule besucht, aber **nicht abgeschlossen** / **Sonderschulabschluss**
- Pflichtschule/ Hauptschule/ Polytechnikum **abgeschlossen**
- berufliche Fachausbildung (Lehre, BMS, Berufsschule, Handelsschule...) begonnen, aber **nicht abgeschlossen**
- berufliche Fachausbildung (Lehre, BMS, Berufsschule, Handelsschule...) **abgeschlossen**
- AHS-Gymnasium, BHS, HAK oder HTL begonnen, aber **nicht abgeschlossen**
- AHS-Gymnasium, BHS, HAK oder HTL mit Matura **abgeschlossen**
- PädAk, Sozialakademie, andere Akademie, Fachhochschule begonnen, aber **nicht abgeschlossen**
- PädAk, Sozialakademie, andere Akademie, oder Fachhochschule **abgeschlossen**
- Universität begonnen, aber **nicht abgeschlossen**
- Universität mit Bachelor, Diplom/Magister/Master oder Doktorat **abgeschlossen**

37) Welche (anderen) Berufe haben Sie in Ihrem Leben bereits ausgeübt?

Beruf	Wo?	Wie lange?

Fragebogen für 2. Interview mit PädagogInnen

INPUT Projekt, Schwerpunkt: Input im Kindergarten, Veränderungen (Gruppe, Ausbildung etc.)

Endversion 8.10. 2013 (CC, Kathi, KUS)

Vorname der PädagogIn: _____ Name des Kindes: _____

A. Veränderungen in der Gruppe und bei den Eltern:

(Zahlen/Infos aus dem 1. Interview vorbereiten // alles neu abfragen bei Gruppenwechsel)

1. Datum des Eintritts in diese Kindergartengruppe: _____

2. Falls Gruppenwechsel: Wie läuft /lief die Eingewöhnung des Kindes in diese Gruppe?

3. Gruppenstruktur: _____ Kinder insgesamt

_____ Kinder mit Deutsch als Familiensprache

_____ Kinder mit Kroatisch als Familiensprache

_____ Altersspanne der Kinder (von – bis)

_____ Pädagog/innen

_____ Kindergartenassistent/innen

_____ Sprachförderassistent/innen (Deutsch? MuSprache?)

_____ Sprachheilpädagog/innen, Psycholog/innen,
Sonderpädagog/innen

4. Ist das Kind öfter oder längere Zeit nicht im Kindergarten (Krankheit, Aufenthalt im Herkunftsland etc.)? ☐ ja ☐ nein

5. Sind Ihnen bei dem Kind irgendwelche Entwicklungsprobleme bekannt oder aufgefallen?

War das Kind schon einmal bei einer logopädischen Untersuchung? ☐ ja ☐ nein

wenn ja: Vom wem wurde es dorthin geschickt? Eltern ÄrztIn Pädagogin

6. Wie häufig ergeben sich Tür- und Angelgespräche mit den Eltern von N?

☐ jeden Tag ☐ mehrmals/Woche ☐ 1x /Woche ☐ 1x/Monat ☐ ein paar Mal/Jahr

Was besprechen Sie dabei hauptsächlich?

Von wem geht die Initiative aus?

7. Wenn Sie mit dem Kind sprechen, betreiben Sie ja auch Sprachförderung. Wie sind Sie diesbezüglich mit den Rahmenbedingungen zufrieden? **NEU**

Welche Art von Unterstützung wünschen Sie sich?

Zusatz (von MC): Versuchen Sie bei Kindern mit Deutsch als Zweitsprache stärker Sprachförderung zu betreiben bzw. Sprache bewusster einzusetzen, um sie stärker zu fördern? (ausgleichender Effekt)

B. Detailliertere Fragen zum Input im Kindergarten (NEU**)**

(falls Pädagogin das Kind schon kennt, sonst ev. auf 4. Aufnahme verschieben)

8. Wie sieht ungefähr ein Tag von N im Kindergarten aus? Was war z.B. gestern im Kindergarten los? Mit wem spielt und spricht N häufig?

(bei gleicher Gruppe Informationen aus dem letzten Interview vorbereiten/Veränderung)

Zeit von-bis	Stunden	WAS wird gemacht? (nur Vorschläge)	MIT WEM? Erwachsene und Kinder
		Ankommen Freispiel	
		Aktivität	
		Freispiel/Garten ...	
		Händewaschen/Klo Mittagessen	
		Mittagsruhe Schlafen Freispiel	
		Händewaschen/Klo Jause	
		Freispiel Abholen	

Zeit von-bis	Stunden	WAS wird gemacht? (nur Vorschläge)	MIT WEM? Erwachsene und Kinder

Das Kind verbringt also pro Tag ungefähr _____ Stunden im Kindergarten.

Nur wenn regelmäßig ein Sesselkreis/Morgenkreis etc. gemacht wird:

9. Sie haben gesagt, Sie machen einen Sesselkreis/Morgenkreis: Was passiert normalerweise im Morgenkreis?

Wie häufig machen Sie ihn? _____

Wie lange dauert der Sesselkreis normalerweise/durchschnittlich?

Welche Aktivitäten machen Sie dort (ich kreuze an bzw. notiere)

- ... gemeinsames Singen/Reime sprechen/Fingerspiele
- ... gemeinsames Vorlesen (oder Bilderbuch anschauen)
- ... Besprechen eines Themas (bestimmter Wortschatz etc.)
- ... freies Gespräch und Erzählen (Kinder erzählen etwas)
- ... gemeinsame Bewegung/Tanzen (Bewegungsverben etc.)
- ... anderes: _____

Durchschnittlich verbringt N _____ Stunden pro Tag im Kindergarten, davon _____ Minuten im Sesselkreis. Rest: _____. Versuchen wir nun ungefähr abzuschätzen, wie viel Zeit N mit Ihnen (allein und in der Kleingruppe) und den anderen Erwachsenen und Kindern verbringt und wie viel allein spielend/schlafend.

10. Mit welchen Erwachsenen und Kindern spricht N im Kindergarten regelmäßig/viel? Sie haben bereits einige Personen genannt (Frage 8), gibt es noch andere? Welche Sprachen sprechen sie mit N?

Bezugspersonen des Kindes: ERW (+Ausbildung) und PEERS	Sprache	wie oft? (tgl., mehrmals/W, 1x/W)	durchschnittliche Zeit pro Tag ungefähr einschätzen
KG1 Vorname+Ausbildung (Aktivitäten unten)			
KG2 Vorname+Ausbildung (+ ev. Aktivitäten)			

Bezugspersonen des Kindes: ERW (+Ausbildung) und PEERS	Sprache	wie oft? (tgl., mehrmals/W, 1x/W)	durchschnittliche Zeit pro Tag ungefähr einschätzen
KG3			
KG4			
Ki1 Vorname+Alter (+ ev. Aktivitäten)	Sprache!		
Ki2	Sprache!		
Ki3	Sprache!		
ALLEIN spielend, schlafend, sich beschäftigend, am Klo, sich im Garten bewegend			

11. Nun geht es darum, ungefähr abzuschätzen, was in der Zeit an sprachlichen Aktivitäten passiert.

In den _____ Minuten, die er mit **Ihnen** (KG1) allein oder in der Kleingruppe durchschnittlich verbringt, wie oft und wie lange finden **Sie** da die Zeit ...

... und die anderen BetreuerInnen (KG2 und KG3)?

Aktivitäten (abgesehen vom Morgenkreis) Zeitschätzung auf 5 Min. genau!	wie oft? (tgl, 1x/W...)	KG1 Min.	in	KG2 Min.	in	KG3 in Min.
... mit N spontan ein Zwiesgespräch zu führen, also ein Gespräch mit dem Kind allein ? z.B. über Erlebnisse im Kindergarten oder zuhause, über Dinge die das Kind beschäftigt ... Bei welcher Gelegenheit am ehesten?						

Aktivitäten (abgesehen vom Morgenkreis) Zeitschätzung auf 5 Min. genau!	wie oft? (tgl, 1x/W...)	KG1 Min.	in	KG2 Min.	in	KG3 Min.	in
... mit N und anderen Kindern ein spontanes Gespräch zu führen? z.B. über Erlebnisse, Erinnerungen ... Bei welcher Gelegenheit am ehesten?							
... dem Kind allein oder in einer Kleingruppe vorzulesen bzw. ein Bilderbuch anzuschauen? Bei welcher Gelegenheit am ehesten?							
ev. andere sprachliche Aktivitäten: Rollenspiel, gemeinsam Singen, Reime aufsagen, bestimmtes Spiel, Geschichten erfinden ...							

12. Nur für zweisprachige Kinder (NEU):

Wie geht N mit den beiden Sprachen Deutsch und Kroatisch um?

Kann das Kind, wenn es die Situation erfordert, **von einer Sprache in die andere umschalten**?

z.B. wenn es gerade mit Kindern in seiner Familiensprache spricht und dann deutschsprachige Kinder hinzukommen, schaltet es auf Deutsch um. Dem Kind gelingt das Umschalten

☐ mühelos

☐ mit Mühe

☐ gar nicht

Benutzt N Deutsch und Kroatisch **innerhalb von einer Äußerung** ☐ ja ☐ nein

Wenn ja ☐ vor allem mit Gesprächspartnern, die Deutsch und Kroatisch können
☐ auch bei Gesprächspartnern, die nur Deutsch sprechen

Betätigt sich das Kind als „Mittler“ zwischen den Sprachen?

z.B. wenn ein anderes Kind kein Deutsch versteht, erklärt es ihm in der Familiensprache, worum es geht, oder Ihnen, worüber sich Kinder in der Familiensprache unterhalten haben

☐ bereitwillig

☐ nicht so gern

☐ gar nicht

☐ nein weil es nicht so gut Deutsch kann

☐ diese Situation kommt nicht vor

C. Veränderungen bei Berufserfahrung und Ausbildung

(ALLES neu erfragen bei neuer PädagogIn)

13. Wir haben bereits festgestellt, dass Sie ja auch Sprachförderung betreiben. Worauf achten Sie besonders, wenn Sie mit dem Kind sprechen? Gibt es da etwas, das Ihnen besonders wichtig ist? (NEU)

14. Lernen Sie oder haben Sie selbst Fremdsprachen gelernt? Wenn ja, welche? (NEU)

Deutsch ____ Englisch ____ Kroatisch ____ andere Sprachen:

15. Was ist Ihre jetzige Position hier im Kindergarten/in der Kindergruppe?

- ... Kindergruppen-AssistentIn (HelferIn, keine Kinderbetreuung)
- ... Kindergruppen-BetreuerIn
- ... Kindergruppen-LeiterIn (KinderbetreuerIn und kann selbst eine KiGru eröffnen)
- ... Kindergarten-Assistentin
- ... Kindergarten-Pädagogin

andere:

16. Berufserfahrung: Wie lange üben Sie diesen Beruf bereits aus? (NEU)

17. Welche Ausbildung bzw. Zusatzausbildungen haben Sie dazu absolviert?

Ausbildung	Wo?	Wann u wie

18. Wie viele Jahre sind Sie insgesamt in die Schule gegangen?

Österreichisches Schulsystem:

1 2 3 4 5 6 7 8 9 9 10 11 12 13
 Volksschule Hauptschule/AHS Polytech.
 Berufsschule+Lehre/BMS/BHS/AHS/HAK/HTL ...

Anzahl der Schuljahre insgesamt

19. Welche Schule haben Sie besucht/abgeschlossen? Andere Ausbildungen?

20. Der höchste Abschluss, den Sie erreicht haben, ist ?

Antwort _____

Zuordnung (ohne vorlesen)

- keine Schule besucht
- Schule besucht, aber **nicht abgeschlossen** / **Sonderschulabschluss**
- Pflichtschule/ Hauptschule/ Polytechnikum **abgeschlossen**
- berufliche Fachausbildung (Lehre, BMS, Berufsschule, Handelsschule...) begonnen, aber **nicht abgeschlossen**
- berufliche Fachausbildung (Lehre, BMS, Berufsschule, Handelsschule...) **abgeschlossen**
- AHS-Gymnasium, BHS, HAK oder HTL begonnen, aber **nicht abgeschlossen**
- AHS-Gymnasium, BHS, HAK oder HTL mit Matura **abgeschlossen**
- PädAk, Sozialakademie, andere Akademie, Fachhochschule begonnen, aber **nicht abgeschlossen**
- PädAk, Sozialakademie, andere Akademie, oder Fachhochschule **abgeschlossen**
- Universität begonnen, aber **nicht abgeschlossen**
- Universität mit Bachelor, Diplom/Magister/Master oder Doktorat **abgeschlossen**

21. Welche (anderen) Berufe haben Sie in Ihrem Leben bereits ausgeübt?

Beruf	Wo?	Wie lange?

22. Möchten Sie zum Schluss noch irgendetwas ergänzen? Gibt es noch etwas, das Ihnen wichtig ist? (NEU)

APPENDIX E: Consent form



universität
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Wien, im Oktober 2014

EINVERSTÄNDNISERKLÄRUNG

Als Erziehungsberechtigte/r des Kindes _____, geboren am _____ (TT.MM.JJ) gebe ich mein Einverständnis, dass von meinem Kind in der Kinderbetreuungseinrichtung und in der elterlichen Wohnung Video- und Tonaufnahmen gemacht werden. Mein Kind wird über eineinhalb Jahre vier Mal je eine Stunde im Gespräch mit der betreuenden Person im Kindergarten und eine Stunde im Gespräch mit der Hauptbezugsperson zu Hause aufgenommen. Ferner wird mein Kind vier Mal im Kindergarten mit einer wissenschaftlichen Mitarbeiterin spielen und Sprachaufgaben lösen und dabei aufgenommen.

Mein Einverständnis gilt auch dafür, dass meinem Kind zum Zweck der oben genannten Aufnahmen für die Dauer von einer Stunde ein Aufnahmegerät umgehängt wird.

Ich bin ferner damit einverstanden, dass die Aufnahmen in anonymisierter Form und kodiert zu rein wissenschaftlichen Zwecken als Datenmaterialien für linguistische Untersuchungen im Rahmen des Dissertationsprojekts zur Verfügung stehen.

Die Aufzeichnungen werden unter Verschluss gehalten und nicht an Dritte weitergegeben.

Wien, am _____

Name in Blockschrift und Unterschrift des/der
Erziehungsberechtigten

ENGLISH ABSTRACT

The present study aims to investigate the simultaneous bilingual acquisition (2L1) of Austrian German and Croatian among preschoolers in Austria. In the context of migration this multiple case study on four children from different socioeconomic backgrounds focuses on describing the bilingual development of two languages from age 3 to approximately age 4;6. The present semi-longitudinal study investigates the children's lexical, grammatical and narrative development in both of their languages, as well as their language switching activities (code-switching, code-mixing).

A mixed method design used for the INPUT project (e.g. Czinglar et al., 2015; Korecky-Kröll et al., 2016) was applied to evaluate the children's linguistic development, comprising spontaneous speech recordings, interviews with parents and preschool teachers, and identical language assessments in both languages. Additionally, children were divided according to their socioeconomic status (SES) – two from a high and two from a low SES family. Based on Oller & Eiler's findings (2002) showing that bilingualism diminishes among immigrant children from third-generation onwards, the various factors that may influence the loss or maintenance of the heritage language Croatian will be discussed. Furthermore, the influence of SES on bilingual language acquisition as well as the individual simultaneous bilingual language development of all four children, considering specific aspects of linguistics, will be the main focus of this research. Finally, the thesis gives an overview of factors most influential for a successful 2L1 acquisition according to the data from this research as well as other relevant research mentioned in this particular context.

The data presented in this study reveals that preschoolers are still very much influenced by the family language use and parental input, and here especially by the maternal motivation to preserve the heritage language and also their knowledge on language acquisition to ultimately foster the development of both languages.

DEUTSCHE ZUSAMMENFASSUNG

Die vorliegende Studie befasst sich mit dem simultanen Erstspracherwerb (2L1) von Deutsch und Kroatisch bei Kindergartenkindern in Österreich. Die Fallstudie untersucht den sprachlichen Erwerbsprozess von vier Kindern mit unterschiedlichen sozioökonomischen Hintergründen im Alter von 3 bis circa 4,6 Jahren. Die semi-longitudinal angelegte Untersuchung beleuchtet die lexikalische, grammatische, narrative Entwicklung beider Sprachen sowie den sprachlichen Wechsel zwischen beiden Sprachen (Code-switching, Code-mixing).

In Anlehnung an das INPUT-Projekt (e.g. Czinglar et al., 2015; Korecky-Kröll et al., 2016) wurden mehrere Erhebungsmethoden eingesetzt, unter anderem Spontansprachenaufnahmen im Kindergarten und zuhause, Interviews mit Eltern und Pädagog*innen, wie auch verschiedene Sprachtests parallel für beide Sprachen. Die Unterteilung der Kinder erfolgte in zwei Gruppen zu je zwei Kindern, gemäß dem sozioökonomischen Status (SES) der Eltern, in high SES und low SES. Basierend auf Studien wie jenen von Oller und Eilers (2002) wird angenommen, dass ab der dritten Generation von Personen mit Migrationshintergrund die Herkunftssprache verloren geht.

Diese und andere Faktoren, die auf den Verlust und die Erhaltung der Herkunftssprache Kroatisch einwirken können, werden in der vorliegenden Arbeit diskutiert. Weiter wird der Einfluss des SES auf den bilingualen Spracherwerb untersucht, wie auch die individuelle simultane Entwicklung beider Sprachen in Hinblick auf die verschiedenen sprachlichen Ebenen (Lexik, Grammatik, Narration, Code-switching/-mixing). Zu guter Letzt bietet diese Dissertation einen Überblick über mögliche Einflussfaktoren auf den erfolgreichen 2L1 Erwerb, bezugnehmend auf die hier erhobenen Daten sowie andere relevante Studien in diesem Zusammenhang.

Die vorliegende Forschung belegt, dass Kindergartenkinder (noch) stark vom innerfamiliären sprachlichen Gebrauch beeinflusst werden und hier der sprachliche Input zentral ist. Ferner deuten die Daten darauf hin, dass das mütterliche Wissen über Spracherwerb ein wichtiger Einflussfaktor dafür sein könnte, wie sie Sprache dem Kind vermitteln. Die mütterliche Bildungsaspiration in Hinblick auf Zweisprachigkeit und der Stellenwert der Herkunftssprache scheinen hier ausschlaggebend.