LANGUAGE TRANSFER AND BEYOND: PRO-DROP, CODE SWITCHING, AND ACQUISITION MILESTONES IN BILINGUAL POLISH-ENGLISH CHILDREN

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of The Ohio State University

By

Magdalena Gruszczynska-Harrison, M.A.

Graduate Program in Slavic and East European Languages and Literatures

The Ohio State University

2010

Dissertation Committee:

Ludmila Isurin, Ph.D. Advisor

Laura Wagner, Ph.D. Committee Member

Daniel Collins, Ph.D. Committee Member

Copyright by

Magdalena Gruszczynska-Harrison

2010

ABSTRACT

The current study analyzes application and omission of pro-drop feature in the speech of bilingual Polish-English children. The aim of the study is to discern whether simultaneous bilingualism affects the use of the said feature in children's language and whether there is a possibility of its transfer from Polish (pro-drop) to English (non-pro-drop) and vice versa.

Most of the existing research on the topic of pro-drop was conducted within Universal Grammar confines. It focused predominantly on monolingual children and bilingual adults. The research presented here, however, is unique in its approach in that it departs from the UG position and applies the theory of language transfer to account for its findings. In addition, it looks at other instances of transfer in children's speech, explores the instances of code switching, as well as gives an in-depth look into the developmental errors registered in the speech of bilingual children.

The data for the study is based on speech samples from ten bilingual children who are simultaneous Polish-English bilinguals. The data was collected by means of three language tasks: a spontaneous conversation, a preplanned psycholinguistic task of story elicitation, and an elicitation of autobiographical narratives. Each set of the tasks was carried out first in Polish and then in English and recorded. The recordings were transcribed and coded for occurrences of null and overt subjects, code switches, language transfer, as well as other lexical, syntactic, and grammatical errors. The data analysis is quantitative and qualitative. It is unique in that it departs from Universal Grammar confines and uses the framework of multicompetence as well as the existing research and theory of language transfer as a basis for the discussion of its results.

The findings do not support the notion of one common pro-drop or non-pro-drop feature for both languages. Rather, they suggest that the feature is different in each of the languages, and that the inaccuracy in its application or omission in the respective languages is a result of crosslinguistic influence – language transfer. Moreover, observed transfer is bidirectional – L1 affects L2 and L2 affects L1.

In terms of their character and type, the instances of code switches found in the children's speech were not deviant from those observed in bilingual adult speakers and can be attributed to the children's exposure to both languages. As far as their language development is considered, the participants produced grammatical errors that pointed to an ongoing language acquisition process in English but showed a possible incomplete acquisition in Polish.

To my beloved parents

Zofia and Zbigniew

ACKNOWLEDGMENTS

While this dissertation is an individual work, its completion would not have been possible without the help, support, guidance, and efforts of many people.

I owe my deepest gratitude to my esteemed advisor, Dr. Ludmila Isurin. I have been extremely fortunate to have an advisor who encouraged and inspired me to work. It is because of her that I was able to complete my journey as a doctoral student and to write this dissertation. She believed in me even when I doubted my own abilities. Dr. Isurin has been patient, supportive, and exceptionally generous with her time and advice. Not only was she readily available for me, but also always read and responded to the drafts of each chapter of my work quicker than I could have wished. She is one of the rare advisors students hope to find.

I wish to thank Dr. Laura Wagner, who encouraged my dissertation project from its inception. Incidentally, it was by working on a project for her class when the idea of this study first developed. She shared her expertise and experience in working with children and instructed me how to conduct my own research. I am indebted to her for her guidance as well as help in providing me with the necessary equipment for the study, and for her enthusiasm about my scholarly work.

Without encouragement from Dr. Leonid Livak (University of Toronto), I would not have dared to think about pursuing a doctoral degree. Dr. Livak's support and practical advice in the past years of my academic journey have been immeasurable. Without him, I could not have accomplished what I was ultimately able to do.

I am indebted to Dr. Daniel Collins for his steadfast moral and intellectual support. His patient instruction and coaching are truly appreciated.

I would like to acknowledge Dr. Charles Gribble for his selfless commitment to his graduate students, of whom I was one. As my first advisor, he helped me conceptualize my ideas and find my academic focus.

My studies would not have been the same without the social and academic support of my dear colleagues and friends. I am particularly grateful to Lauren Ressue, Susan Vdovichenko, Daria Safronova, Marcela Michalkova, Larysa Stepanova, and Matt Curtis. It was a pleasure to share life and doctoral studies with them.

Most importantly, I want to thank my parents, Zofia and Zbigniew, and sister Dorota for their infinite love and patience. They have always supported my passion for learning and my idea of pursing a life of a scholar.

Words alone cannot express the thanks I owe to my husband Lonny for his love and unswerving faith in me, for the benefit of his proofreading and editing skill, and for being an indispensable interlocutor throughout the process.

Finally, I wish to thank my young study participants and their parents, who made this project possible.

To all the above individuals, and to friends and colleagues too numerous to mention who have assisted me in this process, I feel very much indebted.

VITA

2004	Hon. B.A., Linguistics,
	University of Toronto, Canada
2005	
	University of Toronto, Canada
2007 to present	Graduate Teaching Associate,
_	Department Slavic and East European
	Languages and Literatures,
	The Ohio State University

FIELDS OF STUDY

Major Field: Slavic and East European Languages and Literatures

TABLE OF CONTENTS

ABSTRACT	ii
DEDICATION	iv
ACKNOWLEDGMENTS	v
VITA	vii
LIST OF TABLES	xiii
INTRODUCTION	1
CHAPTER 1: LANGUAGE	9
1. Introduction	9
2. Language Typology	12
3. Markedness and Typology	13
4. Forms and Role of Language Typology	13
5. Language Typology in Second Language Acquisition and Bilingualism	16
6. Typology of Polish and English.	
6.1. Word Order	18
6.1.1. Word Order in Polish	18
6.1.2. Word Order in English	21
6.2. Null and Overt Pronominal Subjects –	
Pro-drop versus Non-pro-drop Feature	22
6.2.1. Pro-drop in Polish	23
6.2.2. Non-pro-drop in English	24
7. Implications for Studies on Crosslinguistic Influences	25
CHAPTER 2: MARKEDNESS THEORY AND UNIVERSAL GRAMMAR	27
1. Introduction	27
2. Markedness	27
3. Markedness and Universal Grammar	29
4. First Language Acquisition and Markedness	30
4.1. UG-Based Approach	30
4.2 Alternative Approaches	33

5. Second Language Acquisition	41
5.1. SLA, UG, and Markedness	41
5.2. SLA and Markedness – Exploring Reasons for Transfer	44
CHAPTER 3: LANGUAGE TRANSFER	53
1. Introduction	53
2. Second Language Acquisition	54
2.1 Code Switching.	55
2.2 Transfer and Code Switching Debate	56
3. Transfer	62
4. Approaches to Transfer	68
4.1.1. Contrastive Analysis	68
4.1.2. Shortcomings of Contrastive Analysis	70
4.2.1. Markedness Theory	72
4.2.2. Shortcomings of Markedness	72
4.3.1. Language Typology	74
4.3.2. Advantages of Language Typology	79
4.3.3. Typology and Prediction of Transfer Directionality	
and Simplification through Transfer	80
4.3.4. Directionality of Transfer – Bidirectional Transfer	85
4.4 Psycholinguistic Approaches	87
5. Transfer in Bilingual Adults	89
6. Transfer in Bilingual Children	95
7. Discussion of Findings on Bilingual Adult and Children Transfer	106
8. Implications for Present Research	109
CHAPTER 4: BILINGUAL CHILDREN	111
1. Introduction	111
2. Bilingualism	112
2.1 Definitions	112
2.2 Approaches	114
2.3 Critical Period	117
3. Bilingual Children	120
3.1 Child Bilingualism Theories	120
3.2 Studies and Observations	128
3.2.1. Language Differentiation and Code Mixing	128
3.2.2. Consequences of Bilingualism	
– Bilinguals versus Monolinguals	135
3.2.3. Early Bilingualism and Literacy	141
3.3 Social and Environmental Factors Relevant to Child Bilingual Studies	143
4. Methodology in Bilingual Research	152
5. Research Gaps and Shortcomings	153
6. Discussion.	
7. Implications for the Present Research.	
······································	

CHAPTER 5: PILOT STUDY	167
1. Introduction	167
2. Methodology	168
2.1 Research Question	168
2.2 Participants	170
2.3 Data Analysis	172
2.4 Findings	175
2.5 Discussion	177
2.6 Study Limitations	182
3. Conclusion	183
CHAPTER 6: STUDY: METHODOLOGY AND SOCIOLINGUISTIC DATA	186
1. Introduction	186
2. Study Participants, Place, and Recruitment Methods	186
2.1 Criteria for the Participants' Selection	185
2.2 Study Location	188
2.3 Selection of Participants	189
3. Sociolinguistic Backgrounds of the Participants	190
3.1 Selection Process	190
3.2 Sociolinguistic Backgrounds of the Participants as a Group	191
3.3 Sociolinguistic Backgrounds of Individual Participants	196
3.4 Other Common and Individual Sociolinguistic Characteristics	
of the Participants	202
4. Task Description.	205
5. Procedure.	206
6. Parental Role in the Study	209
7. Data Analysis	210
8. Study Limitations	211
•	
CHAPTER 7: STUDY: PRO-DROP VERSUS NON-PRO-DROP	
– ANALYSIS AND FINDINGS	214
1. Introduction	214
2. Numerical Summary of the Findings on Pro-drop Feature	216
2.1. Data	216
2.2. Findings on Pro-drop Feature	217
2.2.1. Pro-drop in Polish and English	218
2.2.2. Pro-drop and Non-pro-drop	223
2.2.3. Nominal and Third-Person Pronominal Subjects in Polish	227
2.3. Correlations Between Variables and Pro-drop	231
2.3.1. Polish	232
2.3.2. English	248
3. Detailed Analysis of Each Individual Child's Speech with Attention to Pro-dron.	258
3.1 Child #1	258
3.2 Child #2	
	00

3.3 Child #3	
3.4 Child #4	
3.5 Child #5	
3.6 Child #6	
3.7 Child #7	272
3.8 Child #8	
3.9 Child #9	
3.10 Child #10	
4. More About the Individual Characteristics of the Participants	
4.1. Ungrammaticality Issues	
4.2. Pro-drop and Language Transfer	
4.3. Discussion of the Findings in Light of the Hypotheses	
CHAPTER 8: CODE SWITCHING AND LANGUAGE TRANSFER	
1. Introduction	
2. Code Switching	
2.1 Code Switching – Numerical Data Presentation	
2.2 Variables and Trends in Code Switching	
2.3 Code Switching: Qualitative Analysis	
2.4 Code Switching and Some Common Characteristics	
Among the Participants	
2. Other Instances of Transfer	
2.1 Syntax	
2.2 Lexical/Semantic	
3. Discussion	
CHAPTER 9: BILINGUALISM AND LANGUAGE DEVELOPMENT	
1. Introduction	
2. Grammar Errors	
3. Language Acquisition Errors	
3.1 Acquisition of Polish	
3.1.1. Verbs	
3.1.2. Nouns	353
3.2 Acquisition of English	
3.2.1. Verbs	364
3.2.2. Nouns	
3.3 Phonology	
4. Other Findings and Issues	
4.1 Lexical Choices	
4.2 Preposition Use	
4.3 English Nouns and Polish Nominal Morphology	
5. Individual Characteristics of the Participants	
6. Discussion	

7. Conclusion	
CHAPTER 10 : CONCLUSION	
REFERENCES	400
APPENDIX A: Parent Questionnaire (English)	409
APPENDIX B: Child Interview Questions (Examples)	414

LIST OF TABLES

Table 5.1 Age of First Exposure to English and Age at the Time of the Study
Table 5.2 Situation 1 – Numerical Data
Table 5.3 Situation 2 – Numerical Data
Table 5.4 Situation 1 & 2 Numerical Data
Table 5.5 Situation 1 – Percentage
Table 5.6 Situation 2 – Percentages
Table 5.7 Situation 1 & 2 – Percentages
Table 5.8 Situation 1 – Language Use
Table 5.9 Situation 2 – Language Use 175
Table 6.1 Personal Data 192
Table 6.2 English Language Exposure
Table 6.3 Polish Language Exposure
Table 6.4 Parents – Personal Data
Table 6.5 Parents – Linguistic Information
Table 6.6 Parents – Linguistic Information About Children
Table 6.7 Schooling in Polish and English
Table 6.8 Length of Interviews in Polish and English
Table 6.9 Number of Clauses Analyzed in Polish and English

Table 7.1 Polish	.216
Table 7.2 English	216
Table 7.3 Polish – Pro-drop.	219
Table 7.4 Polish – Non-pro-drop in Pronominal Subjects	220
Table 7.5 English – Pro-drop	.221
Table 7.6 English – Pro-drop Grammaticality Breakdown	222
Table 7.7 Polish – Pro-drop and Non-pro-drop – First-person Singular	224
Table 7.8 Polish – Pro-drop and Non-pro-drop – First-person Plural	224
Table 7.9 English – Pro-drop and Non-pro-drop – First-person Singular	225
Table 7.10 English – Pro-drop and Non-pro-drop – First-person Plural	226
Table 7.11 Overt Nominal and Third-person Pronominal Subjects in Polish	228
Table 7.12 Polish – Pronominal Third-person Singular and Plural Subjects Pro-drop and Non-pro-drop	. 228
Table 7.13 Polish Overt Nominal & Pronominal Third-person Singular and PluralSubjects vs. Third-person Singular and Plural Pro-drop	.229
Table 7.14 Polish Overt Nominal & Pronominal Third-person Singular and PluralSubjects vs. Third-person Singular & Plural Pro-drop	230
Table 7.15 Polish Overt and Null Pronominal Subjects in First-person Singular and Plural.	233
Table 7.16 Polish Overt Nominal & Pronominal Third-person Singular and Plural Subjects vs. Third-person Singular and Plural Null Subjects	.234
Table 7.17 Polish – Daily exposure, Pro-drop and Non-pro-drop	236
Table 7.18 Polish - Formal Exposure, Pro-drop and Non-pro-drop	.237
Table 7.19 Polish – Formal Exposure to Language and Non-pro-drop	238

Table 7.20 Exposure to English and Non-Pro-Drop in Polish	239
Table 7.21 Polish Pro-drop/Non-pro-drop and Parental Education Level	242
Table 7.22 Polish First-person Singular and Plural Pro-drop/Non-pro-drop and Parental Education Level	244
Table 7.23 Polish Nominal and Third-person Pronominal Pro-drop/Non-pro-drop and Parental Education Level	246
Table 7.24 English and Grammaticality of Pro-drop	249
Table 7.25 First Contact with English and Pro-drop in English	250
Table 7.26 English Pro-drop Types and Age	251
Table 7.27 Exposure to English and Pro-drop in English	253
Table 7.28 Exposure to Polish and Pro-Drop in English	254
Table 7.29 Exposure to English and Pro-drop in English	255
Table 7.30 Formal Exposure to English and Pro-drop	256
Table 8.1 Code Switching – Numerical Data	306
Table 8.2 Code Switching – Percentages	306
Table 8.3 Code Switching – Age Variable	308
Table 8.4 Exposure to Polish and Code switching	309
Table 8.5 Exposure to English and Code switching	310
Table 8.6 Active Exposure to Polish and Code Switching	311
Table 8.7 Active Exposure to English and Code Switching	312
Table 8.8 Code Switching and Formal Exposure to Polish	313
Table 8.9 Code Switching and Formal Exposure to English	313
Table 8.10 Parents – Linguistic Information	315

Table 8.11 Code Switching and Differences in Language Exposure	316
Table 9.1 Grammatical Errors in Polish	347
Table 9.2 Grammatical Errors in English	347
Table 9.3 Parents – Linguistic Information	

INTRODUCTION

Languages differ in the way they use pronominal subjects in finite clauses. Some require lexicalization of the subject pronoun, others allow for a non-overt subject (null subject). Languages that allow for null-subjects are often referred to as pro-drop, as opposed to those that do not – non-pro-drop.

Generally, the occurrence of pro-drop in a language indicates that the need for an overt subject in a sentence is rendered unnecessary, since the verb morphology indicates person and number. In some languages with rich verbal morphology, the subject pronoun can be inferred from the inflectional agreement on the verb, thus rendering overt subjects unnecessary. Italian and Spanish are appropriate examples of such pro-drop languages. Despite its rich verbal morphology, French, on the other hand, is not a null-subject language. Moreover, some languages, such as Japanese or Chinese omit subject pronouns irrespective of the fact that they do not have agreement morphology. Others yet, for example German, Icelandic and Russian, exhibit mixed behavior with respect to the prodrop parameter. These facts imply that rich verbal morphology is not necessarily a prerequisite for null subjects.

The theory underlying Universal Grammar (UG) assumes that language is composed of a set of principles that set apart core grammars of all natural languages. Apart from principles, there also exist parameters that are variable across languages (Gass and Selinker, 2008). I will use pro-drop as an example to illustrate this point, as follows: the principle states that all languages have the capacity to express agents and actions; the parameter specifies the variation between languages in those where the presence of an agent in the surface structure of a sentence is mandatory (non-pro-drop) and those where it is not (pro-drop).

Principles and parameters are a part of a universal language blueprint with which the mind is endowed, and which allows a child to succeed in the acquisition of any human language. Many existing studies have focused on the issue of the null subject parameter in monolingual children's speech. However, they reach no consensus as to which is the core universal parameter – pro-drop or non-pro-drop.

The pro-drop parameter has also been a subject of interest to many scholars in the area of Second Language Acquisition (SLA), whose objective has been to investigate whether UG and its parameters also play a role in L2 acquisition. They have aimed to understand how speakers of two languages with contrasting null subject parameters reconcile the difference. Furthermore, they have examined whether the pro-drop parameter is transferred from L1 to L2. Their findings reveal that while the parameter indeed could be transferred from L1 to L2, it does not happen in all languages.

Markedness is another important theory closely linked to the parametric view of language. It assumes the existence of core grammar determined by UG parameters (unmarked) and of peripheral grammar composed of a set of marked elements and constructions outside of core grammar. In other words, peripheral aspects are exceptions to the core grammar and idiosyncratic features of a particular language. SLA has looked at pro-drop not only in the context of parameters but also of markedness. The assumption among the SLA scholars was that L2 learners tend to acquire unmarked language features first.

More recent studies in bilingualism show not only that an individual's L1 can influence L2, but also that this process of linguistic transfer can work in the opposite direction: $L2 \rightarrow L1$. While some of the scholarship in the past has suggested that marked structures do not transfer, other research calls this statement into question, but in the end, does not provide conclusive evidence of the opposite tendency. Looking at bidirectionality of transfer and the issue of markedness among languages, it becomes apparent that answers to the pro-drop parameter application lie far beyond the realm of findings based on monolingual study participants.

The pro-drop parameter research findings, however great their value to the domain of language acquisition, are contentious and non-conclusive. Most of the existing research on this topic was conducted with Universal Grammar confines in mind and focused either on monolingual children or on bilingual adults.

The pro-drop parameter along with theories and research surrounding its prevalence in child speech patterns are the principal topic of this dissertation. The main goal of the study on which the dissertation is based is to look at how bilingual children who acquire their L1 and L2 before the age of four deal with pro-drop application and omission in two languages with opposite pro-drop parameters.

The study is based on speech samples from ten bilingual Polish-English children ages 4;6 to 8;6. Given their young age, the participants were not expected to be equally fluent in both languages but had to be able to form simple sentences in each.

The data for the study was collected in three language tasks:

1) spontaneous conversation

- 2) a preplanned psycholinguistic task of story elicitation
- 3) elicitation of autobiographical narratives

Each set was carried out first in Polish (pro-drop) and then in English (non-pro-drop). The interview recordings were transcribed and coded for occurrences of pro-drop, non-pro-drop, code switching, language transfer, as well as grammatical and syntactic errors and/or inaccuracies. The final analysis is qualitative and quantitative. The findings are discussed within the framework of multicompetence and the existing research and theory of language transfer. The variables considered in the analysis are chronological age, age of first contact with L2, amount and type of exposure to L1 and L2, and parental education levels.

Furthermore, whereas the theory of transfer is employed in the analysis of the findings of this study, the hypotheses proposed to account for them also include the theoretical underpinnings of UG and Markedness.

The research presented here departs from the UG stand and uses the theory of language transfer to account for its findings. This study aims to examine whether simultaneous bilingualism affects the use of the said feature in children's language, and whether there is a possibility of its transfer from Polish to English and vice versa. Presentation of results focuses on changes in pro-drop application in Polish, mainly on the prevalence of overt pronoun use in subjects in first person singular and plural – an occurrence pointing to transfer. Other linguistic issues pertaining to transfer and its bidirectionality, as well as code switching and developmental changes, are also addressed.

This research is unique in its approach and provides valuable findings not only to studies on pro-drop, but also generally informs fields such as bilingualism, language contact and transfer, and psycholinguistics.

Chapter 1 presents the topic of Language Typology and its role and purpose in the linguistic studies. There exist various types of typological classification according to which world languages are examined. They are addressed in this chapter. Since typology is significant to research on first and second language acquisition as well as studies on crosslinguistic influences, it is pertinent to the current study. Discussed here, therefore, are the characteristics of word order and null subject in each of the studied languages – the typological categories of most importance to this study.

Chapter 2 describes theory of markedness, its concept and genesis, and also its pertinence to Universal Grammar theory. The issue of markedness has also found its

application in the studies on first and second language acquisition. Consequently, its use in SLA studies in relation to UG and also to language transfer is illustrated in this chapter.

Chapter 3 is devoted to the topic of language transfer and its theoretical approaches. It begins with a detailed overview of language transfer, its definition, and specific categories of transfer. This overview is followed by a section on theoretical and methodological approaches to transfer and a brief discussion of their strengths and weaknesses. The issue of transfer directionality is given specific attention in the subsequent part. An extensive review of scholarly literature on crosslinguistic influences in speech bilingual adults and children forms the next section of the chapter. The reasoning behind selecting transfer as the main approach to the current study as well as the working definition of language transfer adopted in the analysis are introduced in the last section. The phenomenon of code switching is also described in this chapter, as it relates to the general issue of crosslinguistic influence.

Chapter 4 presents the topic of child bilingualism. It begins with a short introduction on bilingualism followed by a broad review of literature pertaining to theories and studies on child bilingualism. Their findings and their contribution to the field of SLA are provided in an ensuing section. Since the study focuses on simultaneous bilingualism in children, some attention is devoted to the distinction between first language bilingualism and second language acquisition. Lastly, the methodological issues raised in the chapter are relevant to the reported study. Chapter 5 reports on the findings of the pilot study that led to the current research project. The study looks at pro-drop as the variant feature of the languages in question – Polish and English, based on the data available at the online database – Child Language Data Exchange System (CHILDES). Hypotheses used in the analysis of its findings are later employed in the main study.

Chapter 6 offers an explanation of the methodology employed in data collection for the current study. Additionally, it provides detailed descriptions of the sociolinguistic background of the study participants.

Chapter 7 presents the study findings on pro-drop. Detailed qualitative and quantitative analyses of null subjects observed in the speech samples of the participants constitute the main body of this chapter. Each of the analyses focuses on particular variables believed to be of importance in production and omission of pro-drop feature. Moreover, this chapter also includes comprehensive analyses of each individual participant's speech with regard to null and overt pronominal subjects. Finally, the findings are discussed in view of the proposed hypotheses.

Chapter 8 offers an analysis of language changes related to the phenomenon of code switching and transfer. Occurrences of code switching are analyzed with reference to the same variables as those used in the examination of null and overt subjects in Chapter 7. This analysis is followed by a discussion of its results. Subsequent to this discussion is a section presenting instances of language transfer other than those addressed in Chapter 7, which includes examples of possible lexical, grammatical, and syntactical crosslinguistic influences. As a final point, language transfer and code switching are examined together with the aim of finding a possible connection between the two phenomena.

Chapter 9 addresses developmental issues of the bilingual participants and their individual differences. The first section of the chapter presents the grammatical issues noted in the participants' speech that cannot be attributed to transfer. Any trends observed in these errors as well as specific inaccuracies are considered in light of language acquisition and language development. The next part of the chapter illustrates any individual differences among the young participants. Discussion and conclusion form the last two sections of the chapter.

The dissertation concludes with a final discussion of the present study's major findings.

CHAPTER 1

LANGUAGE TYPOLOGY

1. Introduction

Since the main study discussed in this work looks at bilingual linguistic behaviors and language transfer, it is of great importance to compare and contrast the two languages in question. This first chapter is devoted to just that, namely to typological assessment of Polish and English.

First, I define language typology and explain its role and purpose in the linguistic studies. Secondly, I talk about the different types of typological classifications of world languages. Then I discuss the significance of language typology to the studies on first language acquisition and bilingualism, in particular to studies on language transfer. Finally, I name the typological categories of most importance to the present study – word order and null-subject feature – and discuss their qualities in the respective languages of this research.

2. Language Typology

The word typology itself can have various meanings, depending on the discipline in which it is used. Its denotation can vary also in linguistics based on its application to a particular area of the field. Croft (1990) states that typology is a subdiscipline of linguistics, and in its broadest definition, refers to categorization of structural types across languages, where it often signifies typological classification.

Language typology involves crosslinguistic comparison of languages. The nature or rather the aspect of such comparison alone can vary depending on the particular classification that researchers are interested in. In the context of linguistics, Whaley (1997) defines typology as "the classification of languages or components of languages based on shared formal characteristics" (p. 7). That means, Croft (1990) elucidates, that the linguistic patterns that are studied are found crosslinguistically; furthermore, they can only be discovered by way of a crosslinguistic comparison. Typology not only aims, then, to identify universals among languages, but also strives to establish the range of variation among them. Any discovery or verification of a language universal cannot be done based on an observation of one language but requires an extensive survey of languages. Similarly, elimination of a likely universal must be supported by analysis of a number of languages.

Already in the nineteenth century linguists such as Friedrich von Schlegel and Wilhelm von Humboldt worked on identifying such linguistic variation. Their focus, however, was on language morphology, that is specific kinds of word formation present in grammars of languages.

Later on, a twentieth-century scholar, Joseph H. Greenberg, gave a new direction to language typology by discovering implicational universals of morphology and word order. *Implicational universals*, in Croft's explanation (1990), do not maintain that all languages belong to one type. Rather, they point to a restriction of logically possible language types that does not eliminate linguistic variation but limits it. *Unrestricted universals*, on the other hand, are assertions that all languages, with regard to a certain parameter, belong to a particular grammatical type. In his observations of a large group of languages, Greenberg enumerated 45 language universals.

Greenberg's work was seminal in that it informed the field of linguistics by demonstrating that much more information about the nature of world languages is to be gained from further typological research. Although typological classification varies from genetic, geographic, and demographic classifications, each and all of them can influence it.

Since the following chapters of this dissertation introduce the topics of Universal Grammar (UG) and Markedness, it is important to mention here the creator of UG, Noam Chomsky, and his approach to language unity. In Chomsky's view, humans are genetically endowed with language facility. This fact, along with the inherent purpose of language for communication purposes, accounts for universality, or unity, of language. Chomsky's approach to typology is then formalistic, while Greenberg's is functional-typological. Despite the differences, the two approaches do share common elements. Both of the methods aim to explain what is possible in human language; both of them also analyze language structures and abstraction. Whereas the Chomskian approach looks at language to find formal explications that account for the autonomy of language,

Greenberg's analysis provides an explanation of structures through functions they fulfill. Moreover, while Chomsky focuses on patterns within language, Greenberg discusses those across languages. Whaley (1997) underscores the fact that Universal Grammar relates to typology, and that ideally the two should inform each other as far as language patterns are recognized. She also states that UG greatly affects typology.

3. Markedness and Typology

Croft (1995) states that in his typological research Greenberg drew upon the Prague School concept of markedness – the concept later adopted by Generative Grammar. It is important to note, however, that typological markedness has developed differently from its prototypical form. Similarly, it does not have the same purpose in crosslinguistic comparison as it does within the confines of UG, where the primary role of markedness is largely theoretical.

Markedness in typology, Croft further states, "is a property of a grammatical category such that it displays one or more of a cluster of grammatical asymmetries crosslinguistically" (p. 106). It is not, in other words, a language specific fact or feature, but rather a crosslinguistic generalization. In typology, markedness is an expression of function through a form, and frequency of a feature is the most essential criterion of markedness.

It is imperative to clarify, Whaley (1997) states, that language typology is not a theory of grammar. Unlike Government and Binding Theory, Functional Grammar, Cognitive Grammar, or Relational Grammar, which attempt to provide a model for how language works, typology aims to identify crosslinguistic patterns and correlations between these patterns. The author delineates three major propositions of typology:

1) Typology involves crosslinguistic comparison.

2) A typological approach involves classification of either (a) components of languages or (b) languages.

3) Typology is concerned with classification based on formal features of language.

These formal features are not the obvious features resulting from genetic relationship of languages (e.g. Germanic or Slavic languages), geographic location (e.g. the languages of Australia), or even a real classification (for example, the Balkan Sprachbund). Formal features of language, such as found in phrases, sentences, or phonological systems, are the main focus of language typology.

Croft (1990) argues that crosslinguistic comparison in linguistic analysis – the fundamental feature of typology – "places the explanation of intralinguistic phenomena in a new and different perspective" (p. 4).

4. Forms and Role of Language Typology

A crosslinguistic comparison of a particular language phenomenon is conducted in a survey of a given range of languages. The compared phenomenon is first defined on an external basis, and the findings are then classified according to the definition. The structure under observation is referred to as *type* or *strategy*. The most commonly known are *morphological strategy*, *syntactic strategy*, and *semantic properties strategy*. There is also typology as proposed by Sapir (1949, p. 101) based on the expression of concepts in languages. They range from most concrete to most abstract: basic (concrete), derivational, concrete relational, and pure relational.

The morphological typology was the original classification, developed in the nineteenth century. Due to the way it tended to look at a language and its morphological system as a whole, Greenberg referred to it as the *individualizing approach* to typological classification. He named his own concept, which is also the current approach, the *generalizing approach*. Greenberg developed a more scientific approach to morphological classification and made a quantitative index of morphemes per word in place of the old systems, which focused either on morphological combinations (von Schlegel) or on the morpheme count per word (Sapir). Similarly, he quantified the degree of phonological alternation, the functional parameters, morpheme types, grammatical relations, and inflections. The generalizing approach greatly contributes to modern typology as it allows separating the classification of independent grammatical properties of languages and points to relationships across languages based on these analyzed features.

Semantic properties that operate as typological features are, for nominals, grammatical gender, case, animacy, definiteness, and also verb valence (number of arguments a verb takes).

While many features can be and are, in fact, accepted as the point of departure in crosslinguistic analyses, perhaps the most commonly used universals of those proposed by Greenberg are the ones pertaining to word order. In typological research, word order refers to ordering of subject (S), verb (V), and object (O). The dominant, or most frequent distribution of these elements in a particular language is considered to be its basic word order. The following are the existing possible combinations of the three constituents: SOV, SVO, VSO, VOS, OVS, and OSV. The most frequent across world languages is SOV followed by the second most common order SVO (Tomlin, 1986, 22, as cited in Whaley, 1997, p. 37).

The point of typology is to find out what kind of structures there are in languages, not what kind of languages there are. In other words, typology sets out to arrive at what is different among languages but also what is universal. As far as the differences are concerned, typology helps to see the range of allowable variations. To sum up, language typology concerns itself with absence or presence of language features and the connection between them.

In addition, Comrie (2001) points out that language typology can be beneficial to historical linguistics, in that it can help in the task of linguistic reconstruction.

In recent years, typology has also become important to studies on second language acquisition and bilingualism. The role of typology in Second Language Acquisition studies (henceforth SLA) is briefly discussed in the following section and then at length in Chapter 4.

5. Language Typology in Second Language Acquisition and Bilingualism

Although they do not constitute the main criterion in prediction and identification of crosslinguistic influences in bilingual speech, typological studies contribute to the field of SLA. The main aspect of usefulness of typology in studies of language transfer is the fact that it points out the differences and similarities of the language in question. Another important factor as to why typology has drawn the attention of SLA scholars is that it recognizes the importance and role of a learner's *interlanguage* – that is, a learner's internalized linguistic system with its own structure, containing elements of one's native language, target language, and some elements that originate in neither of the two languages. Unlike Contrastive Analysis (discussed further in Chapter 4) and Markedness Theory (discussed further in Chapter 3), typology does not exclusively make predictions about transferability of linguistic forms and structures. Studies show (Arabski, 1986; Isurin, 2003; Isurin, 2007) that typological classification is in fact connected with directionality of transfer as well as the role of transfer as simplification method. Understanding typological universals further elucidates a learner's interlanguage; typology helps to make predictions about the mistakes learners make based on the combination of languages they are working with. It can also point to the nature of their interlanguage and the possible variations expected in interlanguages based on the noted universals. If interlanguage is a *bone fide* language in transition, then none of its observed features should be a deviation from the reported existing universals.

SLA scholars (Cenoz, 1998; Genesee, 2004; Odlin, 1993) point out that typological distance between languages can be an indication of the amount of expected language transfer. The more similarities two languages share, the more crosslinguistic influences will be observed in learners' speech; equally, the more different the two languages are, the easier it will be for learners to keep their linguistic systems separate in the process of language acquisition.

Most of the typological classification used in SLA studies is devoted to second language learners, or sequential bilinguals, who acquire their second language having already one linguistic system fully developed. This does not mean, however, that studies on language transfer in simultaneous bilingualism, namely acquisition of two languages from birth, cannot benefit from looking at typological classification and incorporating typological findings into its research.

Bilingual education in the present times encompasses languages of various typological classifications. Knowledge of typological distance between studied languages undoubtedly facilitates understanding of any crosslinguistic influences – overt and covert alike, that can be manifested in bilingual speech. Therefore, any research designed to further investigate crosslinguistic influence in bilinguals ought to employ typology as part of its theoretical framework.

In my own research presented in this dissertation the languages studied are Polish L1 and English L2. The majority of study subjects, nevertheless, can be considered first language bilinguals. In the data analysis I look at two features – word order and pro-

drop/non-pro-drop feature in both languages, with specific attention to whether these two features manifest themselves in language transfer and if so, in what way. Since the two languages are not related genetically and differ with respect to the aforementioned features, I now present their typological classifications and illustrate the differences with examples. Appropriate examples from Polish and English better illustrate the typological nature of each language. Detailed typological description is beneficial for the purpose of a comprehensive analysis of the data and understanding of the findings.

6. Typology of Polish and English

6.1. Word Order

6.1.1. Word Order in Polish

In terms of word order classification, Polish, a West Slavic language, and all the other Slavic languages are considered to have free SVO word order. This classification, as Siewierska & Uhlířová (1998) state, is motivated both functionally and on statistical grounds. Due to its widest contextual applicability, SVO is the basic word order in Polish (also considered unmarked). The rich grammatical case system in the Polish language facilitates discernment of syntactic relations of the constituents in a sentence.

Examples:

Anna kupiła książkę. \rightarrow SVO Anna bought a book.

Anna książkę kupiła. → SOV Anna book bought Kupiła książkę Anna. → VOS bought book Anna

Kupiła Anna książkę. \rightarrow VSO bought Anna book

Książkę kupiła Anna. → OVS book bought Anna

Książkę Anna kupiła. \rightarrow OSV book Anna bought

Siewierska & Uhlířová (1998) report that the SVO order is the one that appears in isolated sentences. It is also the order used in answering simple questions, as well as in cases of nondistinctiveness of the two arguments of the verb, namely, when there occurs syncretism of nominative and accusative case forms.

Example:

Byt	określa	świadomość.
existence	determines	awareness
masc. sg. inanin Nom/Acc	n. 3rd. ps. sg.	fem. sg. Nom/Acc.

(adapted from Siewierska & Uhlířová, 1998, p. 108)

While there are no syntactic constraints on ordering phrases in main declarative clauses in the Polish language, it is important to state that the freedom in the variations of their placement refers to syntactic functions; pragmatic and communicative cannons are complied with. In terms of syntactic limitations, the rule against the placement of any prepositional object before the preposition must be obeyed to avoid ungrammaticality.

Example:

Opowiadam o książce Anny. [o książce Anny – prepositional phrase]
I tell about a book of Anna's.

<u>O książce Anny</u> opowiadam <u>O książce</u> opowiadam <u>Anny</u>. *<u>Książce</u> opowiadam <u>o Anny</u>. *<u>Anny o książce</u> opowiadam.

The topic-comment dichotomy is of importance when looking at the linear order of constituents in a Polish sentence. *Topic* is often referred to as *theme*, and indicates what the sentence is about; *comment* is also known as *rheme* and provides information about the topic. These are pragmatic functions.

There are two ways in which sentences can be formed by speakers. In agreement with the *theme > rheme principle*, the information focus is expressed in clause final position.

Example:

Anna kupiła książkę.

The *rheme > theme order* (also known as the 'subjective order') accounts for a speaker's choice in ordering constituents in a sentence, depending on his or her subjective attitude to the conveyed information when it is evaluated as unexpected, surprising, or in some way unanticipated. This particular order is characteristic of narrative genres, poetry, journalistic writing, as well as exclamative and optative clauses.

Example:

Książkę Anna kupiła?!

In Polish rheme tends to be placed in the middle of the clauses, rather than at the beginning.

Example:

Anna książkę kupiła.

6.1.2. Word Order in English

English belongs to the family of Germanic languages. It exhibits the basic, fixed SVO word order in declarative sentences. The order is reverted to VSO only in interrogative sentences.

Example:

Anna bought a book. \rightarrow SVO Did Anna buy a book? \rightarrow AuxVSO

Unlike Polish, English does not possess rich verbal morphology. The only instance where the verb is marked for number and person is in the third person singular.

Example:

Anna likes to read.

With the exception of a few personal pronouns, the grammatical case system in English was lost. Syntactic relations of the elements of a sentence are identified based on the word order. In a simple declarative English sentence, the subject is normally the same as the topic – theme. There are also tendencies in the English language for subjects to be topics (Andrews, 1985).

6. 2. Null and Overt Pronominal Subjects - Pro-drop versus Non-pro-drop Feature

The occurrence of pro-drop in a language indicates that the need for an overt subject in a sentence is obviated, since the verb morphology indicates person and number. Languages differ in the way they use pronominal subjects in finite clauses. Some require lexicalization of the subject pronoun, others allow for a non-overt subject, or a null subject. Languages that allow for null-subjects are often referred to as pro-drop, as opposed to those that do not – non-pro-drop.

In some languages, which have rich verbal morphology, the subject pronoun can be inferred from the inflectional agreement on the verb. Italian and Spanish are appropriate examples of such pro-drop languages. However, looking at French, one could assume that due to its equally expressive system of verbal morphology, French should also be a null-subject language, but it is not. Further, languages such as Japanese or Chinese omit subject pronouns despite the fact that they do not have agreement morphology. In addition, there are some languages, for example German, Icelandic and Russian, which exhibit mixed behavior with respect to the pro-drop parameter. This fact suggests that rich verbal morphology is not necessarily a prerequisite for null subjects.

6.2.1. Pro-drop in Polish

In all Slavic languages the verb agrees with the subject in person and number, and all of the Slavic languages manifest null-subject – that is pro-drop. The conditions which allow for it vary from one Slavic language to another. While some of the discussed features of Polish are also true for other Slavic languages, in my typological analysis of features I focus only on Polish as it is one of the languages of interest.

The null-subject parameter has been proposed by Chomsky (1981) as a feature distinguishing languages that require the presence of a subject pronoun from those which do not. Polish and English differ in this respect. Treatment of this feature in respective languages is presented below.

Polish is considered a pro-drop language. It accepts null-subjects in sentences in the past, present, and future tense.

Examples:

Ø Czytam książkę. Ips. sg. to read - present tense a book – Fem. sg. Acc I read a book./I am reading a book.

ø Czytałam książkę. Ips. sg. to read – fem. sg. past tense a book – Fem. sg. Acc I read a book./I was reading a book.

 \rightarrow Ja czytałam książkę

 \rightarrow Ja czytam książkę.

The sentences in the left-hand column are pro-drop sentences. For comparison, the right-hand column sentences contain overt subject pronouns. Any use of personal pronouns, that is non-pro-drop, is subject to discourse-pragmatic principles. Non-prodrop in Polish does not automatically render a sentence ungrammatical, but it is preferential for emphatic purposes, rather than declarative or interrogative clauses.

Examples:

Ja czytam książkę. \rightarrow It is me who is reading a book (not someone else).

Siewierska & Uhlířová (1998) also note that in Polish it is not necessary to overtly state the subject in two adjacent clauses, if the subject was made clear in the preceding clause. The verb will contain grammatical agreement.

Example:

Anna kupiła książkę.	Ona/ ø chciała ją przeczytać.
Anna to buy – past tense a book	3ps. sg. fem. to want – past tense, fem. sg. it – fem. sg. Acc.
	<i>– to read -</i> infinitive
Anna bought a book.	She wanted to read it.

While in the second of the two sentences the use of overt pronominal subject is not a violation of the rules of grammar, it is generally considered redundant.

6. 2. 2. Non-pro-drop in English

English is a non-pro-drop language. It requires overt sentential subjects in tensed clauses. Omission of a personal pronoun at the beginning of an English sentence is allowed but only in the instances of colloquial usage (informal questions and answers) and in the imperative. Subject omission in English is also a matter of discourse pragmatics.

Examples:

I want to buy this book. She wants to buy this book. Do you want to buy this book? \rightarrow (1) Wanna buy this book? \rightarrow (2) Did already! \rightarrow (3) Don't buy this book!

Examples of sentences in the left-hand column all have overt subjects according to the rules of grammar in the English language. Examples on the right, however, present pro-drop in English in utterances where covert subjects are permitted by language pragmatics. The sentence in example (1) is not only an instance of pronoun omission but also of auxiliary verb omission.

In general, in the imperative mood clauses in English, subject is omitted (example (3)). However, an explicit pronoun in the imperative mood is also possible. It is rather a *pro-addition* (as opposed to pro-drop), and it is mainly used for emphatic purposes, as in the following example: (4) *Don't you buy this book!*

7. Implications for Studies on Crosslinguistic Influences

The paucity of inflectional and derivational morphology in English and its strict word order clearly set this language apart from Polish, a language with rich morphological inventory and consequently, a free word order.

Transfer in languages that are typologically similar is harder to detect, whereas in languages that are removed typologically, one can expect or predict certain crosslinguistic influences. Since Polish and English differ in word order and null-subject treatment, one can expect these areas in each language to be more susceptible to crosslinguistic influence. This is precisely why language typology is used as part of the theoretical framework in the examination of the data from my research of bilingual speakers.

Also, since Polish and English are not closely related genetically, it is beneficial, for the purpose of a more thorough examination of transfer, to employ contrastive analysis as another element of the analytical framework. A more detailed picture of L1 - L2 similarities and differences may prove useful in a close analysis of the results of the study and may help to understand them better.

The following chapter continues to lay my theoretical foundations with the introduction and discussion of UG and markedness.

CHAPTER 2

MARKEDNESS THEORY AND UNIVERSAL GRAMMAR

1. Introduction

The present chapter is devoted to theory of markedness, which concept and its genesis are explained in the first part. In the second part of the chapter I present markedness as it pertains to Universal Grammar. The following two sections address the issue of markedness in studies on first and second language acquisition (henceforth SLA). In the section devoted to SLA, markedness is presented as it relates to UG theory and also as it is used in studies based on the theory of language transfer.

2. Markedness

Markedness is a linguistic concept which first developed in the late 1920s – early 1930s out of the Prague School, also known as the Prague Linguistic Circle. At the time the Circle was a group of scholars, linguists, and literary critics, who had significant influence on the field of linguistics and semiotics. The Circle included Roman Jakobson and Nikolai Trubetzkoy, Russian émigrés who became the founding fathers of the markedness theory.

Jakobson and Trubetzkoy were considered the pioneers of East European Structuralism. One of the precepts of their work was the notion of phonological correlations, where the system of language sounds was seen as a series of binary oppositions. These oppositions, in turn, shared a common, defining element (Battistella, 1996). The terms *marked* and *unmarked* were first proposed in relation to the phonemic system. Trubetzkoy (1969) defined the unmarked sounds as connected with neutralization and frequency.

Jakobson's early work on markedness focused on semantic categories. His view on markedness developed around the notion of asymmetry of grammatical features. In this asymmetry, Battistella (1996) writes, "one of the categories focuses on and singles out a more narrowly delimited conceptual feature than the other" (p. 57). The asymmetry is characterized as an A versus non-A relation, where non-A is the unmarked feature; it has the double meaning of opposition to A and indefiniteness at the same time.

According to the definition, theoretical considerations of markedness assume that forms or features more common among the languages of the world are *unmarked*, whereas the less common, or rare, are *marked*. Although the theory was first based on phonological correspondences, it has later come to be extended to other areas of grammar and linguistics. As Jarvis and Pavlenko (2008) point out, definitions of markedness vary depending on different linguistic subsystems.

3. Markedness and Universal Grammar

Theory of Markedness is closely linked with Universal Grammar (henceforth UG). The theory underlying UG assumes that language is composed of a set of principles that set apart core grammars of all natural languages and parameters. Whereas principles are invariable, parameters vary across languages and are dictated by principles.

According to Noam Chomsky, who is credited with the formation of the theory of universal grammar, human ability to acquire a language is genetically determined. Each child beginning to learn a language possesses Universal Grammar in his Language Acquisition Device. The latter is viewed as any other biological organ that grows and develops with time.¹ The emergence of language itself and each child's ability to succeed in acquisition of any human language is governed by that set of innate principles. The principles are believed, in theory, to be available to all languages; the individual languages, however, determine which of the UG principles are accessed, therefore determining which of the parameters are to be set (Mazurkewich, 1985). The setting of parameters is contingent upon the core grammar and the periphery to the core. In UG core grammar is determined by setting the *unmarked* UG parameters in a permitted way; peripheral grammar contains the set of *marked* elements outside of the core. The concept of parameter markedness and parameter setting has been central to studies about language typology, acquisition, and also transfer.

¹ This is a metaphor on language organ.

4. First Language Acquisition and Markedness

4.1. UG-Based Approach

The original interest in Universal Grammar began to move from UG's role as a general linguistic theory to that of "a description of the initial stage of a hypothetical language learner" (Battistella, 1996, p. 127). Since universal linguistic principles along with the theory of markedness were believed to determine the core grammar, markedness became the focal point of the studies. According to the prediction of the theory of markedness, Mazurkewich (1985) remarks, "as soon as the linguistic input triggers a learner's awareness of the existence of a core rule in the grammar, that rule not only would be learned easily, but it would be learned on the basis of minimal exposure to that language as it is predicated on a principle of UG" (p. 16). The periphery, marked rules, will be learned based on positive evidence present in that language. In other words, while in the course of the first language acquisition process unmarked aspects of language grammar arise naturally with no particular effort on the part of a learner, acquisition of marked aspects is thought to involve not only more effort but also more evidence.

As one of the best-defined parameters across languages (Liceras, 1988), the prodrop parameter has come to serve in many studies as a test case for the acquisition of principles and parameters first among monolinguals and later also among bilingual speakers. Paradoxically, there is no consensus as to which indeed is the core universal parameter – pro-drop or non-pro-drop. Chomsky (1986) points out that parameters must have the property of being easily fixed since children set them based on simple evidence. Consequently, many of the initial studies on parameter setting, mainly the pro-drop parameter, first looked to children's speech for answers.

Jaeggli and Safir (1989) believe that the crucial property, which determines null subject licensing, is *The Null Subject Parameter*. Their definition of this parameter is as follows: "Null subjects are permitted in all and only languages with morphologically uniform inflectional paradigms" (p. 29). They further explain *Morphological Uniformity* by stating that: "An inflectional paradigm (P) in a language (L) is morphologically uniform if P has either only underived inflectional forms or only derived inflectional forms" (p. 30). That is, for a paradigm to be uniform either all forms need to be morphologically complex or none. In the case of a mixed paradigm, since only some of its forms are morphologically divisible into stem and affix, they are not uniform.

Children acquiring English, a non-pro-drop language, frequently omit subjects in their sentences. This linguistic phenomenon has spurred many researchers (P. Bloom, 1990; Valian, 1991; Wang *et al.*, 1992; Hyams, 1986; Hyams and Wexler, 1993; P. Bloom, 1993; Hamann and Plunkett, 1998) to take a closer look at null subjects and to analyze their appearance in early child speech. While some scholars, based on their research, think that pro-drop in monolingual-child speech can be attributed to a subject parameter setting (Hyams, 1986; Wang *et al.*, 1992), others seem to favor the idea of processing constraints (Boster, 1994; Freudenthal *et al.*, 2007), performance limitations (Bloom, 1990; Valian, 1991), and immature or incomplete child grammar (Hamann and

Plunkett, 1998), as valid or additional factors in explanation of subject-pronoun omission. Others still take grammatical approach as the most explanatory account of the pro-drop occurrence (Hyams and Wexler, 1993).

Hyams (1986) proposes that all children start with the pro-drop parameter. That would mean that children speaking pro-drop languages such as Spanish or Italian do not need to reset their parameters. However, in the case of non-pro-drop languages such as English or French, the parameter for a non-null subject would need to be switched. Hyams's findings are later disputed by Bloom (1990), where the non-pro-drop parameter is seen as the initial one.

In their study, Wang *et al.* (1992) analyzed null-subjects in Chinese- and Englishspeaking children with the intention of closer evaluation of Jaeggli and Safir's (1989) proposal. The notion of an initial parameter setting allowing null arguments is the point of departure for their study. Young speakers must later adjust this setting, according to the evidence from the language they are exposed to.

The study involved nine Chinese-speaking children, ages 2;0 to 4;6, and nine English-speaking children, ages 2;5 to 4;5, and consisted of story elicitation. The researchers compared the utterances to see the null subject parameter application in both language groups. Based on the results, the authors state: "The evidence is strong that both Chinese- and English-speaking children have a grammar that allows null subjects at an early age, because they were both using null subjects even at the age of 2. [...] For the Chinese children, because the adult language allows null arguments, no change will have to be made in their parameter setting. However, for the English-speaking children, a

parameter will have to be reset on the basis of evidence for [pro-drop] from the linguistic environment" (p. 247).

Proponents of UG parameter setting seem to find that pro-drop is the core parameter. However, as described below, many of the researchers who have analyzed the pro-drop parameter in child speech come to the conclusion that it is not so much the core parameter setting as language performance limitations and processing constraints that are responsible for subject pronoun omission in young language learners' speech.

The following section discusses alternative approaches presented by scholars who worked within the UG framework. In spite of their origins, the findings lead the researchers to believe that factors other than parameters alone may be at play in the acquisition of pro-drop.

4.2. Alternative Approaches

Bloom (1990) offers an alternative to the parameter notion saying, "children acquiring languages like English represent the correct grammars from the very start but omit subjects because of performance factors" (p. 491). In other words, children experience performance limitations. Constituent dropping can be contingent upon such factors as the length of the intended utterance or pragmatic matters. He believes that the pro-drop hypothesis requires linguistic sophistication, which young speakers do not possess.

Bloom's study included a speech analysis of three children. With respect to length of utterance, he found that children apply pro-drop when sentences they produce have a longer verbal phrase (henceforth VP). Another explanation Bloom offers for null subject omission in longer VPs was once consistent with the pro-drop hypothesis – which is that the subject will be omitted when the meaning of the omitted subject can be inferred by the listener from the context. Since there is more information contained in a longer VP, its subject can be rendered unnecessary to a child speaker.

Bloom does not ultimately negate the possibility that English speakers possess a pro-drop grammar. Nevertheless, he concludes his article by saying: "the hypothesis that children represent pro-drop grammars led to some very interesting theoretical and empirical speculation. However, all the evidence fails to support this hypothesis. Instead, it seems that children acquiring English omit subjects because of performance factors and that all children initially represent non-pro-drop grammars" (p. 502).

As far as the hypothesis presupposing the non-pro-drop parameter precedence, Bloom thinks that for the pro-drop language speakers, this would warrant parameter switch very early on in development. Valian (1991) provides a closer look at children in a pro-drop linguistic environment.

Valian's study (1991) of Italian- and English-speaking monolingual children aims to shed light on the question of child utterance length with attention to null subject, or lack thereof, as well as on the licensing parameter of null subjects. In order to account for missing constituents Valian offers competence and performance explanations, since both can be deficient in a child's language. Performance limitations can be factors such as memory, lower efficiency in production – shorter sequences, *mean length of utterance* (henceforth MLU) correlation, higher processing load sentence-initially, characteristics of input, and prosodic effects.

For English-speaking children, vernacular subject omission at the beginning of a phrase, expletive and pronoun alike (*Seems it's going to snow today; Want some coffee?*), can provide for very confusing input data. Children might be misled into thinking that both situations are plausible.

Valian's study constituted an analysis of spontaneous speech of Italian- and English (American)-speaking children. She contrasted their speech looking at the frequency of null subjects to see whether children who are speakers of opposing (in prodrop nature) languages treat the two languages the same or if they will display differences. Her findings show that Italian and American children with MLU > 2.0 do not use subjects with the same frequency. American children used subject pronouns twice as much as Italian. The English-speaking children appeared to understand overt subject requirement in their language; the Italian children produced subjects in the minority of their utterances. Valian, similarly to Bloom, claims that similarities in null subject production in utterances with MLU < 2.0 can be attributed to performance limitations.

Furthermore, she also adds: "Performance factors must play a role in production, regardless of the child's target language. The question is how those factors interact with children's knowledge to produce the observed patterns of use" (p. 79).

Hamann and Plunkett (1998) conduct a longitudinal study of two Danish children with the aim of analyzing the pro-drop application in their speech. Since Danish is a nonpro-drop language, the researchers attempted to find how best to account for the omission patterns in Danish children's speech and to propose an explanation for this occurrence. Their findings were consistent with those of Bloom (1990): Danish children drop subjects due to the factors of pragmatic and grammatical processing.

Boster (1994) opposes the idea of a pro-drop parameter setting stating that crosslinguistic differences between languages account for differential patterns of subject and even object omission in the speech of children learning Chinese vs. English or vs. Italian. She designed a developmental sentence generation model, FELICITY. This model emulates early child language output and is implemented computationally. The main reason behind its design is an attempt to determine whether the null-subject phenomenon in early child language can be accounted for by an incorrect initial setting of parameters, by processing limitations, or by an interaction between parameter setting and processing.

The proposed model assumes a modular approach. The intended message-input consists of all the necessary simple grammatical and syntactic information (tense, verb, agreement, patient, goal, etc.). In order to generate three levels of output – semantic, syntactic, and phonological, this input must go through three corresponding processing modules: semantic, syntactic and phonological. "[In] a modular system there exist a number of possible loci, where a processing 'bottleneck' could occur' (p. 44). Output is an algorithm controlling processing capacity product of the syntactic component. Null subjects are likely to emerge within the syntactic component, as a result of a breakdown in analysis. Boster claims that this model "accounts for the null-subject phenomenon in

early child English speakers as the result of a specifically linguistic processing overload effect" (p. 51).

Another computational model of language learning, MOSAIC (Model of Syntax Acquisition in Children), was described by Freudenthal *et al.* (2007). The model is used to simulate child language data. Its three processing limitations are sensitivity to frequency, sensitivity to utterance length, and sensitivity to sentence position. It learns from child-directed speech and produces output consisting of actual utterances. Output files are created by production of the utterances that the model was able to create after each presentation of input. Input is presented several times. The output MLU of the model progressively increases with each consecutive run of the model. In order to make a comparison between children's and the model's output, the model output files which most closely matched the children were analyzed. The analysis was conducted in the same manner as an analysis of the utterances in the child data.

The aim of the authors' research was to replicate Bloom's (1990) findings. And indeed, they were replicated. Processing limitations proved to be responsible for subject omission in early child speech production. However, as the authors point out, one must not forget the fact that the model presents an oversimplified account of child language processing. In addition, the results suggest that Bloom's findings do not directly point to children's existing underlying competence. They are, nevertheless, compatible with an explanation in terms of processing limitations in learning.

Although there does not appear to be any kind of general consensus as far as the core pro-drop vs. non-pro-drop parameter is considered, the authors of the

abovementioned research are all of the opinion that processing and performance limitations in early child language play a significant role in subject pronoun use and its frequency.

Hyams and Wexler (1993) propose yet another approach to the null subject parameter issue. The authors state that grammar of particular linguistic structures accounts for null subject use and it can also account for intermediate stages of development. Their work is a response to Bloom's (1990) claim that children omit subjects due to processing constraints. Hyams and Wexler strongly disagree with Bloom, as they support the null-subject *unmarked* setting. They look again at the speech of the three children discussed by Bloom in his article and arrive at conclusions different than Bloom's. They find processing accounts unconvincing, since context can be informative with respect to any constituent, and processing does not need to be limited to a particular part of the utterance. They purport that the frequency of pro-drop (in English – a non-prodrop language) decreases with the acquisition of linguistic properties such as inflection, sentence-external negation, and postverbal subjects. In Hyams and Wexler's opinion, "the grammatical approach to null subjects provides the tightest fit with the statistical data [...], and the most explanatory account of the phenomenon" (p. 422). Although performance factors may certainly play some small role in subject encoding, the authors state that grammatical explanation is the most appropriate for this phenomenon.

Another gap in the research presented above is omission of mixed pro-drop languages. Some languages belong to neither of the two categories (pro- and non-prodrop), but rather constitute a group of their own – mixed. Some of the closely observed examples are Finnish and Hebrew.

Vainikka and Levy (1999) look at the ramifications of pro-drop in Finnish and Hebrew. The authors approach the topic of null subject not from the point of view of language acquisition but rather of more formal syntactic analysis. Unusual subject omission patterns in the two languages challenge the binary division of languages into pro-drop and non-pro-drop.

In Finnish, first and second person pronouns are optional, while the third requires an overt subject. Hebrew allows for pro-drop in past and future tense in the first and second person; a third person pronoun is obligatory, as are all personal pronouns in the present tense. Subsequently, neither Finnish nor Hebrew falls into the traditional, canonical categories of pro-drop. Instead, they exhibit mixed null subject behavior and, according to Vainikka and Levy, ought to be considered in a category of their own. Their research is mentioned here merely to illustrate the argument that, in order to better understand null subject occurrence and elucidate the core parameter matter, more languages need to be included in the actual research.

Defining the core parameter seems to be a challenging task, one requiring even more research, with a wider breadth of languages and even language combinations (i.e. pro-drop and mixed pro-drop). Focusing on one language at a time can lead to partial findings. Hyams (1986) and Wang *et al.* (1992) suggest the initial pro-drop parameter; Bloom (1990) argues for a non-pro-drop setting. Wang and Bloom look at English in their research and arrive at contradictory conclusions. What their findings do have in common, however, is the significance of performance and processing limitations also delineated as essential to language acquisition study by Valiant (1991), Hamann and Plunkett (1998), Boster (1994) and Freudenthal *et al.* (2007). Grammatical explanation for null subject proposed by Hyams and Wexler (1993) can also be seen as a compelling argument.

The studies mentioned earlier in this chapter analyzed monolingual children – speakers of pro-drop and non-pro-drop languages. The results were compared to present and elucidate the topic of contention better. Apart from rather obvious observations, not much agreement was reached with regard to the null subject parameter setting itself. The following part of the chapter discusses findings from bilingual studies.

The research findings provided above, however contentious and non-conclusive, are no doubt of great value to the domain of language acquisition. From Bloom's observations to the computerized models of Boster (1994) and Freudenthal *et al.* (2007), each study supports one theory and challenges another. Nonetheless, it seems that the scholarship could benefit from including other language groups in the studies. The majority of research, it appears, focuses on English and a few other Germanic and Romance languages, and Japanese and Chinese. Also, most of the early child speech examination concerns itself predominantly with monolingual children. Certainly, looking at other pro-drop and non-pro-drop languages could be as informative as retesting null-subject in English, if not more.

5. Second Language Acquisition

The following section of the chapter addresses the theory of markedness as it was applied to studies on second language acquisition. Although originally in SLA studies markedness was pursued as a UG concept related to core and periphery grammar, it has also been approached as a possible method to explain the phenomenon of crosslinguistic influence observed in L2 speakers. Language transfer, as it becomes apparent in the discussion below, cannot really be excluded from any SLA studies. However, in the interest of underlining these two approaches to markedness in SLA, the subsequent discussion addresses them separately.

5. 1. SLA, UG, and Markedness

UG theory has not been constructed specifically with the intention of explaining the process of second language acquisition or its intricacies. However, since it was used to explain L1 acquisition and pointed out structural properties of the world's languages, it has received much attention from scholars working in the SLA field who believed that if UG is involved in the process of second language acquisition, then L2 behavior can be analyzed within the system of properties inherent to the human language faculty (Towell & Hawkins, 1994). What is more, the proponents of the UG framework believe that a closer analysis of UG's role in second language acquisition could possibly further deepen understanding of the parametric setting in first language acquisition.

The pro-drop parameter also became a subject of interest to many scholars in the area of second language acquisition (White, 1985; Hilles, 1986; Phinney, 1987; Phinney,

1987; Hyams, 1989; Liceras, 1990). Their main objective was to investigate whether UG and its parameters play any role in L2 acquisition – that is how speakers of two languages which contrast in the use of subject pronoun reconcile the differences, and whether the pro-drop parameter is transferred from L1 to L2. The SLA studies on null subject indicated that in the case of some languages (e.g. Spanish L1/English L2) the pro-drop parameter could be transferred to L2.

Since theory of markedness is closely linked to the parametric view of language (Chomsky 1981), SLA looked at pro-drop not only in the context of parameters but also of markedness. The assumption among the SLA scholars is that L2 learners tend to acquire unmarked language features first (Liceras in Gass and Schachter, 1989), since they are part of core grammar. Peripheral aspects, on the other hand, which are idiosyncratic features of a particular language and exceptions to the core grammar, are acquired later.

Both White (1985) and Phinney (in Roeper and Williams, 1987) observed adult Spanish speakers learning English in order to analyze the L1 pro-drop parameter influence on L2 acquisition. White's study (1985) showed that pro-drop transfers to English, and that students fail to provide phonologically overt subjects. She concluded by saying that, "having to change a parameter of UG causes problems for language learners and [...] this is a source of transfer errors, particularly at lower proficiency levels" (p. 60). White does not seem to support the notion of pro-drop unmarkedness but makes no claims in support of other hypotheses. Phinney's research (1987) also included native speakers of English learning Spanish. Phinney's findings with regard to native Spanish speakers revealed similar observations to those made by White. Conversely, English subjects learning Spanish seemed to have no problems with parameter switch. Here, Phinney notes, markedness seems to be the main factor contributing to a smoother and faster parameter resetting – English speakers move from a marked setting (non-pro-drop) to an unmarked one (prodrop).

Hilles (1986) also looked at pro-drop and its parameters within a learner's interlanguage. Her observations lead her to believe that the difference in the parameters between L1 and L2 is definitely at play in the first stages of L2 acquisition. This parameterized UG system with possible unmarked status of pro-drop, according to Hilles' findings, can have implications for transfer, fossilization, and L2 pedagogy.

Finally, Liceras (in Gass and Schachter, 1989) investigates the null subject parameter of Spanish by evaluating French and English speakers learning Spanish. Her results indicate that, "most Spanish L2 learners do not start with the L1 setting in the case of null subjects. Namely, the English non-pro-drop option is seldom transferred into their interlanguage" (p. 129). Liceras is of an opinion that the above results provide evidence for the unmarked status of the pro-drop option.

Findings of the studies above do not offer an unambiguous interpretation of prodrop markedness status. The vast majority of research conducted to define the core parameter setting for subject pronoun seems to have included mainly monolingual children or bilingual adults, and their results were also non-conclusive.

5. 2. SLA and Markedness – Exploring Reasons for Transfer

A child learns "the language of the community rapidly, effortlessly, uniformly, and successfully" (Towell & Hawkins, 1994, p. 60). Acquisition of L1 grammars is virtually the same in all languages. What is different is the variation due to parameter setting. A child begins the task of language learning with the innate human language faculty structure and subconscious knowledge of the form of the human grammar. What this child has to learn however, are the features that vary between languages.

For the field of SLA the above observation meant that acquisition of L2 is similar to the process of L1 acquisition. L2 learners already possess the language system of L1 but need to learn the setting of the L2 parameters. As much as this observation seemed true, there still existed differences among the L1 and L2 learners. One of these differences was language transfer. It has been observed that L2 learners transfer the parameters setting of L1 into their L2 grammars. Second language learners "project the core grammar of their language on the basis to the principles and parameters of UG" (Liceras, 1990, p. 109). The peripheral – marked – aspects of grammar emerge later in the process of second language acquisition. Such projection speaks to the fact that L1 not only plays a role in the acquisition of L2, but also contributes to mistakes language learners make in their L2.

To elucidate the matter of language transfer, the SLA scholars looked to UG; markedness received a great deal of attention as the foundation for their studies and possible explanation of transfer. It was believed that markedness of particular forms and structures in native language (NL) and target language (TL) can be linked to directionality of error occurrences and thus transfer. In other words, unmarked-marked direction has more potential for error than marked-unmarked pattern. Also, most of the research pointed toward the fact that unmarked structures in TL are acquired faster and with more ease than marked structures, regardless of learners' L1. SLA then proposed different kinds of approaches to markedness; some of them considered the theory as rooted in its UG foundation, others assumed its separateness from UG.

Eckman (1977) talks about typological markedness, derived from the main principle behind the Contrastive Analysis Hypothesis (CAH), as a way of explaining the issues learners are faced with in second language acquisition. According to Eckman, the comparison of native and target languages is crucial in predicting the difficulties that a language learner will face. This comparison alone, however, is not sufficient to predict the degree of difficulty for a second language learner or even the directionality of difficulty. Eckman proposed then that typological markedness, which is applicable crosslinguistically, be incorporated in CAH. Markedness, according to Eckman (1977) is defined as follows: "A phenomenon A in some language is more marked than B if the presence of A in a language implies the presence of B; but the presence of B does *not* imply the presence of A" (p. 320).

Based on his definition of markedness, Eckman proposes the Markedness Differential Hypothesis (MDH). In accordance with the said hypothesis, systematic comparison of NL, TL, and UG markedness relations can help to predict the areas of difficulty that a particular language learner will have; that means: 1) the areas of difference between the TL and the NL which are marked in the TL will be more difficult; 2) the areas of relative degree of difficulty, more marked in the TL, will correspond to relative degree of markedness; and finally, 3) the areas of the TL which differ from the NL but are not more marked than the NL will not be difficult. In other words, the areas of difficulty are predictable from markedness relations.

White (1987b) discusses markedness and its two definitions – linguistic and psychological. The first one is a UG based term. The second, White writes, has been suggested by Kellerman (1983). Since markedness involves psychological factors leading to acquisition and processing difficulty, there must also exist psychological markedness. Less frequent language features will have psychological correlates, which will influence learners' behavior. Kellerman remarks that adult speakers have a sense of what is marked in their native language, and this linguistic perception determines what is likely to transfer to L2.

It has been proposed, contrary to this theory, that marked forms will be transferred as language learners are predisposed to transferring by their previous linguistic experience. White (1987b) assessed this hypothesis by testing adult and child learners of French as a second language. Conducted tests were created in the form of grammaticality judgment tasks on two marked structures, preposition stranding, and the double object construction, which are grammatical in English but not in French. The results showed that second language learners did not accept preposition stranding in French but accepted the double object construction. This suggests that transfer takes place only with one of the two marked structures. In addition, the author writes, the children who took this test in their native language did not treat marked and unmarked structures differently. These findings, White claims, indicate the need for further research on markedness.

In her other article White (1988) looks specifically at the role of Universal Grammar in language transfer. The author thinks that UG indeed has "the potential to provide an explanation for certain aspects of second language acquisition" as well as "predict a certain range of transfer phenomena" (p. 37). Differences in universal principles of various languages are represented by the parametric variations. Since language can have different parameters, acquisition of L2 can certainly differ from L1 acquisition. The same parameters do not bring about changes in language processing but, unlike parameters, provide learners with conflicting evidence. "In situations where it is really necessary to reset parameters, the learner may have particular difficulties, reflected in the transfer of the L1 value, and hence in the incidence of interference errors" (p. 43). Based on this reasoning, White formulated the following predictions:

a) L1 and L2 have the same principle, set in the same way: no transfer problems;L2 acquisition may proceed in a manner similar to L1.

b) L1 does not have some principle activated in L2; L2 data will motivate the relevant principle. Learner might assume identical L2 and L1 principles.

c) L1 and L2 have a principle set in different ways; some transfer may occur from L1 to L2. Learner must realize incorrect principle.

d) L1 has some parameter set at + value while L2 has the same parameter set at – value; some transfer from L1 will occur. Learner must realize the parameter is not applicable in L2 (p. 44).

The author remarks that interlanguage (henceforth IL) grammar should not violate UG principles, even though the appropriate TL parameters are not used. It is the possibilities of parametric variation that should set the limits to allowable IL grammars. In those instances where the wrong TL parameter is chosen all structures associated with it should be affected; similarly, restructuring IL grammar to the appropriate parameter should also affect these very structures. White concludes that this view of UG "predicts a network of related changes in learner grammars" (p. 48).

Zobl (1989) looks at markedness constraints (outside of UG confines) in language acquisition and at the role prior linguistic experience plays in second language acquisition. The author proposes three assumptions about L2 acquisition: 1) the course of acquisition to the mature-state grammar comprises of a sequence of systems Gi,, Gm; 2) the transitions of the course have the following progression G_{i+1} ,... Gm, where the learner adds marked properties to the original assumptions of G_i ; 3) in the process toward Gm the acquisition faculty is guided by a markedness evaluation procedure leading to advance via minimal grammatical changes. These assumptions suggest that: "the learner aims to avoid radical changes and remain maximally consistent with the antecedent grammar" (p. 141). That means there are no formal constraints on two successive grammars other than the formal theory of grammar.

The implications of the above assumptions point to potential influence of L1 experience on L2 acquisition. Zobl looks at evidence that supports that claim. Additionally, the author claims that: "prior linguistic experience is capable of altering the markedness evaluations procedure for effecting marking changes" (p. 142). Looking at

negation use in English L2, in Spanish L1 and French L1 learners, Zobl noticed that the difference in the preverbal negation systems in the L1 influenced its acquisition in the L2; that is, the Spanish preverbal negation is more general than it is in English and French, and this experience surfaces in a difference in markedness – it is less marked. Another important finding on the influence of the L1 on markedness came from the data of a Chinese-speaking child and a Spanish-speaking child and marking definiteness. To mark definiteness, the first child first replaced the definite articles with deictics – present in the Chinese language; the second child used articles – also present in Spanish. The above examples show three kinds of examples of prior linguistic experience on the relationship between input and grammar-forming faculty.

Zobl also takes another angle in looking at markedness. When a learner is prompted by his or her prior linguistic experience and decides to adopt a decidedly marked rule prematurely, constraints are violated and the further acquisition process will be contingent upon the learner's dropping the L1-informed marked rule. This premature markedness violates the acquisitional markedness relation. Transfer, Zobl sums up, is subject to markedness constraints, the form of the learner's developmental grammars, and language distance. "The transfer of prior linguistic experience to the acquisition process is sharply limited by the dynamics of the rule-creation which proceeds from unmarked to marked properties and which represents a biological constraint on how languages can be acquired" (p. 157).

Ultimately, *Markedness Theory* has failed to contribute to sound justification for transfer. The studies do not clarify when and how markedness interacts with transfer and

other factors (Jarvis & Pavlenko, 2008). Earlier scholarship within the UG framework suggesting that marked structures do not transfer (Hyltenstam, 1984) has been disproved. Alas, the evidence that called these suggestions into question also has not provided a satisfying conclusion.

In the 1990s the field of SLA rejected markedness in favor of *the subset principle* introduced within the theory of Principles and Parameters by Berwick (1985) and later discussed by Manzini and Wexler (1987). The subset principle, unlike markedness, is a learning principle associated with UG and based on its premise that a learner only sets parameter values on the basis of information obtained directly from input. This principle has since proved to be redundant, since L2 learners encounter difficulties in the areas where their L1 has a superset principle for a given feature, and positive input evidence is not available to facilitate resetting of the parameters. The difference in L1 and L2 parameter setting leads to incompleteness in L2 acquisition.

Despite her strong position on the unmarkedness of pro-drop, Hyams (1986) comes to question the very idea of using markedness as a way to explain language acquisition. As the author points out, it is questionable whether the initial setting indeed represents the 'unmarked' parameter. Looking at language markedness purely from the point of view of language learning and its developmental sequence further calls into question the legitimacy of markedness as a basis for understanding L1 and L2 speakers' grammars.

Validity of markedness as a theory to explain language transfer has been questioned as well. Differences between languages do not always result in transfer; similarities do not always facilitate successful acquisition of L2. Also, various ways of defining the very concept of markedness obscure its application in SLA studies. Markedness can be understood as part of UG (White, 1988), or as part of a contrastive analysis of two particular languages in question (Eckman, 1977; Liceras, 1990). It can also be approached from a psycholinguistic point of view (Kellerman, 1983; as quoted in White 1987, p. 265) – a view that seems rather unsound as it presupposes all learners of a particular language would have similar metalinguistic awareness and/or cognition of linguistic systems of their language. Finally, markedness can be linked to the learner's prior linguistic experience (Zobl, 1989). There is no consensus, it seems, as to what kind of 'markedness' would best account for transfer of L1 features to L2: universal, typological, interlingual, or intralingual?

What markedness does offer are some generalizations, which can subsume transfer phenomena. It may point to probable tendencies or predispositions second language learners may exhibit, but it fails to identify the underlying causes of transfer. In other words, *a priori* application of markedness theory does not really offer a sound theory; *a posteriori* use of markedness, conversely, is more likely to aid in the analysis of research findings.

More recent studies in bilingualism show not only that an individual's L1 can influence L2 but also that this process of linguistic transfer can work in the opposite direction $L2 \rightarrow L1$ (Pavlenko and Jarvis, 2002). Looking at the bidirectionality of transfer and the issue of markedness among languages, it becomes apparent that answers to application of parametric UG theory must be revised, and that the application and transfer

of, for example, pro-drop lies far beyond the realms of findings based on monolingual subjects.

Hereafter, with the exception of any specific mention in literature review, I refer to the pro-drop/non-pro-drop parameter as a feature, so as to indicate that its further analysis does not focus on Universal Grammar theory. Instead, pro-drop is analyzed within the framework of language transfer – the primary topic of the following chapter.

CHAPTER 3

LANGUAGE TRANSFER

1. Introduction

As previously mentioned in Chapter 2 on markedness, differences observed between speakers and their speech patterns in L1 and L2 attracted attention of SLA scholars. One of these interesting dissimilarities was language transfer also referred to as crosslinguistic influence (henceforth CLI). This chapter is fully devoted to the topic of language transfer, its theoretical approaches, as well as empirical studies on crosslinguistic influence. One of the approaches discussed is markedness. I briefly revisit the topic of markedness, explain why and how it is related to transfer, and why it failed as the chief approach in research on CLI.

The chapter begins with a thorough definition of language transfer and its categories. Next, I briefly address the topic of code switching, another SLA phenomenon which not only is important to the entirety of this work, but also causes some controversies in the field of SLA. Subsequently, I offer a section on theoretical and methodological approaches to transfer and a brief discussion of their strengths and weaknesses, which leads to the discussion of transfer directionality. This section, in turn, is followed by extensive review of literature discussing studies on transfer in bilingual

adults and children, as well as their contribution to CLI scholarship. In conclusion, I offer the reasoning behind selecting transfer as the chief approach in my own study, as well as a definition of language transfer I choose to adhere to.

2. Second Language Acquisition

Second language acquisition (henceforth SLA) is a relatively young branch of the field of applied linguistics. Its history spans no longer than the past 50 years. SLA focuses on the study of the acquisition of a non-primary language – that is a language other than the native. By looking at language learners, SLA attempts to understand how they create new language systems, how they reach a point of fluency, if at all, and what particular obstacles they face during the course of acquisition. SLA tries to understand the processes and patterns which accompany particular learners, to identify the rules of the second language they may deduce or create for themselves, and identify those similarities and differences which language learners share and the ones which set them apart. Due to the nature of its research goals, SLA is an interdisciplinary field, which draws from and contributes to such areas as linguistics, psycholinguistics, discourse analysis, conversational analysis, sociology, sociolinguistics, and education. Within only half a century SLA produced much scholarship and informed other branches of applied linguistics, first language acquisition included. Since influences of L1 on L2 are evident, the role of the native language in the acquisition of a second language has been closely looked at, and with time has become the sub-field of SLA known as language transfer (Gass & Selinker, 2008).

2. 1. Code Switching

Any detailed discussion of language transfer should not neglect another matter concerning language contact, which is code switching. While the two linguistic phenomena share elements in common and appear to be identical, SLA scholars purport their separateness. Odlin (2009) comments on the fact that the definitions of code switching and transfer alone fail to illustrate the difference between them.

According to Myers-Scotton's (2008) definition, classic code switching "includes elements from two (or more) language varieties in the same clause, but *only one of these varieties is the source of the morphsyntactic frame for the clause*" (p. 241, emphasis in the original). That means one of the languages provides the frame – i.e. is the Matrix Language, while the other participating language is the Embedded Language. Furthermore, in order to engage in code switching, speakers must be proficient enough in the Matrix Language to adhere to the well-formedness rules of that language.

Next to *classic code switching*, Myers-Scotton distinguishes also *composite code switching*. The author explains it as "bilingual speech in which even though most of the morphosyntactic structure comes from one of the participating languages, the other language contributes some of the abstract structure underlying surface forms in the clause" (p. 242). Code switching can be *inter-sentential* (between sentences), *intra-sentential* (within sentences) with its special subtype *intra-clause* switching (between two clauses in a sentence).

As far as code switching foundations and Matrix Language Frame (henceforth MLF) are concerned, the two languages in question do not participate equally in the
component structure. There also exist limitations on the involvement of each language with respect to the morpheme types coming from each of them. As a final point, the third principle of MLF is that while the Matrix Language is more activated, both languages are always activated when a speaker engages in code switching. In conclusion, the author states, code switching is not a random linguistic occurrence; speakers mix words on a principled basis.

The last two stipulations of code switching, bilingual activation and regularity of language mixing, are pivotal to the ensuing discussion on language transfer and to arguments supporting the difference in nature of the two linguistic occurrences. Similarly, the types of code switch occurrence must be considered in the transfer/code switching distinction.

In bilingual children's speech code switching is often referred to as code mixing, and some scholars use these terms interchangeably. Similarly here, throughout this dissertation, both terms are used to denote any explicit changes at the lexical level, that is, incorporation of L2 lexical items into L1 discourse and vice versa.

2. 2. Transfer and Code Switching Debate

An extensive description of transfer is provided further in this chapter. For now, I briefly introduce this phenomenon to delineate the dissimilarities of transfer and code switching.

Odlin (1989) states that transfer "is the influence resulting from the similarities and differences between the target language and any other language that has been previously (and perhaps imperfectly) acquired" (p. 27). In his later article, Odlin (2009) discusses transfer and code switching in order to elucidate the difference between them. The author indicates that a wider range of linguistic behaviors falls into the category of transfer, and while in code switching language differences are overt, the same cannot be said about transfer. The covert nature of transfer requires special methodological approaches to study and analyze it.

For example, observing groups of learners who are speakers of different native languages performing the same tasks can facilitate recognizing positive or negative transfer. Also, language user and interlocutor characteristics must be taken into consideration in any study of transfer and switching. The main stipulation of code switching is that both interlocutors have knowledge of both languages. If the target language is their only common language (for one or both speakers), however, the grounds are set for transfer rather than for switching. What is more, Odlin points out, in cases where native language lexical item or syntactic construction is the only one a speaker knows, there can be no transfer or switching.

Crucial to distinguishing transfer from switching is, Odlin purports, defining their respective constraints. So far, proposed theories of transfer, such as *Processability Theory* (stating that language transfer is constrained by the capacity of a language learner's processor, irrespective of typological distance between languages) or *Competition Model* (the claim that whatever can transfer will) have more of a predictive character than a determined theoretical function.

Marian (2009) discusses possible constraints on transfer and code switching. While the former appears to be rooted in representational/conceptual phenomena, the latter seems rather to have its origin in lexical access phenomena. Additionally, the author states that nouns appear to be more susceptible to code switches, while transfer seems more common for verbs. She concludes by saying that different patterns of occurrence which two phenomena exhibit can result from crosslinguistic interaction taking place at different levels of cognitive processing.

Additionally, Grosjean (1998) proposes that language transfer be looked at in conjunction with a speaker's language mode. Language mode, he explains, is a state of activation of the two languages and language processing mechanisms of a bilingual person. A bilingual speaker can be either at the monolingual mode end of the continuum when only one of the languages is activated and at the fully bilingual, when both of the languages are in use. The degree of activation of each language is crucial in analyzing language transfer, since some of the interferences may be inappropriately labeled as transfer, while in fact they are rather examples of code switching.

Herein lies another clear distinction between transfer and switching. Whereas in code switching both languages must be activated, occurrence of transfer is contingent upon the language mode activation.

Code switching seems to be easier to define than transfer and unquestionably so in bilingual adults. Bilingual children's code switching, by comparison, has been a point of contention among SLA scholars. Redlinger and Park (1980) (as cited in Odlin, 2009, p. 344) argue that bilingual children who do not possess awareness of the distinction of the two languages cannot in point of fact be considered bilingual. When such declarative knowledge of languages is lacking, examples of mixing should not be interpreted as transfer or switching.

Genesee (1988) uses the term code mixing in reference to bilingual children's code switching. He contends that whereas adult code switching is sophisticated, rule governed, and can fulfill sociolinguistics functions, language mixing in bilingual children is seen as an interaction of the two developing language systems.

Müller (1998) upholds that children's code switching, unlike that of adult bilinguals, is not constrained by sociolinguistic and grammatical rules. This estimation is disputed by the following study.

In the opinion of Paradis *et al.* (2000), who analyze code mixing in bilingual children, the said phenomenon is not an evidence of a unitary linguistic system, but can, nevertheless, provide a window to the developmental process in bilingual first language acquisition. The existing studies on this subject, which the authors refer to, present some problems with regard to grammatical category classification of the words children mix. They indicate, however, that in general bilingual children's code mixing shows similar trends to that of bilingual adults. A study carried out by Lederberg and Morales (1985) (as cited in Paradis *et al.*, 2000, p. 246), points to the fact that older children (8 – 10 years old) accept different kinds of mixing elements than do adults. That may be a result, the authors contend, not of developmental changes but rather of the ability to make acceptability judgments. Paradis *et al.* refer also to Meisel (1994), who argues that children undergo a stage in their grammatical development where their words are not

constrained by linguistic principles with the inclusion of code mixing principles. Meisel calls it a *grammatical deficiency hypothesis*.

Paradis *et al.* conducted an analysis of the data gathered by other scholars during longitudinal studies on fifteen bilingual French-English children. These children were studied from the age of 2;0 till the age 3;6. The authors looked at their adherence to structural constraints of code mixing. They chose the MLF model proposed by Myers-Scotton (1993). The analysis includes the use and ratio of the matrix language and the embedded language. Its results do not uphold Meisel's hypothesis of stage development but most certainly support the claim that bilingual children code mix in the same manner as do adult bilinguals. The sociolinguistic constraints of code mixing are not discussed in the article.

This brief overview of a few studies on bilingual children's code switching illustrates the difficulty of the very task of defining this phenomenon as well as providing sound argumentation for its occurrence. Marian's (2009) argument with regard to different processing levels for both transfer and code switching is perhaps, in light of the extant definitions of the two linguistics phenomena in question, the strongest foundation for characterizing and identifying them with precision. Language mode most definitely plays an important role in CLI and code switching, but further research is necessary to establish the extent to which language activation triggers each of them.

The claim that children are not bilingual until they develop a clear sense of two distinct languages being spoken in the environment has since been disputed by studies (Genesee, 1988; Genesee, 2001; Genesee & Nicoladis, 2007) which show that children

indeed do distinguish between the two languages and code switch according to the rules of grammar. As far as bilingual children's ability to make acceptability judgment is concerned, more studies are certainly needed to revisit this matter and to scrutinize the results keeping in mind that transfer, not lack of linguistic complexity, can be responsible for the said incorrect linguistic decisions.

If children are indeed as sophisticated language code switchers as are adults, then maybe the distinction proposed by Genesee (1988) ought to be rephrased. Since not much is yet known about the sociolinguistic aspect of bilingual children's code switching, perhaps the term could be used in reference to any linguistic code changes brought about by social factors. Code mixing, then, would serve as a general term for using two (or more) language varieties in the same clause by adults and children alike.

While some scholars maintain that code switching requires advanced knowledge of two languages, bilinguals often code switch in many situations when, for example, one of the languages does not have a lexical equivalent or in the case when a particular item is forgotten in one but remembered in the other language. This fact further supports Marian's (2009) line of reasoning that ascribes lexical switches to lexical access phenomena.

In bilingual children code switches have similar causes as in bilingual adults, and resorting to code mixing serves the purpose of avoiding breakdown in communication. Transfer is much less obvious due to its covert nature and one could say, involves looking at how one language's structures are permeable to influences of other languages' conceptual organization. Having introduced and provided a concise account of code mixing, I now move to the main topic of the chapter, specifically language transfer.

3. Transfer

Definition

Language transfer, also called crosslinguistic influence, can be simply defined as "the influence of a person's knowledge of one language on that person's knowledge or use of another language" (Jarvis & Pavlenko, 2008, p. 1). However, it is anything but simple. Transfer can take place in many language subsystems: phonological, morphological, lexical, semantic, syntactic, pragmatic; it can also be conceptual. Increased interest in transfer, various research and theories about CLI best illustrate the complexity of transfer.

Positive versus Negative Transfer

At first transfer was perceived as a negative phenomenon. In the early days of language contacts first language transfer into the second was often seen as a sign of low mental abilities and low moral character. Global migration in the beginning of the twentieth century saw immigrant speech as a threat to one's language (Jarvis & Pavlenko, 2008). Fortunately, in the 1950s linguists and psychologists worked together to dispel this myth and to provide some understanding of linguistic processes, including transfer.

While terms *transfer*, *interference* and *crosslinguistic influence* are used interchangeably to refer to the phenomenon in question there exist various circumstances

when it takes place. To differentiate between them, the term *transfer* is mainly used with adjectives designating its particular category.

The main reason of transfer is, naturally, language contact. Arabski (2006) talks about language transfer in language learning and language contact. He states that language transfer happens both inside the classroom during foreign language learning (LL) and outside, that is in language contact (LC) and dialect contact (DC). Crosslinguistic influence is not monolithic but varies depending on the social context of the particular language context circumstances. Thus, the main effects of language contact are borrowing transfer and substratum transfer. "Borrowing transfer refers to the influence a second language has on a previously acquired language. [...] Substratum transfer involves [...] the influence of a source language (typically, the native language of a learner) on the acquisition of a target language" (Odlin, 1993, p. 12). Behaviorist psychologists who first defined transfer technically called it an automatic, uncontrolled and subconscious use of past learner behaviors in a new situation response (Arabski, 2006). Transfer is primarily a psychological phenomenon and it can have various effects on language acquisition, depending on the social setting in which it takes place. Since it is the type of language interference that continues to puzzle researchers, substratum transfer is given most attention in various SLA research areas.

Today, SLA scholars still talk about negative transfer. The connotation of this term, however, does not bear its original stigma. *Negative transfer* in present scholarship is most often referred to as interference. It is defined by Odlin (1993) as crosslinguistic influence resulting in divergences from norms in the target language. Negative transfer

tends to be equated with production errors, overproduction, underproduction, and miscomprehension; speakers make these errors due to interference from their native language.

Unlike its counterpart, *positive transfer* is understood as facilitation. That is, similarities between the native and target languages facilitate acquisition of the latter. The above binary classification of transfer brings into the foreground the main causes of the phenomenon. Odlin's (1993) working definition accounts for this division. In his words, transfer is "the influence resulting from similarities and differences between the target language and any other language that has been previously (and perhaps imperfectly) acquired" (p. 27).

Alternatively, psychologists look at two types of transfer: retroactive and proactive. If applied to the linguistic situation, transfer from $L1 \rightarrow L2$ is considered a *proactive interference* (PI) and transfer from $L2 \rightarrow L1$ is a *retroactive interference* (RI) (Isurin and McDonald, 2001).

Directionality of Transfer

As the SLA field grew, its research continued to provide more findings on crosslinguistic influence and its characteristics. It has been shown that CLI can occur in more than one direction. Therefore, another aspect of transfer is its *directionality*. Jarvis & Pavlenko (2008) classify these specific directions as *forward transfer* (from an L1 to an L2), *reverse transfer* (from an L2 to an L1), and *lateral transfer* (from an L2 to an L3). Studies show that order of language acquisition can be an indicator of transfer. This

implies that CLI reaches far beyond what it was originally believed to be – a threat of language 'pollution.'

Another term used with regard to directionality possibilities is *bidirectional transfer*. Here, CLI can simultaneously work both ways (L1 to L2 and L2 to L1). Bidirectional transfer will be further discussed in section 4. 3. 4. of this chapter.

SLA research also recognizes the importance of linguistic awareness changes in a learner's mind. Gradual acquisition must mean gradual alternations in second language system comprehension and increasing complexity of knowledge. Learners themselves systematize obtained linguistic data and formulate an internalized language system known as *interlanguage* (IL). This structure validates their speech as "a system of its own with its own structure" (Gass & Selinker, 2008, p. 14). Interlanguage contains elements of native language (NL) and target language (TL) as well as new forms that do not originate in either of the two languages. These new forms are the "empirical essence of interlanguage" (p. 14).

The concept of interlanguage raises many important theoretical questions and is crucial in further understanding of language transfer. Scholars strive to learn about intricacies of IL in order to determine whether learning more languages leads to formation of new interlanguages and just how, if at all, they interact and are impacted by the native language (Gass & Selinker, 2008).

Transfer to Somewhere and Transfer to Nowhere

Two very interesting theories offered by SLA on the conditions under which transfer takes place are the concept of *transfer to somewhere* and the concept of *transfer to nowhere*. While the first is closely related to grammatical forms and structures, the latter is more of a cognitive notion.

The *Principle of Transfer to Somewhere* was developed by Andersen (1983). As defined by the author, *transfer to somewhere* takes place when "a grammatical form or structure occurs consistently and to a significant extent in interlanguage as a result of transfer *if and only if* there already exists within the L2 input the potential for (mis-) generalization from the input to produce the same form or structure" (p. 178). In other words, learners carry over from NL to TL certain ideas about linguistic system structure that they perceive as equivalent.

About a decade later, in response to Andersen's theory, Kellerman (1995) proposed the *Principle of Transfer to Nowhere* (a concept first mentioned by Kean in 1986 and defined as "blind transfer"). It states that there can exist transfer not triggered by similarity between L1 and L2. *Transfer to nowhere* does not refer so much to the grammatical formation of a language, but rather to "differences in the way languages predispose their speakers to conceptualize experience" (p. 137). It is "an unconscious assumption that the way we talk or write about experience is not something that is subject to between-language variation" (p. 141). CLI has linguistic, social, and even psychological causes and can be seen in second language performance. Kellerman remarks that most of the studies and evidence focus on *transfer to somewhere*. Still, there

exist other ways in which L1 can affect L2 acquisition that should be further explored. *Transfer to nowhere* is most definitely connected to the language-specific interference.

One could argue that the theories presented above involve the cognitive side of language acquisition. Grammatically prompted transfer, be it successful or erroneous, can be understood rather as *positive* and/or *negative* transfer, whereas *transfer to somewhere* and to *nowhere* define learners' perception of the linguistic realities between which they are operating.

Arabski's (1986) view on transfer offers yet another angle of CLI. He considers transfer a way of simplification in the process of language acquisition. The author states that simplification occurs universally in the first and second language acquisition. Commonly known in first language acquisition, the process of *overextension* (use of one lexical item to represent a whole class of items) is referred to in SLA as *underdifferentiation*. This process is influenced largely by L1 and the significance of the *primary counterpart* (a lexical equivalent in L2 acquired to provide the common meaning of a given L1 item) in the process of simplification and transfer. Language learners rely greatly on the primary counterparts and as a result transfer the contexts in which they are used in L1 into L2.

Working Definition of Transfer

In my work I refer to *transfer* as a covert influence of L1 on L2 and/or L2 on L1. Any overt changes at the lexical level – namely integration of L2 lexical items into L1 discourse, and L1 items in L2 discourse, will be referred to as *code switching* (or *code* *mixing*). While the two are certainly linguistic strategies, they occupy different processing space and fulfill different functions in bilingual children's speech.

Whereas identification and classification of particular types of language transfer help in studying it, choosing an appropriate framework for CLI research is also crucial. Accordingly, the following part presents the main approaches to transfer.

4. Approaches to Transfer

Crosslinguistic influence research has over the years been looked at within the framework of many approaches, theories, models, and hypotheses, such as language typology, Markedness Theory, Contrastive Analysis, Universal Grammar, behaviorist approach, psycholinguistic perspective model, connectionist model, activation-inhibition model, and Activation Threshold Hypothesis. By far the most significant, widely discussed and used in studies investigating transfer were Contrastive Analysis, Markedness Theory, and Language Typology. These three approaches as well as the new psycholinguistic approaches proposed by scholars in recent years are discussed in the next section of the chapter.

4.1.1. Contrastive Analysis

In the 1950s and 1960s scholars like Lado, Fries, and Kaplan believed that contrastive analysis of language structure and culture can determine the difficulties of second language acquisition and therewith provide a basis for transfer studies (Odlin, 1993). Their approach was based on the observed demonstrations of transfer in language contact provided by Haugen (1953) and Weinreich (1953/1968). Thus, *Contrastive Analysis* – a methodical comparison of two or more languages, became an important concept especially in second language pedagogy, and much effort has been put into the development of materials designed for students of specific languages (Odlin, 1993).

The Contrastive Analysis Hypothesis assumed the following:

- 1. Language is a habit and language learning involves the establishment of a new set of habits.
- The major source of error in the production and/or reception of a second language is the native language.
- 3. One can account for errors by considering differences between the L1 and the L2.
- 4. The greater the differences between the L1 and the L2, the more errors will occur.
- 5. In order to learn a second language one has to learn the differences and safely ignore similarities. "What is dissimilar must be learned".
- 6. Differences and similarities between the two languages in contact will respectively interfere with the process of second language acquisition or facilitate it (Gass & Selinker, 2008, p. 96).

There were two positions with regard to the Contrastive Analysis Hypothesis

(henceforth CAH). These positions are interchangeably called the *a priori* versus the *a posteriori* view, the *strong* versus *weak* view and the *predictive* versus *explanatory* view (Gass & Selinker, 2008). The *strong* view maintained that it is possible to make predictions about the success of learning and teaching language based on the comparison

between two languages; the *weak* view was an analysis of learners' recurring target language errors in an effort to explain their nature and possible causes.

4.1.2. Shortcomings of Contrastive Analysis

By the 1970s (after about two decades of its existence) *Contrastive Analysis* was being challenged and its shortcomings in accounting for language transfer revealed. Empirical research showed that differences between the source and the recipient languages do not always engender learning difficulties or even CLI. Additionally, learners make errors in the target language that are not caused by their native language and the origin of which it is difficult to predict. Similarly, some of the predicted errors do not occur.

Contrastive Analysis seems to have equated difficulty with error. Error production indicated that learners had difficulties with a particular structure or form. Another criticism of contrastive analysis questioned this concept. While language differences are based on formal description of linguistic systems, difficulty implies involvement of cognitive and psycholinguistic functions.

Theoretical underpinnings of *Contrastive Analysis* – language as a system of habits and the native language as the core reason of transfer were disproved. It was shown rather that language is a system of rules and that learning a language requires active rule formation, not imitation.

The simplistic approach to language acquisition suggested by proponents of contrastive analysis did not take into account the fact that in order to understand the phenomenon of transfer, more than just structural factors need to be compared. Nonstructural factors such as personality, attitude, motivation, age, aptitude, knowledge of other languages, learner's subjective judgment of NL-TL distance, and literacy also interact with the process of language acquisition. These are all individual learner variants that must be taken into consideration in CLI research (Gass & Selinker, 2008; Odlin, 1993).

While the CAH and its strong, predictive view were generally rejected, the weak, explanatory view came to be a part of studies known as *error analyses*. Corder (1967 as cited in Gass & Selinker, 1993) distinguished between *errors* and *mistakes*. The former were systematic – characteristic of existing problems in the learner's system; the latter were equated with slips of the tongue. Further classification of errors divided them into *intralingual* – independent of NL, made due to language being learned and *interlingual* – those which can be attributed to NL and involve CLI comparisons (Gass & Selinker, 2008). Comparison of TL errors provided a broader range of their explanations than contrastive analysis. It also pointed out errors that resulted from teaching – transfer of training and to overgeneralization or omissions, which seem to be spontaneous and involve simplification rather than transfer (Odlin, 1993).

While *Contrastive Analysis* can make useful predictions about a range of errors learners can make, and errors, in turn, can point to further generalizations about learners' interlanguages based on their L1, neither of the two explains the conditions why and when transfer will or will not occur.

4.2.1. Markedness Theory

Since markedness is discussed at length in Chapter 2, in the following section I mention, only in a few words, its significance to the study of transfer and the reasons for which it was rejected as the main theoretical approach to language transfer in this study.

The *theory of markedness* is closely linked with Universal Grammar (UG) and its theoretical considerations assume that forms more common among the languages of the world are *unmarked*, whereas the less common or rare are *marked*. As Jarvis and Pavlenko (2008) point out, definitions of markedness vary depending on different linguistic subsystems.

In recent years markedness theory sparked the interests of SLA researchers who then began to consider its application to studies in second language learning. It was believed that markedness of particular forms and structures in NL and TL can be linked to directionality of error occurrences and thus transfer; in other words, unmarked-marked direction has more potential for error than marked-unmarked pattern. Also, most of the research has pointed to the fact that unmarked structures in TL are acquired faster and with more ease than marked structures, regardless of learners' L1.

4. 2. 2. Shortcomings of Markedness

SLA proposed different kinds of approaches to markedness; some of them considered the theory as rooted in its UG foundation, others assumed it as separate from UG. There is no agreement on which is the most plausible one. The different ways of defining markedness obscure its concept and application in SLA studies.

Markedness Theory also failed to provide satisfactory explanations for transfer phenomenon. Existing studies do not provide sufficient and compelling evidence for when and how markedness interacts with transfer and other factors (Jarvis & Pavlenko, 2008). Furthermore, as far as the UG approach to markedness is concerned, both marked and unmarked features can be transferred (White, 1987).

Certain generalizations which markedness offers, however, can be used in identifying transfer phenomena and even language learners' tendencies to crosslinguistic influence. Still, they fall short in offering the fundamental causes of transfer.

Not only do *Contrastive Analysis* and *Markedness Theory* not explain transfer phenomena, but their validity has also been questioned. Differences between languages do not always result in transfer; similarities do not always facilitate successful acquisition of L2. Marked forms can be transferred just as unmarked forms. Probability of positive transfer between two different languages is no lesser or greater than probability of negative transfer between similar languages. Transfer to somewhere and transfer to nowhere, both contingent upon learners' cognitive processes, can take place regardless of similarities, differences, or markedness. For the most part the two theories were used to create a theoretical framework for researching forward transfer (i.e. $L1 \rightarrow L2$); perhaps their application in studies on bidirectional CLI would increase their validity. Transfer, undoubtedly, is a complex phenomenon, and so far no theory or research has come close to sufficient in providing a thorough understanding of crosslinguistic influence.

4. 3. 1. Language Typology

There are many ways to classify world languages and to approach their typological analysis. Language comparisons looks at various structural similarities and differences of languages such as, for instance, syntactic structures, semantic structures, morphology or phonology, in order to see what types of languages exist. *Typological universals* were first proposed in 1966 by Greenberg who, having analyzed and compared a broad sample of languages, named 45 universals of grammatical structure. One of most valuable discoveries of language typology is finding common features among languages that are not related and geographically nonadjacent. "Many of the typological universals are expressed in terms of implications, such that if a language has feature X, it will also have feature Y" (Gass & Selinker, 2008, p. 191).

In the field of Second Language Acquisition, understanding typological universals helps to elucidate the notion of interlanguage and whether it can be treated as a natural language. This concept is not an implication that learner languages can or even should be as complex as natural languages. Its main premise is that if occurrence of a particular linguistic phenomenon is impossible across world languages, it will also be impossible in interlanguage (Gass & Selinker, 2008). Typological analyses, Odlin (1993) remarks, help to estimate language distance, encourage the study of systematic influences on transfer, and allow for a better understanding of developmental sequences and CLI.

While language differences are an interesting area of study, similarities have shown to be a more problematic issue. Even though transfer takes place between typologically removed languages, occurrences of linguistic interference are greater when the source and the recipient languages are more similar. In most cases, languages which are genetically closer (that is, are members of same language branch/family) exhibit most similarities and, the same, most transfer potential. Not only do typologically common patterns increase the chance of transfer but also the crosslinguistic influence they bring about tends to be more difficult to eliminate (Odlin, 1993).

In terms of typological classification, it can be said generally that forms and structures that are more basic are easier to learn than more complex forms. Similarly, more frequently occurring forms are classified as unmarked while marked forms are more difficult to acquire due to their complexity (Winford, 2003). Moreover, some of the universals have been found to have more impact on second language acquisition than others.

Ringbom (2006) discusses different types of linguistic similarity, dividing language similarities into two main groups – *perceived* and *objective*. A perceived, or an *assumed* similarity, the author claims, differs from objective similarity in that the former is used in comprehension and assumed in production. While objective similarity is a crosslinguistic concept based on language origin and relatedness, perceived similarity seems to stem from learners' individual metalinguistic awareness.

Jarvis & Pavlenko (2008) actually draw distinction between perceived and assumed similarities. A perceived similarity, as the authors define it, "is a conscious or unconscious judgment that a form, structure, meaning, function, or pattern that an L2 user has encountered in the input of the recipient language is similar to a corresponding feature of the source language" (p. 179). An assumed similarity "is a conscious or unconscious hypothesis that a form, structure, meaning, function, or pattern that exists in the source language has a counterpart in the recipient language, regardless of whether the L2 user has yet encountered anything like it in the input of the recipient language, and regardless of whether it actually does exist in the recipient language" (p. 179). Perceived and assumed similarities represent a set-subset relationship (all perceived similarities are also assumed similarities, but not all assumed similarities are actually perceived) and they are not mutually exclusive. While perceived similarities can help in the language learning process, they can also become a potential source of errors and transfer.

Ringbom (2006) further argues that the concept of crosslinguistic similarity is "far from clear-cut" (p. 36) and that "similarity works differently at different stages of learning, for different models of learning, and with individual learners" (p. 36). He distinguishes between three types of crosslinguistic similarity relations. The first relation exists when the learner can establish one-to-one relationship between elements or even syntactic structures of L1 and L2, for example cognates. The second relation pertains to the existence of similarities between L1 and L2 but also differences within these similarities, that is, grammatical gender existence in both Swedish (two genders) and German (three genders). The third relation involves a situation where there is no actual relation between the two languages in question. Lack of TL elements in L1 makes it more challenging for a learner to acquire them, thus prolonging the process of acquisition.

Additionally, Ringbom outlines three different levels at which he believes transfer takes place: overall level, item level, and system level. The overall level refers to comprehension and in general facilitates acquisition, i.e. accounts for positive transfer. The author makes an observation that transfer is mainly discussed in connection with forms and systems in mind, but rarely, if ever, is any attention paid to transfer in comprehension. The item level refers to lexical items, morphemes, phonemes and even phrases. At the item level, more negative transfer can be seen. There is an assumption of functional equivalence at the system level between and L1 and L2, but since two language systems tend to be the most unlike, the transfer at this level is mostly negative. Although for the most part negative transfer at the system level originates in L1, an L2 based transfer can also occur; individual learner variations, Ringbom adds, are unpredictable.

The collective research in L2 acquisition, Rutherford (1983) writes, has shown that interlanguage developments can have two tendencies: (1) to develop using the elements common to all language learners and (2) to be shaped by features of the learner's native tongue. The two are not mutually exclusive, and it is reasonable to expect that both tendencies will manifest at all times.

The author claims that there exists a link between the above tendencies and language typological distinctions. His research, conducted to test this hypothesis, looks at three typological parameters: 1) SVO word order; 2) a four–way classification of: a) topic prominence, b) subject prominence, c) both of these, d) neither of these; 3) general tendencies among languages to use word order to express either pragmatic or grammatical relationships. Some languages, like English, which have a stricter word order, belong to the grammatical-word-order continuum (GWO), whereas others, like Spanish, with a less rigid structure, are said to be positioned in the pragmatic-word-order continuum end (PWO) (p. 358).

Rutherford's research is based on an analysis of the data drawn from writing samples (in English) of native speakers of Mandarin, Japanese, Korean, Arabic and Spanish. The evidence supports both interlanguage tendencies: the commonalities were visible in the interlanguage progression from topic-comment to subject-predicate. The process of syntacticization is apparent in the acquisition of sentential subjects by Mandarin speakers and in the acquisition of existentials by speakers of Mandarin, Japanese and Korean. The role of individual languages in the interlanguage formation can be seen in the extra-heavy topic-comment influence from Mandarin and the GWO of Japanese and Korean. Another observation made based on the data is that some typologies such as topic-prominence and pragmatic word order, which are discourse phenomena, are *transferable*, whereas syntactic phenomena, such as SVO variations of in word order are *untransferable*.

Unlike Ringbom, Rutherford suggests that taking typological differences among language as the point of departure in any interlanguage analysis could further elucidate the nature of interlanguage and language transfer; language typology plays a significant role in language acquisition to the extent to which it can provide an explanation of the procedures operating within a framework of typological distinctions.

4. 3. 2. Advantages of Language Typology

At first glance Language Typology does not appear to be very different from Contrastive Analysis or Markedness Theory in that it is an analytical look at how languages differ and how they are alike in order to inform studies of crosslinguistic interference. What sets it apart from CA and Markedness is the fact that, unlike either of these two theories, language typology does not solely intend to make predictions about transferability of forms or structures that are or are not congruent between languages. Rather, it recognizes the importance and role of interlanguage. That having been said, any SLA study aimed at investigating crosslinguistic interference must use language typology as its point of departure.

Interlanguage, defined as a learner's internalized linguistic system with its own structure, contains elements of native and target language but also elements that originate in neither of the two languages. Gass & Selinker (2008) refer to the elements, which have no origin in either of the languages, as new forms. According to the authors, these new forms "are the empirical essence of interlanguage" (p. 14). They help to understand better the forces engaged in the interplay of language rules.

The main study discussed in this dissertation is focused on linguistic behaviors of bilingual (Polish-English) children and possible language transfer in their speech. The above concept of interlanguage and its new forms along with language typology are utilized in the analysis of the two languages in question. Typology is used in order to compare and contrast languages in terms of their main features and respective structures, rather than to arrive at conclusions about the observed speech errors, as it is done within the Contrastive Analysis approach. Interlanguage, on the other hand, serves in this study as point of reference for findings that may not fit the typological explanation.

4. 3. 3. Typology and Prediction of Transfer Directionality and Simplification through Transfer

When transfer occurrence was first observed, it was assumed to be a negative, unidirectional interference from native to target language. Since the inception of formal transfer study in the 1950s, most of the attention again was given to unidirectional (forward) transfer. In the 1970s some SLA researchers began to take more interest in directionality of transfer, noticing that target language or L2 features can be transferred to L1 (reverse transfer). What is more, it has also been noticed that transfer can occur in many various other combinations of direction, e.g., $L2 \rightarrow L3$, $L1 \rightarrow L3$, $L3 \rightarrow L1$, etc., a fact which is often forgotten or ignored. As far as directionality is concerned, forward transfer remains the most researched area (Jarvis & Pavlenko, 2008).

Careful examination of language typology and directionality of transfer reveals that these two theories are in fact connected. In order to see the link between them, it is necessary to look first at language simplification. According to Richards (1972, as cited in Arabski, 1986), "simplification is a result of communication and learning strategies" (p. 30). Tendencies toward simplicity in language acquisition and language contact are universal (Odlin, 1993). Research shows that learners of many different L1 backgrounds tend to omit obligatory target language structures (Jarvis & Pavlenko, 2008). Isurin (2003) discusses two studies from the perspective of crosslinguistic influence in word order in L1 forgetting and L2 acquisition. The languages observed in the first study are Russian L1/English L2 and English L1/Russian L2 in the second. Typologically English and Russian differ in terms of word order. While the former has only fixed SVO order, the latter allows for six variations of the three components (SVO, SOV, VSO, VOS, OSV, and OVS), with SVO being the basic and most neutral.

The first study looks at L1 forgetting and the second one at language acquisition. In the first study, Russian L1 speaker's word order is influenced by English L2 acquisition. The second study involves three groups of participants – monolingual Russian speakers (the control group), bilingual Russian L1/English L2 speakers, and bilingual English L1/Russian L2 speakers.

The first study showed preference for and dominance of SVO. Since it is one of the possible word order variations in Russian and the only one in English, the findings are inconclusive as to what triggered the shift – transfer from L2 or simplification process in L1. Although for the most part the second study results were also not conclusive as to the shift in word order in Russian/English, one can hypothesize that such change will indeed take place with prolonged stay in the L2 (English) environment. As for the English L1/Russian L2 group, the ease of production of a non-SVO word order was consistent with the prediction that the longer the L2 acquisition period, the more frequent the VSO order.

The results of the reported studies indicate that more research is needed in the area of language attrition. As for the L2 acquisition process, word order in L2 points to

the fact that learners "tend to adapt the syntactic structure of a new language to that of their native language and/or avoid redundancies by generalizing the rule where irregularities are minimized" (Isurin, 2003, p. 13).

Isurin's (2007) study is inspired by a study conducted by Porte (2003). Porte analyzed the speech of three English L1 teachers of English in a Spanish-speaking environment. Since the participants were lecturers in English as a foreign language, it was expected that their L1 would not be susceptible to changes brought on by L2. Porte's study showed minimal errors and infrequent code switching.

Isurin's study on L1 attrition looks at ten bilingual Russian L1/English L2 speakers. The control group consisted of three monolingual Russian speakers, residing in St. Petersburg, Russia. In the experimental group each of the participants was a female graduate student at a U.S. university and at the time of the study was actively involved in teaching Russian as a foreign language. The author accounted for such variables as length of residence in the U.S. and the amount of exposure to L1 outside of the academic/work environment. Research materials used were questionnaires, interviews to elicit speech samples, and grammaticality judgment tasks. The author looked at lexical, grammatical, as well as conceptual changes that might have occurred and purposefully included specialized topics (Internet, ATM, credit cards), which would lead either to code switching or circumlocution.

The results revealed some changes in L1 of the Russian/English bilinguals. Immersion in the L2 environment influenced their L1 narrative and descriptive discourse. The study in question contributes to the earlier Porte study in that it indicates changes other than lexical in L1.

Isurin's findings suggest that participants show changes at the grammatical level as well, and their metalinguistic awareness of L1 is diminished. Also, the author underlines the importance and role of the two factors in L1 attrition – L1 exposure and time of residence in the L2 environment. They could be crucial predictors for possible L1 changes.

Language typology shows differences between languages and points to forms and structures that may be subject to transfer. More basic forms and structures are easier to acquire, and common patterns tend to transfer. Isurin's (2003) study shows that English and Russian share SVO word order. While it is fixed in English, it is the most neutral of six word order possibilities in Russian. It can be assumed that simplification of word order among Russian L1 speakers in this study is transferred from English and not vice versa.

As it was illustrated in Isurin's (2007) second study, directionality of crosslinguistic influence can be affected by L2 proficiency, exposure to L1 and L2, time of residence in the L2 environment, self-monitoring, and simplification. As L1 attrites, more L2 transfer to L1 is expected.

Arabski (1986) talks about transfer as simplification. His article focuses on simplification process happening in L2 under the influence of L1 (Polish L1 and English L2). The process of *overextension* (use of one lexical item to represent a whole class of items) commonly known in the first language acquisition is referred to in SLA as

underdifferentiation. As learners acquire L2 vocabulary, they first learn to map each given L1 lexical item onto its one L2 equivalent, which renders their common meaning – or its *primary counterpart.* When a learner adheres to L1 rules in L2 utterance production, he or she tends to use primary counterparts, thus simplifying by transfer from L1. A typical example of transfer due to the primary counterpart can be seen in the Polish-English interlanguage, where one Polish preposition has many counterparts in English but is rendered instead as the primary counterpart. Arabski does acknowledge the fact that as a learner's interlanguage gradually develops, primary counterparts also change. The underdifferentiation stage does not need to be a part of a given learner's acquisition process. Primary counterpart can be an individual phenomenon; that is, its occurrence may be contingent upon increased exposure: a particular learner may be exposed to increased intensity of one form of a counterpart more than another learner. Their interlanguages would then differ accordingly.

Arabski's research shows the process of simplification through transfer. Polish and English are not perceived by learners as typologically close. Since lexical systems of two languages are dissimilar but are not considered complex, simplification and negative forward transfer are expected. Marian's (2009) psycholinguistic study speaks to the validity of such observation: "the finding that [semantic transfer] is more frequent when speaking the second language suggests that L1 semantic representations may be more stable and more likely to transfer relative to L2 semantic representations" (p. 168).

Arabski (1986) and Isurin (2003, 2007) bring attention to simplification and transfer directionality. Isurin's studies in particular seem to point to the fact that language

typology, simplification, and transfer directionality are indeed connected. Undoubtedly, more specific scholarship looking at these three concepts and their interaction in second language acquisition is necessary. Meanwhile, until the matter is further investigated and supported with sound evidence, it can be presumed that language typology does help to predict directionality of transfer, but the variable of learners' proficiency in L2 should not be excluded from such analysis.

4. 3. 4. Directionality of Transfer – Bidirectional Transfer

In keeping with Jarvis & Pavlenko (2008), bidirectional transfer is a term that refers to cases "where two languages that language users know function synchronously as both source and recipient languages" (p. 22). That means, in the mind of a single individual, two languages (or more) may influence each other at the same time. The authors further explain that bidirectional transfer can involve simultaneous forward and reverse transfer (L1 to L2 and L2 to L1) or simultaneous bidirectional lateral transfer (L2 to L3 and L3 to L2).

Jarvis and Pavlenko (2002) conducted a study that investigated transfer errors in Russian and English of Russian-English late bilinguals. The authors chose to investigate possible bidirectional CLI influencing both the L1 and L2 and its simultaneous occurrence in both languages.

Their findings came from the analysis of oral narratives produced by Russian L1 speakers of American English L2. Pavlenko and Jarvis found that while Russian L1 continues to influence English L2, English L2 also begins to influence Russian L1. The

analysis involved looking at nine categories: 1) framing transfer, 2) semantic extension, 3) lexical borrowing, 4) tense and aspect, 5) case markings, 6) loan translation, 7) subcategorization transfer, 8) article use transfer, 9) word order transfer (p. 205). The findings showed bidirectionality of transfer in categories 1, 2, 6, and 7. L1 \rightarrow L2 only transfer took place in categories 8 and 9, while L2 \rightarrow L1 in 3 and 5. No transfer was observed in aspect and tense. The authors did not notice correlation between length of exposure to L2 and age of arrival to the U.S. and directionality of transfer. They do believe, however, that further studies of more diverse groups and different combinations of languages will shed more light on the interaction of the variables and their influence on transfer. Also, a diachronic study, as opposed to a synchronic, as the one described above, would be more beneficial to a study of crosslinguistic bi-directional transfer.

Jarvis and Pavlenko (2008) confirm the contribution of their earlier study (Pavlenko & Jarvis, 2002), which shows that the onset of $L2 \rightarrow L1$ transfer is not delayed until learners gain full proficiency in the L2. Also, $L1 \rightarrow L2$ interference does not stop at the point when $L2 \rightarrow L1$ influence commences (p. 81).

The significance of the above study to the field of SLA and crosslinguistic influence cannot be overemphasized. It presents unambiguous empirical evidence that transfer can be simultaneously bidirectional, and it also "underscores the unstable nature of 'native-speakerness'" (p. 210). Isurin's (2003, 2007) investigation of L1 attrition and Jarvis and Pavlenko's (2002) research on bidirectional transfer should not only be seen as important contribution to SLA and CLI scholarship but also as a milestone in any further research on language acquisition and human language faculty.

4. 4. Psycholinguistic Approaches

Recently Jarvis and Pavlenko (2008) have recognized the need for a new, more rule-based approach to language transfer. The authors understand that many of the approaches used so far have been inadequate to investigating transfer, in that the studies based on them did not completely resolve problems of identifying and measuring crosslinguistic influence in its context.

Any methodology chosen in a particular investigation is contingent upon the scope of the study, and there exist many methods to examine transfer. They incorporate techniques from other disciplines such as experimental psychology, linguistics, and anthropology; they are all helpful and practical in studies on language transfer.

Jarvis and Pavlenko propose investigating CLI as a psycholinguistic phenomenon. Transfer can be studied either at the level of the individual, or at the level of society, thus the authors delineate two general approaches: *intra*subjective and *inter*subjective.

The first approach focuses on individuals and the patterns of crosslinguistic influences they exhibit. Intrasubjective studies can be conducted as case studies based on one single experiment, task, or data elicitation event; they can also be longitudinal and track overtime presence of transfer.

The second approach focuses on patterns used by groups of language users, and are frequently designed as cross-sectional studies, in which performance data are collected from groups of speakers at a particular point in time and then compared against other groups of speakers of respective language or languages, but at different point of language acquisition process or different age. The main advantage of the intrasubjective approach is its validity. Its disadvantage, however, is the very fact that gathered information cannot be generalized to a larger population. Conversely, while the intersubjective approach facilitates generalization of findings, it presents a threat of overlooking unique transfer features of particular participants. Caution should be exercised in extending intersubjective studies to investigate a societal phenomenon of CLI, as Jarvis and Pavlenko advise, so as not to confuse diachronic language changes with synchronic processes.

The psycholinguistic approach and both of its methods presented above are closely connected with the multicompetence framework. Jarvis and Pavlenko (2002, 2008) who devote their research to CLI choose this framework in their study of transfer. First proposed by Cook (1991), this theory suggests that bi- and multilingual individuals have a distinct compound state of mind, rather than separate monolingual states (Jarvis & Pavlenko, 2008). In other words, a bilingual is not a sum of two separate monolinguals; he or she has instead a unique but complete linguistic system.

The multicompetence approach is a broader framework. Within it, directionality of CLI can be discussed as a complex process. Furthermore, it allows room for reevaluation of L1 competence and its stability, examination of attrition, and consideration of pre-fluency transfer.

The subsequent two sections of the chapter introduce studies on transfer in bilingual adults and bilingual children.

5. Transfer in Bilingual Adults

Some of the articles on crosslinguistic influences in adult bilinguals are referred to in the previous parts of this chapter and in Chapter 2. In this section, I summarize their observations and findings along with other articles on the topic.

The first attempts at understanding and explaining language transfer came from the scholarship with strong UG foundation. While the theoretical framework of the studies on transfer discussed in Chapter 2 is that of UG, their findings with regard to crosslinguistic influence in adults alone are of importance here.

White (1985) and Phinney (1987) found that adult language learners transfer the pro-drop feature from their L1 to a non-pro-drop L2, which indicated that subject omission is influenced by transfer. The reverse situation, White (1985) and Liceras (1989) remark, is not true in the same age population.

Arabski (1986) describes transfer in adults as a simplification method. In his opinion second language learners first map lexical L1 items onto primary counterparts in L2 and by adhering to them, often transfer. It is important to note that, as the author underlines, such process is contingent upon the individual's exposure to primary counterparts and in different learners manifests itself differently in their interlanguage. Likewise, Hilles (1986) names interlanguage as an important factor in language transfer as well as language fossilization.

The concept of *transfer to somewhere*, proposed by Andersen (1983) is based on an analysis of empirical studies. He looks at two studies on English L2 (Spanish, Japanese and Hebrew as L1), three studies on German L2 (Turkish, Yugoslav, Portuguese, Italian, Greek, and Spanish as L1), and a study on Spanish L2 (English L1). The analysis suggests that transfer to somewhere indeed takes place in language acquisition. If a certain structure or grammatical feature exists in L2 and it does also occur in L1, learners transfer that knowledge into their L2. Transfer to somewhere appears to facilitate language acquisition. Andersen states that transfer cannot be seen as a force independent from natural acquisitional processes, which are at play during interlanguage formation process since it "can only function in conjunction with the operating principles that guide language learners and users in their choice of linguistic forms to express the intended meaning" (p. 180). It is important to note that participants in the described studies were both adult and children bilinguals, and that findings in both population groups were alike.

By looking at word order contrasts and production in three different languages, Fathman and LoCoco (1989) aim to find out how L1 knowledge introduces variation into the sequence of learning and how contrasting word-order structures differ between two languages depending on which language is L1 and which is L2. The authors conducted three studies with second language learners – adults and young adults. The first study included English L1 learners of German L2 and Spanish L2, the second one looked at Spanish L1 and German L1 learners of English L2, and the third one Spanish L1 – English L2 and English L1 – Spanish L1.

The first study focused on word order and suggested that the L1 influenced the kinds of errors that were being produced by the learners, while the L2 strongly influenced which structures will be problematic to acquire. The learners made most mistakes in word

order, as the German word order differs from the English one. The second study looked at negation acquisition. L1 (Spanish and German) seemed to cause variation in forms produced, as well as in rate of passing through the various stages of interlanguage. The third study concentrated on the production of word order structures in the same languages, depending on which one of them is L1 and which is L2. The results of the translation task used in the study suggested that it is not the structures alone that influence production but the relationship between them that does – that is, how they relate to each other, as L1 and L2 or L2 and L1.

The main finding of the above studies seems to be the fact that the kinds of structures produced at various stages are affected not by the properties of separate languages but rather by the relationship between L1 and L2, more specifically between the particular structures analyzed in each language.

Correspondingly, Odlin (2009) discusses two studies conducted by Jarvis with speakers of Swedish and English (Jarvis, 1998; as cited in Odlin, 2009, p. 342) and with speakers of Finnish and English (Jarvis, 2002; as cited in Odlin, 2009, p. 343). The results clearly pointed to the fact that crosslinguistic resemblances between languages and their structures promote positive transfer. Jarvis analyzed article production in L2 English of Swedish L1 and Finnish L1 speaker. Since only Swedish possesses articles in its linguistic systems, its speakers acquired English articles with much more ease than the Finnish native speakers. In order to establish the existence of positive transfer, Odlin states, it is necessary to look at different groups of language learners and the combination of languages they speak.
By looking at English L2 collocations as rendered by speakers of Polish L1 and German L1, Biskup (1992) discusses L1 influence on L2. Collocations are set combinations (grammatical and lexical), but unlike idioms, their meaning is transparent. Additionally, they are based on the likelihood of occurrence with particular words. Lexical collocations contain no subordinate element in combination, while grammatical ones consist of content words (noun, adjective, or verb) and grammatical words (prepositions, structural patterns such as *that*-cause, and gerund).

The author conducted an empirical study of lexical collocations as rendered by adult Polish and German learners of English. Given two different, unrelated L1s, the author sought to find out just what kind of quantitative and qualitative differences can be seen between the two groups and what kind of interference can be expected from the L1 of each group. Students were asked to produce English translations of lexical collocations in Polish and German. The results of the study revealed that the Polish learners produced fewer variants for collocations but greater number of restricted collocations (collocations of two or more words, used in their regular, non-idiomatic meanings, following certain structural patterns and restricted by grammar, semantics, and usage). The German learners gave fewer restricted collocations, but where they were not sure of the meaning, they tried to render the collocation in an alternative way, thus exhibiting risk-taking. The results suggest that the Polish learners perceived the distance between Polish and English and did not assume any formal similarity between languages. Their errors were mainly loan translations or extensions of L2 meaning based on the L1 word. In contrast, the

German learners assumed formal similarity between languages and tended to produce translation of a collocation, which were often anglicized German lexemes.

Biskup suggests that further studies of the mental lexicon from a psycholinguistic viewpoint can provide insights to the field of human language and language acquisition. Collocations, metaphors and *coreness* of a word (basic meaning of the word) might prove to be invaluable in the teaching and learning of foreign languages.

The main topic of Jarvis and Odlin's (2000) article is transferability of bound morphemes. The authors conducted a study of Finnish L1 and Swedish L1 learners of English L2. The control group consisted of American students (native speakers of English). Since typologically Swedish and Finnish are different, different results were expected in the Swedish/English learners compared to the Finnish/English learners. Finnish has bound, agglutinative morphology of the spatial system, whereas Swedish has free, prepositional morphology. Also, the two languages vary structurally and semantically.

The participants were asked to write a narrative of an 8-minute segment of a silent film. The results show differences in the choices that the Finns and the Swedes make with respect to spatial reference and morphological transfer. The Finns often formed sentences with zero prepositions. In sentences where the preposition was used, the learners *overgeneralized* by using a single English preposition *in*. The Swedes did not exhibit similar errors. The differences arising from L1 background affect choices of rendering the same spatial contexts, as well as the omission of spatial prepositions by the Finns but not the Swedes. These results provide evidence for the transferability of bound morphology and show that the coding of spatial information in the L1 can influence the way the information is realized in the interlanguage.

The three previously discussed studies Pavlenko & Jarvis (2002), Isurin (2003), and Isurin (2007) give support to influence of L2 on L1 and bidirectionality of transfer and indicate that the nature of crosslinguistic influence is more complex than it was originally thought to be. Not only can structures of L1 impact L2, but also the knowledge of L2 can affect one's native L1 and, as Pavlenko and Jarvis point out, the two occurrences are not mutually exclusive.

While most of the research on crosslinguistic interference discusses typical language learner transfer situations and scenarios, with possible underlying causes, there also exists transfer divorced from the above situations.

Arabski (2006) broaches the topic of transfer in learning and in language contact, that is, in settings in language classrooms as well as outside. He departs from the psycholinguistic analyses and gives attention to social aspects of transfer such as personal, geographic, political, and economic conditions, the same focusing on borrowing transfer.

To sum up, the findings from studies conducted by White (1985), Phinney (1987), and Liceras (1989) indicate that a particular language feature can be subject to transfer, but its directionality depends on what particular language arrangement is at play.

Arabski (1986), LoCoco and Fathman (1989), Biskup (1992), Jarvis and Odlin (2000), and Odlin (2009) all provide empirical data for transfer visible in SLA. They suggest that typological analysis, or some form of it, is indispensable in any transfer

studies. Since transfer can take place across all aspects of language: phonology, morphology, syntax, and lexicon – each of the said aspects must be individually taken into account in each particular studied group of bilinguals.

Their contribution to the field of SLA has a very practical application in classroom language teaching, as it outlines possible points of transfer and shows how some acquisition milestones of a particular L2 can be reached at different points by speakers of various L1s.

Jarvis and Pavlenko's scholarship in crosslinguistic influence sets a solid theoretical and empirical foundation for future research on bidirectional transfer. Their studies focus primarily on Russian (L1)/English (L2) language combination, as do Isurin's (2003; 2007). Studies using these scholars' methodology but involving different language combinations (i.e. Russian/German, Russian/French, English/Russian, Russian/Polish, etc.) could greatly contribute to the existing findings.

The studies reviewed and discussed in this chapter so far were conducted with bilingual adult participants. Since the main study described in this dissertation focuses on bilingual first language acquisition and bilingual children, it is critical to present also existing research on transfer in this population of speakers. Child bilingualism is the main topic of Chapter 4.

6. Transfer in Bilingual Children

Müller (1998) looks at transfer in bilingual first language acquisition. The author reviews longitudinal studies on the acquisition of word order in German subordinate clauses in children speaking also French, Italian, and English, and compares the result to speech analysis of monolingual German children. In German subordinate clauses are verb-final, but can also appear in the position following the first constituent. In French, Italian and English, the nonfinite verb always precedes the complement.

The author defines transfer as linguistic interference that is a *relief strategy* which bilingual children use to cope with problematic, that is, ambiguous input. By ambiguity, the author means language structures, for example, which overlap in the languages, as is the case of the subordinate clause structure in the analyzed languages. While the recipient language may allow for more than one grammatical structure, the child will use the one that is known to him/her from the target language, such as, for example, the analyzed subordinate clauses.

Müller's study shows that there is no qualitative but rather quantitative difference between bilingual and monolingual children in subordinate clause production, and that all children revise their errors in a similar period of time, that is one to two years. It is the knowledge of another language that accounts for the larger number of mistakes in bilinguals, she concludes, since children clearly transfer the features of that language. However, the author states, the fact that even monolingual children produce targetdeviant word orders, confirms that transfer cannot be the sole factor in such subordinate clause production in children. She suggests that ambiguous input may play a significant role here. German monolinguals use both subordinate structures and young children need to reconcile the information they receive. Bilingual children, on the other hand, resort to their other language to analyze the differences. The author's approach and analysis has its basis in Universal Grammar parametric approaches. Therefore, she proposes that subordinate clause parameter may be a subparameter. Müller concludes by saying that transfer is predictive in bilingual speech and that it is a relief strategy used with input that is challenging to disambiguate.

Müller and Hulk (2001) investigate crosslinguistic influence in bilingual first language acquisition. By comparing object omission in monolingual and bilingual children's speech in a longitudinal study, the authors set out to show that the differences between the two groups of speakers with regard to the said aspect can be attributed to crosslinguistic influence in bilinguals. The languages in question were Romance (French and Italian) and Germanic (German and Dutch).

Müller and Hulk support the view that in bilingualism the two languages are separate, since monolinguals display similar deviant forms of target language. However, they aim to determine which parts of grammar specifically are transfer-sensitive and why, and further argue that crosslinguistic influence is "induced by the mapping of universal principles onto language specific principles, in particular pragmatic principles onto syntactic principles" (p. 2). They continue to refer to such interference as crosslinguistic influence and call it *mapping induced influence* (p. 2) to differentiate it from transfer – a direct crosslinguistic influence.

In their article, Müller and Hulk refer to Roeper's (1999) (as cited in Müller and Hulk, 2001, p. 2) concept of a Minimal Default Grammar (MDG), postulating that children "confronted with input from two partially overlapping languages tend to persist longer at a universal (pragmatic) stage." They suggest that crosslinguistic effects result

from transition from that MDG to language-specific grammar. However, they fail to explain the significance of pragmatics in the observed phenomena.

As Müller (1998), these authors also find quantitative differences between bilinguals and monolinguals. They conclude that crosslinguistic influence cannot be explained by language dominance or children's confusion of the two languages they are acquiring. It can, however, be predicted to occur on account of a grammatical phenomenon, that is, "Once language A allows for more than one grammatical analysis from the child's perspective and language B contains positive evidence for one of those possible analyses, language A is likely to be influenced by language B" (p. 19).

Although their study is longitudinal and allows observing the developmental path, it includes only a small number of participants. It is also rather problematic to understand the division made by Müller and Hulk between transfer and crosslinguistic influence. Like the previous study by Müller (1998), this one also attempts to explain crosslinguistic influence in the framework of UG.

Paradis and Navarro (2003) investigate presence of crosslinguistic interference in Spanish-English bilingual acquisition. Their data are derived from language transcript of a spontaneous conversations of one bilingual (Spanish-English) and two monolingual (Spanish) children, which are available online on CHILDES (Child Language Data Exchange System).² The main goal of this study is to look at the use of subjects, how it can be affected by crosslinguistic influence, and whether this influence, in turn, can be attributed to external factors.

² http://childes.psy.cmu.edu/

By calculating the overt number of subjects and objects in all utterances for which a context was available, the scholars found that the two monolingual children produced fewer overt subjects than the bilingual child. They also note that this crosslinguistic influence indeed occurred in the syntax/pragmatics interface, where the discoursepragmatic context can influence choices of grammatical structures, a fact which supports Müller and Hulk's (2000) proposal. While the findings clearly speak to the existence of crosslinguistic transfer, it is not possible to discern to what extent this influence was the result of the child's internal psycholinguistic processes or was triggered by the input, or a combination of both.

Serratrice *et al.* (2004), similarly to Paradis and Navarro (2003), use language transcripts available on CHILDES to investigate the possibility of crosslinguistic influence in bilingual children's speech and to look at the role of pragmatics in transfer. The children's transcripts were chosen to match in terms of mean length utterance (MLU). An analysis of four monolingual (English) and six bilingual children (Italian-English; including one bilingual child who had been a subject in a previous study conducted by Serratrice) led to the following observations. Crosslinguistic influence takes place in bilingual first language acquisition in specific contexts. Bilingual children produce more overt pronominal subjects in Italian than do monolinguals, an occurrence that appears to be due to the influence of English. Since overt objects are obligatory in both of these languages in question, not much change was expected or seen in both languages. The authors believe that this unidirectional transference is influenced by the

smaller number of pragmatic constraints on overt pronominal subject distribution in English. As a result, Italian is the language subject to crosslinguistic influence.

Zwanziger *et al.* (2005) set out to investigate whether crosslinguistic influence also takes place in the speech of bilingual Inuktitut-English children. Since the two languages are typologically far removed, not only with regard to pro-drop feature, the authors predict influence of Inuktitut on English. While subject omission is determined in both languages by syntax and pragmatics, subject omission in Inuktitut overlaps with some instances of allowable, yet highly restricted English pro-drop.

Zwanziger *et al.* interviewed six bilingual children. Speech analysis indicated no crosslinguistic influences either from English to Inuktitut or vice versa, despite typological differences between these two languages. The results then speak in support of earlier studies, which underline the fact that crosslinguistic influences are not universal.

Another research that looks at syntax-pragmatics interface, and its correlation to crosslinguistic influence was conducted by Argyri and Sorace's (2007). These authors examine specifically the role that language dominance in older bilingual children plays in the phenomenon of language transfer. Their participants were 32 8-year-old bilingual English-Greek speakers. The data was collected based on elicited production and acceptability judgment tasks and compared against the data from monolingual speakers of respective languages. In their analysis Argyri and Sorace found the following. The amount of input the children received was related to the occurrences of crosslinguistic influence. Language transfer can be unidirectional and can affect either syntax alone or

syntax-pragmatics interface. While it is a plausible explanation of transfer, an overlap in structure was not found by these scholars in their set of data.

Nicoladis (2002) looks at the role of structural ambiguity, language dominance, and frequency in crosslinguistic transfer. Her study was based on an experimental study with French-English bilingual children (ages 3 - 4) and an age-wise corresponding group of English monolinguals. The task was based on noun compound production. The data points to the following answers. Bilingual children reversed English compounds more often than monolinguals and, transfer was equal in both languages, that is, bi-directional. Thus it cannot be related to frequency in the input. Also, there are no correlations between language dominance and transfer. Finally, transfer was not observed in comprehension but in production. As for ambiguity, it did not appear to contribute to crosslinguistic transfer in comprehension, since it was not present in the input. Since there is no structural overlap in noun compounds in French and English, there are no grounds to support the ambiguity hypothesis as the cause of transfer.

Nicoladis's (2003) study focuses on ambiguity of morphological structures, namely deverbal compounds of the *object-verb-er* structure as a factor in language transfer in French-English bilingual preschool children. Her study supports the hypothesis that transfer is visible in production but not in comprehension. Bilingual children produced ungrammatical forms of verbal compounds VO (verb-object) more frequently than monolingual children. She supports the statement of Nicoladis (2002) that one possible interpretation of transfer is the notion that transfer is "a phenomenon of language production, rather than comprehension" (p. 29). She considers all structural

aspects of a language (phonological, morphological, syntactic, etc.) as possible transfer places to find transfer explanation. Existing research thus far supports ambiguity as a reasonable cause for crosslinguistic transfer. It is, nonetheless, important for future research to define exactly what aspects of languages children perceive as linguistically ambiguous.

An analysis of transfer in bilingual French-English production of adjective-noun strings is offered by Nicoladis (2006). The author aims to find whether overlap in structures in both languages and ambiguity in at least one of the languages lead to transfer defined by her as "structural influence of one language on another" (p. 15). She also considers language input and dominance as possible factors of crosslinguistic transfer.

Her study is based on an elicitation task conducted with bilingual and monolingual children. Its results support the claim that bilingual children reverse the adjective-noun order more frequently than monolingual children. Structural overlap/ambiguity hypothesis also proved to be correct in that bilinguals made more reversals in French, due to the existence of two options of noun/adjective combinations, as opposed to one in English. Nicoladis posits the possibility of *overregularization* being the reason for reversals of noun/adjective strings. *Overregularization* in bilingual children, she claims, is a property of learning two languages with two different default orders. This could mean that bilingual children strategize rather than transfer during the process of bilingual acquisition, the author states. While some variables responsible for transfer have been named (ambiguity, input, language mode), transfer, as the author underlines, does not account for lack of mistakes in bilinguals' speech. Also, there is deficiency in studies looking at transfer in comprehension, since the primary interests lie in production. In conclusion, Nicoladis proposes that crosslinguistic transfer be seen as a symptom of speech production errors, and she presents a tentative model, which in theory could account for crosslinguistic transfer in bilingual speech production. The said model points to the lemma level as responsible to crosslinguistic influence in bilingual production of noun/adjective strings. While the proposed model certainly has merit, it seems to have more value in code switching analysis and its accounting for it. It adds to Marian's (2009) study on language interaction in that it sees language production as connected to specific levels of processing.

Faroodi-Nejad and Paradis's (2009) study has a similar focus to the one conducted by Nicoladis (2002), namely transfer in compound words in bilinguals. The authors study 16 Persian-English bilinguals and compare their speech patterns against 19 Persian and 17 English monolinguals. Their findings reveal transfer in bilinguals' compound production due to structural overlap as well as language dominance. These factors are not, according to Faroodi-Nejad and Paradis, mutually exclusive. In conclusion, these scholars suggest that presence or absence of structural overlap may be better determined by observing developmental language rather than adult language. What is more, the conditions of structural overlap should include the condition when both languages have two options but the preferred ones are also the diverging ones. Lastly, the

authors suggest that language dominance be looked at from a sociolinguistic point of view – majority-minority status.

To summarize, crosslinguistic transfer in children is, according to Genesee (2003), "the systematic incorporation of a linguistic property from one language into the other" (p. 220). In some cases, when the two acquired languages share typological similarities, transfer leads to acceleration in acquisition. In many cases, on the other hand, transfer results in deviant structure patterns, and in bilingual children's language, it is observed only in specific aspects of the child's developing grammars and appears only under certain linguistic circumstances, such as structural overlap of analogous properties.

Language transfer is seen by some scholars as a disambiguation technique and a relief strategy. Bilingual children, these scholars purport, do not transfer as a result of language confusion – that is, inability to distinguish the two systems. Ambiguity lies in the overlap of structures, and transferring can be seen as an example of *transfer to somewhere*.

It has been shown that transfer is predictive (Müller, 1998) yet not universal (Zwanzinger *et al.*, 2005). The typological approach to grammars can aid in prediction of transfer but not in all language combinations. The more removed two languages are, the less transfer is expected (Odlin, 1993).

Transfer in bilingual children can be observed in pragmatics/syntax interface; thus, many of the above studies point to the importance of specific contexts in analyses of CLI. Results do not point to language dominance as a significant trigger of transfer in bilingual children, and they reveal bidirectionality of CLI (Nicoladis, 2002). Input does not reveal itself as a significant variable. However, the proposal of input as a variation contributing to language transfer must be substantiated with more studies, which would look not at the input alone but also at its frequency as well as at pragmatic and cognitive processing of young bilingual children. Interpretation of quantitative error differences between monolinguals and bilinguals should definitely take input into account. Fewer deviant forms in monolinguals' performance can be attributed to the frequency of input they receive in their language, not necessarily to better overall control on the language. What is more, as far as input is considered, sociolinguistic aspects of the observed linguistic milieus must be included in the studies (Faroodi-Nejad & Paradis, 2009).

In the research reviewed above no attention is given to interlanguage. Perhaps the ambiguity to which many scholars refer is not so much an indication of children's inability to discern between two linguistic systems but rather, it may be a manifestation of interlanguage processes. The answer to the question of what children perceive as ambiguous may lie in their interlanguages.

Similarly, no studies devote any room to transfer in comprehension. While typological closeness is of importance in CLI studies, language similarities are not explored.

As far as structural overlap is considered, it is advisable to look at it from a psycholinguistic point of view, the same departing from approaches and accounts deeply rooted in UG. Finally, it is difficult to come to sound conclusions founded on research data from small populations of children and combinations of languages with little

diversity. The studies reviewed in the above section offer interesting findings. While they claim to depart from the negative view of transfer, they all focus on production of deviant structures, in fact *negative transfer*, and give no attention to *positive transfer* as such. Understanding transfer must not only concentrate on mistakes and divergences in bilingual speech production. Facilitation of acquisition due to typological similarities could also offer a view into bilingual minds from yet another angle and aid in comprehension of transfer.

7. Discussion of Findings on Bilingual Adult and Children Transfer

The current section proceeds to discuss the findings presented above and to compare and contrast transfer in bilingual children and adults.

Bilingual adults tend to transfer their L1 to L2 when there exist similarities between the structures, or some aspects of the two languages. Children also perceive similarities, but according to research, crosslinguistic influence in their L2 is often caused by ambiguity. In situations where there is an overlap in structures of L1 and L2, young bilinguals rely on transfer as a technique of disambiguation and also – a relief strategy.

In their transfer, mature language learners often underdifferentiate (overextend), that is, use one lexical item to represent a class of items. This process is often employed in lexicon acquisition and is found in first language acquisition under the same conditions. Genesee (1988) claims that code mixing in bilingual children resembles this process of overextension. While a monolingual child uses only one linguistic system, the bilingual one has two and simply draws from either lexicon for an item that refers to a particular aspect of his or her reality. Furthermore, bilingual children overregularize linguistic systems in situations where the two systems have divergent defaults (Nicoladis, 2006).

Bilingual children, it has been argued, despite their ability to differentiate languages, may not have linguistic awareness of bilingual adults. This perhaps could explain why terms such as *transfer to somewhere* and *transfer to nowhere* never really apply in reference to CLI in their speech. Rather, much attention is given to *negative transfer*, or as some scholars prefer to call it – deviant forms. What the two groups clearly do have in common is their use of L1 knowledge to the advantage of L2 production, namely relying on similarities – *positive transfer*.

Since not much attention has been given to interlanguage of bilinguals – children and adults alike, it is difficult to say to what extent positive transfer is a result of metalinguistic awareness and just when it is an outcome of an intricate interlanguage system.

According to Grosjean (1998), language mode is a crucial variable in any research on bilingualism. Unfortunately, it is not often accounted for or acknowledged in the studies.

Certainly, there are often limitations to studies undertaken to obtain more information on crosslinguistic influence. Researchers acknowledge shortcomings related to small pools of participants or individual variations in participants. Ideally, transfer should be observed in a broader scope with a greater number of study participants and groups. Since longitudinal studies frequently prove problematic, a cross-sectional examination would also be an option.

There is a discernible need for comparative studies, not only among monolinguals and bilinguals, as it has been pointed out by Müller and Hulk (2001) and Nicoladis (2006), but also among corresponding groups of bilinguals across the language acquisition continuum. Identification of transfer should involve comparison of bilingual speakers with monolinguals, and its relationship to interlanguage can be observed over time.

Studies on child bilingualism demonstrated that bilingual children exhibit different cognitive processes in comparison to their monolingual peers and surpass them in perceptually misleading tasks (Genesee, 1989; Bialystok, 2001). It seems that similar studies involving adult bilinguals could inform this aspect of SLA and perhaps present yet another aspect of bilingualism on a broader scale by comparing cognitive task performances of adults and children. Analysis of the relationship of cognitive process and interlanguage development appears to be a natural step in this course of action. This last suggestion, however, may be more challenging to observe in studies due to its complex nature.

If bilingual children indeed transfer to avoid ambiguity, maybe the very features they transfer provide exactly the form of disambiguation that is needed for successful communication. By the same token, a structure or feature that is transferred in children's speech may not, however, be subject to crosslinguistic influence in bilingual adults. The matter of overlap in transferable structures between the two age groups of bilinguals has not been investigated. The major question that remains with regard to children and adult transfer is how they differ and in what respect they are alike.

Since young children operate with developing linguistic systems, and adult bilinguals (second language learners specifically) already have one system in place, there certainly is potential for imbalance in CLI. While a mature bilingual relies on the dominant language for comparison, a young one may function between the two, strategizing in communication. It is difficult to make predictions or to generalize broadly about outcomes of potential, hypothetical research in such a young field as SLA, where even the existing evidence cannot offer universals on transfer. The Zwazinger *et al.* (2005) study is the best proof of that. Undoubtedly, one step in the direction of search for stipulations for transfer is inclusion of less commonly studied languages into the ongoing research on crosslinguistic influence.

In conclusion, it is important to underline the fact that CLI research, especially its part devoted to transfer directionality, is still in the process of development. Hopefully, as it continues to grow and its range expands to include such crosslinguistic comparative studies, and through them, arrive at some more conclusive results, transfer triggers and occurrences will become less and less ambiguous.

8. Implications for Present Research

There are still no answers as to why some features transfer, while others do not. Settling this matter cannot be achieved within the framework of markedness, which in itself appears to be complex and offers many definitions of what marked and unmarked features represent, and how markedness can be divided (universal, typological, interlingual, or intralingual). Consequently, I depart from the UG legacy and markedness and choose to approach the research on bilingual first language acquisition, presented in Chapters 6 - 9 of this work, from the theoretical framework of multicompetence as it is studied and understood in psycholinguistics.

In my study, I choose to look at potential crosslinguistic influence in bilingual children's speech and analyze it within the existing research and theory of language transfer. It is my contention that language transfer, even as a relatively young sub-field of SLA and one with still developing scholarship, provides appropriate underpinning for any emerging bilingual research.

What is more, since it has been shown that transfer is not a negative, unidirectional linguistic phenomenon, by selecting transfer rather than markedness as the scaffolding for data analysis and explanation of findings, I am also able to investigate bidirectionality of crosslinguistic influence and, given the young age of my study participants, make observations of intrasubjective and intersubjective variations.

As far as language typology is concerned, chief typological characteristics of the two languages in my study, Polish and English, were discussed in Chapter 1 – Typology. These will be taken into account in the present data analysis, following the suggestion of previous scholarship on language transfer.

Chapter 4, which follows, is devoted to child bilingualism, as well as theories and existing studies pertaining to this topic.

CHAPTER 4

BILINGUAL CHILDREN

1. Introduction

The current chapter is devoted to the topic of child bilingualism. Following a short introduction on bilingualism in general, an extensive review is undertaken of the scholarly literature on theories and studies aiming to understand child bilingualism, as well as their findings and contribution to the field of Second Language Acquisition (henceforth SLA). In this chapter, I also address methodological issues relevant to the reported study.

Although a vast body of existing research examines bilingualism in adults and certainly makes an essential contribution to the field, in this chapter specific attention is given to studies discussing children who acquired their two languages from birth, or at a very early age, before their language formation process was considered complete. Studies concentrating on this type of bilingual children investigate the phenomenon of *first language bilingualism*, as opposed to second language acquisition. I hope to make the division and difference between the two clear in the course of this chapter.

2. Bilingualism

2.1. Definitions

Contrary to the seemingly transparent meaning of the word itself, bilingualism is not an easily definable term or phenomenon. Today, many scholars in the field of Second Language Acquisition make attempts not only to offer a precise definition of bilingualism by delineating its boundaries in terms of a speaker's second language competency, but also to juxtapose it with the repertoire of linguistic skills available to a monolingual speaker.

Haugen (1956) defined bilingualism as the ability to produce "*complete* and *meaningful* utterances in the other language" (p. 6). His definition has since been questioned for its rather simplistic view of bilingualism. The sole focus of Haugen's definition is output and it does not give any notice to input or comprehension. Such a definition becomes insufficient while talking about the different types of bilinguals who use their two languages to varying degrees in daily life and the various amounts of input and output their daily life situations provide them with or require of them.

Since its emergence as an academic topic, the term bilingualism has also been used in reference to the phenomenon of multilingualism, that is the use of more than two languages – a situation which can also present rather confusing answers when attempting to define bilingualism alone.

The confusing nature of the definition is exemplified by the seemingly neverending debate surrounding the topic in the recent scholarship. Montrul (2008) regards bilingualism as "knowledge and command of two languages, albeit to different degrees" (p. 17) and states that there are many types of bilingualism due to the variety of factors which define dual language speakers and hearers. Furthermore, the author adds, age of acquisition and order of acquisition are two other parameters, which make a distinction in bilingualism. As far as age of acquisition is concerned, bilingualism can be either early – in childhood, or late – after puberty. Order of language acquisition is a factor taken into consideration in studies of bilingual children. When a child acquires two languages at the same time, such bilingual acquisition is said to be simultaneous; when the languages are learned one after the other, the acquisition is successive. Adult and post-pubescent learners fall into the category of late, sequential second language acquisition.

Grosjean (2008) takes the debate a step further by defining bilingualism as "the regular use of two or more languages (or dialects)" (p. 10) and bilinguals as "those people who use two or more languages (or dialects) in their daily lives" (p. 10). The author considers it to be a very general description of both terms and further in his work provides the reader with more detailed depiction of a bilingual. While the ideal bilingual is seen as someone who is equally proficient in the two languages he or she knows, there appear to be no categories to which one can assign all the other bilinguals whose knowledge of the two (or more) languages is not balanced, or whose skills in each of the languages are not uniform.

There exists then a spectrum between the two polar opposites – a monolingual and an ideal bilingual, into which the said non-ideal bilinguals must belong. Grosjean points out that although bilinguals are different from monolinguals, most of the work done so far has been developed principally on the basis of monolingual studies. In Grosjean's (2008) opinion, "bilinguals are speakers-hearers in their own right, with complex language representations and processing mechanisms, and not two monolinguals in one person" (p. 83). They differ among themselves with respect to the extent they travel along the language continuum, that is the frequency with which they operate in each respective language. Similarly, along with the frequency of language changes, their language modes – the state of activation of each language, change as well.

2.2. Approaches

Most of the work regarding bilinguals has been developed principally on the basis of studies on monolinguals and a monolingual perspective. The first studies on bilingualism tended to approach it by comparing a bilingual's mind with that of a monolingual. However, some SLA scholars who recognized the flaws of this method proposed other, less standard approaches.

Cook (1991) offers the framework of multicompetence within which to seek answers to the bilingual quandary. According to Cook (1991) multicompetence is "the compound state of mind with two grammars" (p. 112).

Cook (1992) looks at various bilingual studies in an attempt to find empirical support to the multicompetence framework. The author reviews a number of studies to find out whether speakers of two languages differ from speakers of only one language and whether those who speak two languages have a merged language system or two separate ones (e.g., Magiste, 1979; Diaz, 1985; Coppetiers, 1987; Grosjean, 1989;

Seliger, 1989). In other words, Cook (1992) tries to understand whether multicompetence is a combination of two monocompetences or a different state entirely.

The studies Cook reviews all point to the fact that multicompetence is, to some degree, a different state of knowledge than monocompetence. They indicate, for example, that bilingual speakers have a longer Voice Onset Time (VOT) than monolinguals and that bilingual speakers are slower in picture naming and comprehension tasks. The loss of L1 (first, native language) is also a rather common occurrence among bilinguals for whom L2 (second language) becomes dominant. Furthermore, it has also been shown that bilinguals have an advantage over monolingual speakers in that they have a better metalinguistic awareness, and bilingualism strengthens their cognitive system. Studies of bilingual mental lexicon, despite their limited view of the lexicon, also support holistic multicompetence, a position that claims that two languages in a bilingual speaker's mind are in some manner interrelated. The occurrence of code switching and evidence for availability of an L1 during L2 processing at the lexical level seem to suggest that a bilingual speaker does not deactivate his or her L1 during the L2 processing. The 'monolingual bias' as Cook (p. 575) puts it, is the culprit in propagating the tendency to analyze bilinguals as possessing two separate language systems. While there is still much need for further research, there is ample evidence that the two languages in the mind of a bilingual person's mind are closely linked, and it would be preferable, as Cook further suggests, to approach bilingual studies by considering bilingualism a norm.

Scholarly literature informs us that all bilinguals are divided into first language bilinguals and second language bilinguals, depending on the time when they acquired their second language. Only those who learned two languages in childhood can be considered first language bilinguals. However, the opinions on the age before which L2 acquisition must take place differ.

The chief topic of Genesee's (1988) article is bilingual language development in preschool children who learn two languages in non-school settings. According to the author's classification, second language acquisition happens only in successive language acquisition after the first five years of a child's life; thus, any bilinguals who learn two languages anytime before their fifth birthday must be considered bilingual first learners. This article is discussed in more detail in section 3.2. of this chapter.

De Houwer (1995) also agrees that it is important to have a clear distinction between Bilingual First Language Acquisition (BFLA) and Bilingual Second Language Acquisition (BSLA). According to this researcher, however, the first term refers to children who learned both languages from birth or before the age of two, while the other includes children who acquired their second language after the age of two. Bilingual children appear to become aware of two separate language systems around their second birthday; thus, the author proposes this age as the marker or timeline dividing BFLA from BSLA. Furthermore, in her article De Houwer (1995) reviews existing studies on bilingual language acquisition with particular attention to studies on children (e.g., García, 1983; Hakuta and Diaz, 1985; Levy, 1985; Meisel, 1990b). While statistical estimates indicate that about half of the world's population is bilingual, it is monolingual language acquisition patterns that are considered to be the norm. Studies of bilingual children, the author states, can help to understand better not only the bilingual mind, but also contribute to the already existing findings and theories of monolingual language acquisition. Looking at early bilinguals can be invaluable in its potential to bring theoretical insights to the field of developmental psycholinguistics.

Efforts to understand first language bilingualism are visible in Genesee and Nicoladis's (2007) article, in which they review the existing empirical investigations on child bilingualism concerning the development of morphosyntax, lexicon, phonology, code mixing and communicative competence. (e.g., Pearson *et al.*, 1993; Mehler *et al.*, 1996; Nicoladis, 2001; Genesee, 2003; Patterson and Pearson, 2004). The authors emphasize the fact that the distinction between simultaneous and sequential second language acquisition is central to deeper comprehension of child bilingualism. While different age criteria have been chosen to distinguish between simultaneous and sequential (successive) bilingual acquisition (anywhere from within one month of birth to before three years of age), the authors decide to consider the period from birth to four years of age the time of simultaneous acquisition.

The main focus of this review is bilingual first language acquisition; however, in light of the research presented in this dissertation, I find it pertinent to this classification to include the issue of the critical period hypothesis.

2.3. Critical Period

Proposed first by Lenneberg (1967; as cited in Johnson and Newport, 1989), and related strictly to first language acquisition, this theory holds that "language acquisition must occur before the onset of puberty in order for language to develop fully" (p. 61). Studies of the congenitally deaf conducted to test this hypothesis indicate that there indeed exists a correlation between age and the ability of language acquisition. Native learners (exposed to American Sign Language (ASL) from birth) scored better than early learners (children who learned ASL between the ages of 4 and 6), and late learners (ASL exposure at the age of 12 or older) had the lowest scores on production and comprehension. This means that there is a decline in ability to master the language and that the critical period for first language acquisition is defined by maturation.

Lenneberg was considering only first language acquisition, but soon scholars in the field of second language acquisition became interested in his theory, wanting to understand whether this critical period applied also to second language acquisition, especially after a first language was already formed.

Based on Lenneberg's theory Johnson and Newport (1989) proposed two critical period hypotheses.

Version One: The exercise hypothesis: Early in life, humans have a superior capacity for acquiring languages. If the capacity is not exercised during this time, it will disappear or decline with maturation. If the capacity is exercised, however, further language learning abilities will remain intact throughout life.

Version Two: The maturational state hypothesis. Early in life, humans have a superior capacity for acquiring languages. This capacity disappears or declines with maturation (p. 64).

The first version predicts that children will perform better than adults in first language acquisition. Lack of exposure to a language in childhood decreases chances of learning it later in life. However, should one acquire a first language early on, the ability to acquire another language will remain intact. The second version acknowledges the role of the maturational process, predicting that language acquisition ability declines with age. Between the two versions, the first one assumes the same language acquisition processes in children and adults, while the second one shows that children will perform better than adults.

Johnson and Newport (1989) conducted a study with 46 participants – native Chinese and Korean speakers of L2 English. The participants varied in age of arrival to the United States (their first exposure to English) – ages three to 39, but had to have at least five years of exposure to L2 and had to have lived in the United Stated for an unbroken period of at least three years prior to the study test. In their study, the researchers looked at the following issues: effects of age on second language grammar acquisition, correlation of age, learning, and performance, attitudinal variables, and problematic grammar areas for learners of different ages. Their results suggest that children certainly have an advantage over adults in second language acquisition, and their ultimate attainment is better. Maturation also influences acquisition, and generally children who acquire a second language before the age of seven can reach native performance in that language. From the age of seven until puberty, language acquisition ability shows a linear decline and after puberty slowly declines and reaches a plateau. The said plateau level, however, is subject to individual variations. Amount and quality of exposure have shown to be fairly insignificant variables both in children and adult second language acquisition with respect to performance. Older learners also face more difficulties in acquisition of some grammatical aspects of a second language, which represent no problems for younger learners. Second language acquisition itself, the authors find, is not limited to a particular age, but its successful attainment is contingent upon the age factor.

The findings, Johnson and Newport maintain, support the maturational state hypothesis, one that accounts for language acquisition results in both first and second language. "Human beings appear to have a special capacity for acquiring language in childhood, regardless of whether the language is their first or second" (p. 95).

3. Bilingual Children

3. 1. Child Bilingualism Theories

Criticism of frameworks used in bilingual studies has contributed to the emergence of new theoretical approaches in the SLA field, and specifically in its subfield of child bilingualism. Presented below are the central theories, which serve as a point of departure for general research on the topic as well as specific studies on bilingual children. Some of the earlier hypotheses, such as the one by Sharwood Smith (1991) presented below, are rooted in the tradition of Universal Grammar, while the more recent ones depart from them and attribute much significance to cognitive processes in a bilingual mind.

Language Acquisition and Cognitive Processes

Bialystok (1991) discusses metalinguistic dimensions of bilingual proficiency. Due to various interpretations of the term *metalinguistic* and its loose application to a variety of linguistic behaviors and abilities, the author clarifies it as a linguistic performance involving underlying mental representations and cognitive operations. Language proficiency, in turn, is defined by her as "a function of the level of development of the linguistic representation and the particular cognitive processes applied to those representations" (p. 116). For a language to be processed, two components must be active – analysis of language knowledge and control of linguistic processing. These two processing components, the author claims, are considered to be the mechanism that facilitates language acquisition and improvement over time.

Human language is composed of symbols and a structure in which these symbols are embedded. Metalinguistic tasks involve the ability to comprehend the symbolic relationship between meanings of symbols and structures. As language learners continue to add new language information, their linguistic knowledge becomes restructured and each time continues to be analyzed at a progressively higher level. Control of linguistic processing involves attention to representations and proper strategies of directing it. As learners progress in their performances, they gain more and more control over the language and master the skill of attention.

Each language skill – oral, reading, and writing, is complex in that it places demands on analysis and control. The more proficient a language learner becomes in each of these skills, the more he or she relies on his or her processing skills. Monolingual children learn how to analyze the linguistic system of their language and how to apply meaning to forms and structures. Any advancement that takes place is connected with increasing analysis and control abilities. Similarly, acquisition of a second language requires the use of these skills within another linguistic system. Therefore, the author maintains, "processing systems developed to serve two linguistic systems are necessarily different from the same processing systems that operate in the service of only one" (p.138). Bilingual and monolinguals must for that reason vary in their metalinguistic awareness.

Bialystok (2001) presents two opposing theories on the cognitive process involved in language processing. Both of these theories were employed in first language acquisition studies. However, as the author states, the relation between language proficiency and the cognitive processes involved in language production must be understood first, before it can be decided which of the two theoretical approaches is more compelling in terms of elucidating the relationship between cognition and language proficiency.

The functional theories support the notion of language faculty being connected with other cognitive functions; the formal ones maintain its autonomy. The two schools of thought – formal and functional – are distinct in their explanations of the language acquisition process. Formal theories are based on language innateness and support the belief that language acquisition is governed by a special language module. Since it is a part of the human inheritance it requires no social manipulation. Each child, if exposed to a normally functioning environment, will acquire the language of his or her community. Conversely, in the eyes of functional linguists, language proficiency cannot be reached without the reflection of cognitive processes and mental representations of language.

Some other theories incorporate elements of both formal and functional traditions. They are referred to as hybrid theories. One of these theories was proposed by Bruner (1983; as cited in Bialystok, 2001), who suggested that language acquisition device (LAD), a formal element, is accompanied by a language acquisition support system (LASS), the functional, social element. The two elements are jointly responsible for language acquisition.

Locke (1993; as cited in Bialystok, 2001) presented another interactionist approach. The premise of his theory rested in a belief that language acquisition is contingent upon two crucial components necessary in information processing: grammatical analysis module (GAM) and a specialization in social cognition (SSC).

More recently proposed theories take an evolutionary approach, looking at language as a human ability that developed along with human intelligence. Such theories assume that language is innate, but acknowledge the social component of development over the centuries. Again, these theories also try to marry the formal and the functional school of thought.

However balanced the above mixed theories can appear, Bialystok claims, one should not make the mistake of assuming that any such dichotomy presents a sufficient theoretical scaffolding for the process of language acquisition. She also underlines the fact that since the formalists do not clearly express their preference on this matter, providing more evidence from the cognitive side might help in changing the tendencies. Consequently, the author attempts to identify some parameters that could perhaps help to bring some sound answers to the question of bilingual acquisition theory. The framework she proposes to analyze the relation between language use and cognitive functions required by language must include two components – she refers here to Bialystok's (1991) language analysis and language control.

The process of analysis involves levels of structure and organization changing with age. As children learn more about their language, their mental representations of language are analyzed and then categorized as knowledge, including abstract and out-ofcontext details and categories. Control of language refers to control of attention and indicates the ability to direct attention to specific mental tasks and aspects of real life that are ambiguous or conflicting. Control of attention to one specific problem inhibits attention to the other. This latter skill of inhibition develops in children slowly whereas habituation and selection are formed effortlessly. The process of analysis advances with age and with maturation. Elements of ambiguity can be found even in some simple conversations. Young speakers become gradually exposed to more complex language use, which requires of them to perform metalinguistic tasks at a gradually higher and higher level. Ricciardelli (1993; as cited in Bialystok, 2001) confirmed that analysis and control contribute to solution of metalinguistic tasks. The benefit of using the proposed framework, Bialystok adds, is that it can point to connections between language learning and the cognitive processes involved in it. Furthermore, it can provide a firm foundation for studies looking at impacts of language learning on cognition. Finally, it could help to identify potential effects of language knowledge on cognitive processes.

Sharwood Smith (1991) proposes a theoretical approach of modularity whereby particular language information in a human mind is stored in linguistic modules and processed through them. The author refers to Forster's model (1979) of three linearly ordered processing stages: phonological, syntactic, and message processors. Each of the processors functions independently only processing the input information from the preceding stage. The proposed idea of a modular mind, Sharwood Smith states, presents advantages in interpreting bilingual behavior and together with knowledge/control distinction could assist researchers in learning to what extent language processing is influenced by isolated modules versus central cognitive operations.

Language Differentiation

According to Meisel (2001), simultaneous acquisition of two or more languages by a single individual is an instance of first language acquisition. This particular topic has evoked much interest among scholars in the past two decades and resulted in a number of studies aiming either to disprove or support the theories surrounding bilingual language acquisition. In his article, the author summarizes the findings of some of these studies and analyzes them within the theoretical context (e.g., Volterra and Taeschner, 1978; Meisel, 1994d; De Houwer and Meisel, 1996). He pays particular attention to language differentiation and mutual influences between languages and lists four hypotheses, which emerged as a result of research on bilingual acquisition.

1. *Fusion Hypothesis*: The children create a new system, (randomly? [question mark in the original]) combining elements of the two or more systems.

2. *Differentiation Hypothesis*: The children differentiate the two systems as soon as they have access to grammatical knowledge.

2a. *Interdependent Development Hypothesis*: One of the languages serves as a developmental guide for the other.

2b. *Autonomous Development Hypothesis*: The acquisition of each of the two languages by the bilingual individuals follows the same developmental logic which guides the acquisition of the respective languages by monolingual children (p. 15).

The fusion hypothesis has been rejected for the most part; however, existence of a *pre-grammatical phase*, equally controversial, has been suggested as a stage in language development where linguistic knowledge is not differentiated. The problem that this unitary system presents, in Meisel's view, is lack of a clear definition of what kind of a system it would be: one consisting of a mixture of two grammars, one characterized by elements and principles which belong to neither of the languages, or one that reflects grammatical properties of either one or the other language. In considering a one-system language phase it is necessary to refer to and study the data coming from the young children who have not yet gained access to grammatical knowledge, that is, at the moment when they begin to use language specific grammar.

According to the rudimentary syntax hypothesis offered by Deuchar and Quay (1998, 2000; as cited in Meisel, 2001) as another version of a unitary system, one system exists before morphosyntactic systems are developed; it is based on predicate-argument. Meisel finds this problematic, since there is no clear distinction made by its creators,

whether the syntax is understood in this case as a simple linear word ordering or as a dependant grammatical structure.

When it comes to the explanation of grammatical bilingual development, the second hypothesis is the most accepted one. Studies conducted by Meisel himself (1990; 1994; as cited in Meisel, 2001) reveal that bilingual children use different word order patterns in both languages and undergo the same developmental stages as the respective monolinguals do. Acceptance of the differentiation hypothesis brings up the issue of language interaction, of which crosslinguistic interference, it must be recognized, is evidence.

While interdependence of languages may manifest itself as transfer, acceleration, or delay (Meisel, 2001, p. 29), existing research does not point to it. *Bilingual Bootstrapping Hypothesis* proposed by Gawlitzek-Maiwald and Tracy (1996) postulates that when two languages develop at a different pace, the dominant one will provide support for the development of the weaker one. The author suggests that although this theory certainly makes a good argument for the existence of crosslinguistic influences, it fails to provide sound reasoning for separate development of grammatical knowledge and competence in each language. Research results do indicate bilingual language interdependence and point to the contrasting patterns in development of each language. Meisel claims that his analysis of the findings tips the scales of the debate toward the theory of autonomous language development. Regardless of what the future research shows, the author concludes, "an adequate theory of grammar and of grammatical
development must be capable of explaining multilingual development as the simultaneous acquisition of two or more languages..." (p. 41).

Although crucial to research on bilingual children, theoretical frameworks are ineffective if they are not supported by extensive and exhaustive empirical studies.

3. 2. Studies and Observations

The following section introduces research on child bilingualism and presents its findings with regard to some of the more contentious topics such as code mixing in bilingual children's language, effects of bilingualism on children, and last but not least – the differences between monolingual and bilingual children.

3. 2. 1. Language Differentiation and Code Mixing

The most widely discussed issue as far as child bilingualism is concerned is the issue of code switching. Over the years, the scholarship on this topic has not reached a consensus on the question of what the phenomenon of code switching might represent in the children's speech. While some have considered code switching proof of a unitary linguistic system (e.g., Volterra & Taeschner, 1978), others state that children are not considered bilingual until they possess awareness of two languages, and instances of mixing cannot be identified as code switch or transfer (e.g., Redlinger & Park, 1980). Still others maintain that code switching in bilingual children is not as sophisticated as that of adult bilinguals and that it is not constrained by grammatical and sociolinguistic rules (Müller, 1998).

The main question Genesee (1988) poses in his article is whether or not there are differences in the underlying process of acquisition in the two groups of children. His work consists of a review of some of the first research on child bilingualism (e.g., Swain and Wesche, 1975; Fantini, 1978; Redlinger and Park, 1980; Vihman, 1982). Genesee acknowledges the fact that first and second language acquisition processes differ in general, as the cognitive abilities of learners are different, since learners of a second language already possess one language system. Child language acquisition is subject to influences such as individual differences, age and input. While in first language acquisition input is considered to play a supportive role, it plays a primary causal role in second language acquisition. These factors must be taken into consideration when researching first language bilingualism.

Bilingual mixing, for example, can happen on lexical, syntactic and phonological levels. It is not, however, evidence of linguistic confusion. Genesee offers two explanations of mixing – general and local. The main general explanation, questioned since its emergence, is the theory of a unitary language system. Local explanations include lexical gaps, lexical overextensions (bilingual children overextend inter-lingually, while monolingual intra-lingually) as well as underextensions (children may identify a referent with the lexical item in the language that was acquired or frequently used), and phonological and morphological complexity. Whereas the local explanations are plausible, the theory of a unitary language system cannot be fully upheld; bilingual children do not use both languages indiscriminately and in all contexts of communication. On the contrary, they are able to make a distinction between two

different language contexts and even to adjust their language for the benefit of their bilingual and monolingual interlocutors alike. Bilingual mixing, Genesee claims, may also be influenced by input. Children may model their speech on the input speech when they hear particular mixed utterances and imitate them, as well as when they are exposed to frequent language mixing in adult speech.

Overall, the author concludes, bilingual children use the same acquisitional strategies as do monolingual children. They develop two systems from the very beginning and are able to use each of them "differentially in contextually-sensitive ways" (p. 77).

The conviction that children who grow up speaking two languages simultaneously since birth, go through a period in which they do not differentiate between the two languages, is common among many SLA scholars. Genesee (1989) takes up this query in his article and examines the existing scholarship supporting such claims (e.g., Slobin, 1973; Bergman, 1976; Volterra and Taeschner, 1978; Pye, 1986; Redlinger and Park, 1980) as well as research challenging it (e.g., Murrell, 1966; Trehub, 1973; Jusczyk, 1982; Mehler, Lambertz, Jusczyk, and Amiel-Tison, 1986). The author argues that young bilingual children are in fact "psycholinguistically able to differentiate two languages from the earliest stages of bilingual development and that they can use their two languages in functionally differentiated ways" (p. 161).

Studies reviewed by the author indicate that bilingual children tend to mix the two languages they are exposed to and that reported mixing was phonological, lexical, phrasal, morphological, syntactic, semantic, and pragmatic. By language mixing Genesee understands, then, "co-occurrence of elements from two or more languages in a singleword utterance" (p. 162). Although rates on mixing varied from one study to another, observed mixed utterances were more common among the younger population of studied children and tended to be less and less frequent with age. While adult bilinguals also mix languages, their language mixing, referred to as code switching, is unlike that of bilingual children. Code switching in adults is a "sophisticated, rule-governed communicative device used by linguistically competent bilinguals to achieve a variety of communicative goals, such as conveying emphasis, role playing, or establishing socio-cultural identity. It has highly structured syntactic and sociolinguistic constraints" (Genesee, 1989, p. 164). Children's mixing is thought to lack in systematicity or compliance to linguistic rules. However, it has been observed, Genesee reports, that bilingual children differentiate languages at the age of about three when their two separate language systems become separated. While many studies made the phenomenon of child language mixing a known fact, the rationalizations of this fact are much less definite.

Language mixing in bilingual children has been interpreted in support of the theory of a unitary language system in early bilingual development. However, other explanations have also been offered to elucidate this matter, such as for example simplification, specificity of lexical items, and lexical gaps in one of the languages – linguistic incompleteness. Overextension can be yet another cause of mixing; while monolingual children overextend intra-lingually, bilingual children overextend intra- and inter-lingually.

While the unitary system language hypothesis would need data to substantiate indiscriminate use of items from both languages in all contexts, the differentiatedlanguage system hypothesis can only be verified with data where items from two languages are used differently depending on context. Neither of these hypotheses, Genesee adds, is fully supported by evidence. Nonetheless, he reiterates, it is his conviction that bilingual children do not confuse language systems and can use them depending on context.

Bilingual code mixing among children has been used in past studies as an argument in support of the theories exposing negative effects of bilingualism and the risks it presents to linguistic, cognitive, and communicative aspects of language acquisition on the whole. Genesee (2001b) attempts to dispel the myth of deviations caused by exposure to two languages at an early age and in so doing first reviews results of the studies on simultaneous acquisition of two languages among children (e.g., De Houwer, 1990; Genesee, 1989; Genesee, Nicoladis, and Paradis, 1995; Lanza, 1997). He discusses one of controversial aspects of bilingualism, namely code mixing, analyzing the existing data from the cognitive, linguistic, grammatical, and communicative perspective. Code mixing is often referred to as code switching; nonetheless, in order to not presume that child and adult code mixing share the same properties in terms of function and structure, Genesee proposes code mixing as a more appropriate term for the said linguistic phenomenon in bilingual children's speech.

Bilingual children, the author states, tend to code mix according to the same principles as adult bilinguals. They also exceed in linguistic competence in comparison with their monolingual peers, as they are shown to be able to coordinate on-line two languages while code mixing. Another explanation the author offers for code switching is that children use it to extend their communicative proficiency during a stage when acquisition of neither of the two languages has been completed. The author concludes by stating that code mixing is a linguistic strategy and should be seen as a difference rather than as a deficit. Its misunderstanding leads to a flawed view of bilingualism.

Code switching, which is perceived by some as evidence for impediments in language development in bilingual children, is naturally a linguistic phenomenon. Genesee and Nicoladis (2007) (in a study introduced in section 2.2.) comment on the fact that code mixing in bilingual children is grammatically constrained just like in adults because "children usually mix two languages at points in an utterance where the grammar is concordant" (p. 331), or similar in both languages. What is more, bilingual children tend to mix function words and inflectional morphemes from their dominant languages with content words from their less proficient languages. Functionally, children mix their two languages in order to fill lexical gaps in either of the two languages, to accommodate an interlocutor, to acknowledge situational factors (home vs. playground environment), and even to mark their identity. Code mixing is a sign of their linguistic resourcefulness.

Communicative competence of very young bilingual children is the topic investigated by Genesee, Boivin, and Nicoladis (1996). The scholars analyze four 2-yearold bilingual children (English-French) and their ability to adjust their developing languages appropriately when speaking with monolingual interlocutors. The participants were raised in bilingual homes and exposed to both languages from birth. The results of their study support the claim that bilingual children, even if they are just in between the one-word and two-word stage in their language acquisition process, are able to use their two languages differently and appropriately, as they are able to analyze implicit linguistic feedback from unfamiliar adults. Bilingual children modify their language use with strangers when speaking their dominant languages as well as when communicating in their weaker, less proficient language. These findings, the researchers add, should be expended by studies that look at intra-utterance code mixing as a pragmatic strategy used by bilingual children in order to extend their communicative abilities in their less proficient language.

Romaine's (1999b) point of contention is that many studies tend to analyze bilingualism through the prism of monolingual acquisition. This is, she argues, a flawed method of analysis, since bilingual competence is not the total sum of two monolinguals but rather a "unitary system, which allows the pooling of resources across two languages" (p.65). She also underlines the fact (as do Genesee, 1988; Genesee and Nicoladis, 2007), that code switching, which is often regarded as evidence of imperfect competence is, in fact, a mode of bilingual performance indicative of a bilingual's full communicative competence.

In her analysis of environmental factors in child bilingual development, De Houwer (1999) brings up the additional topic of language contact in young bilingual children and one of its perceivable results – code switching. While adult code switching can be brought on by linguistic as well as socially significant factors, this phenomenon has not been closely studied in children in social contexts. Sociolinguistic milieu can provide an important framework for such studies and also outline the variables contributing to the said occurrence of language switching. Since parents are the first to provide a mini-linguistic community for their children, the studies on the correlation between child mixed-utterances – "utterances in which elements from two languages co-occur" (p. 247) conducted so far focus on the parental input. The more explicit the parents are about the use of one language at a time, the less mixed utterances the child is likely to produce. It has been reported also that bilingual children tend not to use mixed language when speaking with monolinguals. Genesee and Nicoladis (2007) make a similar point.

Finally, Genesee (2001a), based on his review of scholarship on bilingual first language speakers, confirms that any code mixing in a bilingual child's language falls within the constraints of code mixing observed among the adult bilingual population.

3. 2. 2. Consequences of Bilingualism – Bilinguals versus Monolinguals

Genesee, Boivin, and Nicoladis (1996) observe that bilingual children differ from their monolingual peers in some of the linguistic skills involved in language use. This fact is not in and of itself surprising, seeing as they operate between two usually very different systems (depending on the linguistic typology of the two languages involved). To gain an even better understanding of the bilingual mind, some of the researchers working in this field have looked at linguistic strategies of bilingual children used in their speech and learning.

The phenomenon of growing interest in bilingual acquisition in the past two decades, Genesee (2003) remarks, can be attributed to the fact that bilingualism is not an uncommon occurrence, and that theories on language acquisition which are based predominantly on monolingual children must also acknowledge the bilingual acquisition to be comprehensive. Current studies on bilingualism, the author informs, look at various language aspects such as phonology, early lexical development, syntax, socio-pragmatic and communication skills. By reviewing the available research on bilingualism, Genesee attempts to understand simultaneous bilingualism better. His analysis of results of the empirical studies comparing monolinguals and bilinguals leads him to conclude that humans are equally prepared to learn two languages as they are to acquire one (e.g., Paradis and Genesee, 1996; Oller, Eilers, Urbano, and Cobo-Lewis, 1997; Bosch and Sebastián-Gallés, 2001; Paradis, 2001). Studies with infants revealed that they are able to discriminate contrasts between two languages. Furthermore, the rate of bilingual development is comparable to the rate of monolingual development, which suggests that acquisition of two languages does not represent an additional burden on a child's mental capacities, and that it does not impede expected linguistic progress.

Contrary to the belief that bilingual children are initially monolingual and process both languages as one system, these children do not go through the unitary stage (the unitary language system hypothesis), but rather differentiate between two separate linguistic systems. Code mixing observed in bilingual children's speech challenges the unitary language system. Bialystok (2001) reviews studies looking at language concepts, number concepts, and problem solving in monolingual and bilingual children (e.g., Grainger and Dijkstra, 1992; Zelazo and Jacques, 1996; Zelazo and Frye, 1997; Bialystok and Majumder, 1998, Cromdal, 1999). The findings of these studies are as follows. Bilingual children perform better than monolingual in answering questions with grammatically correct but anomalous meanings. They are also able to ignore uncharacteristic information and attend to the grammaticality issue. Similarly, in a task requiring the discernment of perceptually misleading information the performance of bilinguals surpasses that of monolinguals. As far as problem solving is concerned, bilingual children have less difficulty in switching tasks, and they work out problems quicker than their monolingual peers. These studies, Bialystok states, lead to the conclusion that cognitive processing in bilingual children is significantly different from that of monolinguals. Also, the impact of bilingualism is seen in one of the processes, being inhibition control.

The fact that children who speak two languages outperform their monolingual peers in language inhibition poses additional puzzling questions for scholars and requires additional studies to show the cause of this process. Recent studies of adult bilinguals show that both languages remain active during language processing time and the choice of one means inhibition of the other. Seeing that bilingual children practice this skill from an early age, it is not surprising that they should have an advantage over monolingual children in similar tasks during research studies.

The findings presented by Bialystok further point to the fact that verbal skills of bilinguals have an evident impact on the cognitive process used in solving non-verbal problems. What is more, the influence of early childhood bilingualism on cognition supports the theory that language and cognition cannot be isolated. In fact, "language and cognitive development proceed through the same mechanisms, in response to the same experiences, and with considerable mutual influence on each other" (p. 162).

Genesee (2001a) returns to bilingual first language acquisition – an acquisition of two languages simultaneously from birth, to demonstrate that contrary to earlier views, it does not have any negative impact on a child's development. Recent research on bilingual children, which Genesee reviews, reveals that while bilingualism can pose a challenge to some children, it should not be generalized as a problem for all (e.g., Paradis and Genesee, 1996; Nicoladis and Genesee, 1998; Hulk and Müller, 2000). Children who grow up speaking two languages are able to and do use each of the two languages differently and appropriately with familiar and unfamiliar interlocutors alike. That means not only are they able to switch codes depending on the language, they are also aware of their interlocutor's language and try to accommodate them. The author underlines the fact that "bilingual children have the cognitive capacity to identify and respond appropriately on-line to important characteristics of their interlocutors (their bilingual proficiency in this case)" (p. 156).

Similarly, Genesee (2001b) in his analysis of the studies on code switching suggests that bilingualism presents no risks of incomplete, abnormal, or delayed development.

Genesee and Nicoladis (2007) (in the article referred to earlier in this chapter) look at the distinction between simultaneous and sequential second language acquisition in an attempt to understand child bilingualism better. The main goal of the available research on first bilingual acquisition, the authors point out, was to ascertain the difference in language development between bilingual and monolingual children. The underlying question that the research aimed to answer was of a theoretical nature, namely, whether the presence of two languages challenged children's ability to acquire language at all. Additionally, the researchers also examined the patterns of bilingual development. Given the fact that past research on bilingual language acquisition in children brought conflicting opinions, a closer analysis of the bilingual issues was necessary.

Their review points to the following similarities between the monolingual and bilingual children. Bilingual and monolingual children reach important milestones such as canonical babbling, first words, and overall rate of vocabulary growth, within the same age span. Morphosyntactic development of bilinguals, mainly in their dominant language, is similar to that of monolinguals.

The primary difference between the two groups is vocabulary size, since bilingual children tend to have a smaller vocabulary in each of the languages than monolingual children have in their own language. This variation comes from the fact that bilingual children receive input in two languages, and as a result there may not be a complete lexical overlap of the two lexicons. Furthermore, bilingual children are said to hear less in terms of phonological segments, since they may not be exposed to clearly discernible phonemic contrasts in the input. In order to present a clearer and more objective estimation of bilingualism among children Paradis (2007) gives an overview of childhood second language acquisition. The author underlines the fact that some of the resurgence of interest in bilingualism among children has been brought on by special education researchers who became aware of the need to distinguish between language difference and language disorder in multilingual communities. She concentrates on the very same question as Bialystok (2001), that is, on the comparison of development between monolingual and bilingual children in terms of rates of language acquisition and performance.

Paradis also investigates the L1 development of minority children learning the majority's language; therefore, the focus of her article, unlike the articles discussed above, is on sequential bilingualism. As far as development is concerned, her conclusions are similar to the above-mentioned ones, confirming that bilingual children not only are not disadvantaged, but may also possess greater cognitive maturity than monolinguals. As far as L1 among the minority children is concerned, children tend to shift towards greater competence in L2. The chronological length of this process is determined by a combination of psychological and social factors (community support, socio-economic status, quality and quantity of input), as well as motivation, language aptitude, personality characteristics, language typology and finally, age of acquisition. In order for bilingualism to be seen as "a healthy and advantageous developmental path" (p. 401), Paradis remarks, it must be understood.

3. 2. 3. Early Bilingualism and Literacy

Development of language can be observed and studied not only by speech analysis but also by looking at bilingual reading acquisition. Reading can be another indicator of the language learning process.

Kimbrough Oller & Jarmulowicz (2007) present an overview of scholarship focused on the issue of literacy in bilingual children during their early school years (e.g., Tunmer, Herriman, and Nesdale, 1988; Rossell and Baker, 1996; Carlisle, 2000; August et al., 2003). The authors look at studies addressing the interaction of differing linguistic and writing systems against the backdrop of bilingual literacy in elementary education. Since the two bilingual systems in bilingual individuals interact, it is expected that this interaction can be negative and positive, depending on the characteristics of the particular languages involved. Research shows that bilingual children outperform monolingual children in tasks involving verbal reasoning, although their vocabulary size for each language is smaller than that of a monolingual peer. Higher metalinguistic awareness of children speaking two languages "implies that costs entailed by learning two languages may be *counterbalanced* by higher-order gains at a general level of verbal cognition" (p. 373). What is more, the authors state, bilingual children are shown to transfer successfully those elements that are similar or shared in both languages (phonological elements, syntactic structures, principles, alphabet, etc.). This fact departs from the notion of metalinguistic effects of interdependence as contributing to bilingual performance in elementary school and underlines the significance of strategies. However, transfer of linguistic skill does not occur uniformly in all domains of language and literacy. Existing studies show "high correlations across language for early literacy skills (reading comprehension, phonics and writing) but low correlations for oral skills" (p. 375). Conversely, when bilingual children operate between two linguistic systems that exhibit no visual resemblance to each other, their literacy skills develop independently for each of the languages.

Cummins (1991) underlines the importance of still other factors that should be taken into consideration in research aimed at understanding bilingual children. He devotes his article to the topic of interdependence of first- and second-language proficiency in bilingual children and examines existing empirical studies (e.g., Genesee, 1979; Hakuta and Diaz, 1985; Ramirez, 1985; Gonzales, 1986; Cummins and Nakajima, 1987). It is the author's contention that language acquisition is determined by attributebased and input-based aspects of proficiency.

Attribute-based aspects of proficiency are those that are influenced by an individual learner's stable attributes, which encompass both cognitive and personality variables. Input-based aspects, by contrast, are associated with the quality and quantity of the second language input received from the environment. While the dimensions of these aspects are not readily seen in the first stages of language acquisition, they come to the forefront in later stages and the divide between them becomes apparent. Another notion that the author considers to be of value with respect to bilingual acquisition is the use of *contextualized* and *decontextualized* language as the foundation of children's language and literacy development. The distinction between these two terms lies in the number of

contextual cues available to language learners for use in discerning the communicated meaning.

Studies to which Cummins refers point to the fact that both individual attributes and input play an important role in the development of second language proficiency. Furthermore, it has been observed that children gain control of a language quicker when its input is accompanied by paralinguistic cues and face-to-face interaction. Personal attributes and language skills that children develop in their first language are invaluable in the process of second language acquisition. For example, children transfer their academic skills across languages. Acquisition of basic writing and reading skills in the first language can facilitate learning of the same skills in the second language in a shorter period than could be expected for children acquiring these skills for the very first time in their second language. It is also worth mentioning that as far as decontextualized and contextualized language skills among bilingual children are concerned, correlation between languages was stronger than within languages.

3. 3. Social and Environmental Factors Relevant to Child Bilingual Studies

Whereas children's age and exposure to language are important in the process of second language acquisition, social and environmental factors also play an important role not only in the course of language development but also later in language attainment and maintenance. The scholarship presented below addresses these external factors.

Parental Role

In her article on child bilingualism, Romaine (1999a) discusses findings of the existing studies in the field (e.g., Saunders, 1982; Taeschner, 1983; Meisel, 1990; Lanza, 1992; Gawlitzek-Maiwald and Tracy, 1995). She gives an overview of the development of particular language aspects such as phonology, lexicon, and syntax, as well as the issues of crosslinguistic influence, language differentiation and the role of input. An important contribution her article makes is the codification of different kinds of childhood bilingualism by breaking it down into six different types depending on the type of parental input.

Her systematization, based on sociolinguistic elements rather then purely linguistic ones, is as follows:

Type 1: One-person-one-language

The parents have different native languages with varying degree of competence in the other's language, and each parent speaks their own language to the child from birth. The community speaks the language of one of the parents.

Type 2: Non-dominant home language/One-language-one-environment The parents have different native languages, and the language of one of the parents is the dominant language of the community. Both parents speak the non-dominant language to the child, who is fully exposed to the dominant language only when outside the home.

Type 3: Non-dominant home language without community support. The parents share the same native language and speak it to the child. The community language is dominant but it is not that of the parents. Type 4: Double non-dominant home language without community support. The parents have different native languages, and the community language is different from either of the parents' languages. The parents each speak their own language to the child, who speaks the third language in the community.

Type 5: Non-native parents

The parents share the same native language with each other and with the community. One of the parents always addresses the child in a language, which is not his/her native language.

Type 6: Mixed languages

The parents are bilingual. They mix languages and code-switch. The community may also be bilingual in some sectors (p. 253).

Certainly, such systematic delineation of the kinds of input that bilingual children receive can contribute to future studies not only by providing a sociolinguistic background but also by defining variables that could otherwise be omitted. And just as the balance of language input from each parent is of importance, so are parental attitudes toward bilingualism.

Of many children who are exposed to two languages in their childhood, some grow up to be fully proficient in both, while others have only passive knowledge of one of them. Little research is devoted to investigation of sociolinguistic factors involved in such instances. De Houwer's (1999) article addresses the role of parental beliefs and attitudes as environmental factors present in early bilingual development. The author believes that a closer analysis of the parental language patterns can shed some light on the question at hand, since parents play particularly significant roles in children's lives. The author points out the fact that there is a wide range of variations with regard to child passive and active bilingualism. She defines seven various bilingual situations that exist in bilingual families. Each of the situations comprises four dimensions, and each dimension, in turn, indicates the language patterns of each parent. The spectrum of the patterns extends from a one-parent one-language situation, to one where each of the parents uses both languages with varying frequency. Aside from the language parents choose to speak to their children, the language of response may also be an important factor in bilingual development. However, it is not yet fully understood, De Houwer notes, to what extent parents' speech indeed influences their children's language patterns.

Parental beliefs about bilingualism, their attitudes toward the languages involved, and society's general attitudes toward minority languages also play a significant role in the linguistic choices parents make around their children. Furthermore, parents' belief in their own impact on their child's language acquisition can also influence the decisions they make with regard to languages spoken at home. Whether parents see themselves as important agents in the process of language acquisition or do not consider or see the importance of establishing a language use pattern with their children, they do have an impact on whether their children will learn both languages or just one. De Houwer refers to this as an *impact belief* (p. 83).

Drawing on theories from developmental psychology, the author states: "parents' ideas underline parents' practices" (p. 85). She proposes a three-tiered framework to explain the early active versus passive bilingualism. The said framework depicts a cause-effect scenario: parental beliefs and attitudes (tier 1) lead them to make certain linguistic

choices and undertake certain interaction strategies (tier 2). Consecutively, these influence children's language development (tier 3). Notwithstanding lack of empirical studies on the role of environment in early bilingualism, one can hypothesize a correlation between parental roles and child bilingualism. De Houwer makes a seemingly obvious yet important observation that, "[I]n order for early active bilingualism to develop, a minimal condition is that parents have a positive attitude to both languages involved and to early bilingualism" (p. 87). She believes also that for children to grow up as active bilinguals they must be regularly and frequently exposed to the two languages, and their environment must support bilingualism for socio-communicative purposes. Any further questions regarding the matter of environment and its impact on linguistic practices remain to be answered based on well-designed studies.

Although "the 'baseline' of normal bilingual development has not yet been established" (p. 249), De Houwer concludes, the existing studies show that a bilingual child has a more complex language learning acquisition process on account of operating within two separate systems.

Lastly, as Genesee (1989) states, the role of parental input cannot be omitted in studies concerned with language mixing. However, it ought not to be limited only to lexical language sphere. So far studies have revealed that children who are exposed to language mixing tend to mix languages much more than those whose parents make an effort to adhere to the 'one parent one language' rule.

Social Contexts

Whereas parents and home environment provide the microcosmic social and linguistic society for bilingual children, they are not the only factors playing an important role in language development. The linguistic milieu in which children reside can also contribute to the development and maintenance of mostly one, but in some cases both languages.

Wong Fillmore (1991) investigates second-language learning in social contexts. The author focuses here mainly on learners who reside in an adopted society, namely on immigrant learners. She provides a three-part language-learning situation model. This model consists of learners, speakers of the target languages, and social settings for the contact of the two. The main stipulations of the model are learners' need and motivation to acquire the target language and speakers' willingness to interact with language learners and provide access to the language. The social setting must enable frequent contact between them.

Language acquisition involves three ongoing processes: social, linguistic, and cognitive. Social processes refer specifically to social settings and interaction with the second language in its native context. Linguistic processes have to do with obtaining a sufficient amount of linguistic evidence to infer the rules of the language and being able to negotiate meaning in the second language. Finally, cognitive processes entail analytical procedures, associative skills, memory, pattern recognition, generalization, induction, and inference. Language learning, Wong Fillmore says, involves two types of cognitive processes – those specific to learning and those specialized for more general

intellectual tasks. While the first type is more important in first-language acquisition, the second is necessary in second-language learning.

Wong Fillmore maintains also that social circumstances of younger children afford them more opportunities to interact with target language speakers. Furthermore, personal characteristics, which present no problems in childhood, may inhibit the acquisition process in adulthood. Mental rigidity, fear of risk taking in speech, as well as economic situation place adults at a somewhat disadvantageous position for language learning.

Sufficient contact along with interaction with native speakers of the target language plays a very important role in a successful or even satisfactory instance of language acquisition. Just as learners must be open to opportunities to speak the target language and make an effort to seek out opportunities to do so, so also the target language speakers must be willing to interact with the learners and realize the importance of their input.

Language learning can be affected by many variables, of which only some are cognitive in nature. Social factors, personalities, attitudes, and motivations of speakers and learners are all elements that influence language learning in social contexts.

Romaine's (1999b) article provides an interesting commentary on general attitudes towards bilingualism observed in Canada, the United States, and in some European countries such as England and the Netherlands. She argues against the deceptive approach to bilingualism frequently encountered in existing studies. She maintains that bilingual communities are not as rare and unique as studies make them to be. It is the biased divide of bilingual speakers, especially children, into the 'folk' or 'elite' groups that encourages emergence of misinformed attitudes toward speakers of two or more languages. The 'folk – elite' classification is rooted in the country's majority vs. minority language. The minority languages are spoken by the immigrants and their children. The immigrant children often struggle with L2 at school since they have to work with two languages without appropriate support from school. Their L1 skills are not utilized in any way to facilitate L2 acquisition and/or development. Their poor academic performance is blamed on bilingualism as they do not make progress in their L2, and they are sometimes labeled *semilingual*. This term, the author purports, "is a politically loaded concept based on questionable assumptions about language proficiency and how it is measured" (p. 69), and bilingualism is often wrongly found to be the cause of poverty, poor educational achievement, and status differences in the host country. On the other hand, foreign language instruction in the same countries is seen as valuable not only culturally but also economically.

The monolingual mode, Romaine further elaborates, which often serves as the backdrop for all bilingual investigations, regrettably, has contributed to the creation of an ideal bilingual, elevated to the status of a special individual, fully competent and functional in two languages. This term, however, is elusive and grossly idealistic. In the majority of bilingual environments the use of either of the two languages is imbalanced and in complementary distribution. In social contexts where one language is used, the other is rarely spoken, and vice versa. No society, the author comments, has the need to maintain functionally balanced bilingualism, and any such occurrence would inevitably lead to elimination of one of these languages.

The author also adds that greater metalinguistic awareness and cognitive flexibility are only some of the benefits of bilingualism. Any negative attitudes toward bilingualism come primarily from the elitist approach to linguistic minorities, economic and political agendas, and lack of social and psychological support in schools attended by bilingual children.

Romaine underlines obvious issues with which the SLA community grapples today. The need for more research on child bilingualism is certainly apparent. New studies ought to be methodologically sound and aim at answering questions about specific differences between bilingual and monolingual acquisition and elements they have in common. They must also clearly demonstrate benefits of bilingualism. Such research is invaluable not only in terms of its contribution to the existing scholarship but also in terms of dispelling the myths of bilingual simple folk.

When studying bilingual children, Bialystok and Cummins (1991) state, one ought to keep in mind the individual differences in their developmental patterns and be cognizant of the fact that they may also be rooted in social, educational, and contextual conditions. The most universal insight into the bilingual children's language and cognitive processing, these authors claim, may come from researching the diversity among children who speak two languages.

4. Methodology in Bilingual Research

Bilingual research, as Marian (2008) states, is as diverse as monolingual studies not only in terms of methodological approaches but also with regard to the scholarly communities that are involved and contribute to further understanding of the phenomenon of bilingualism. As a result, bilingualism is studied from developmental, behavioral, cognitive, neurological, psycholinguistic, and sociolinguistic perspectives and is included in research in social sciences, biology, and the humanities.

Empirical data from bilingual participants can be obtained by way of observational and/or experimental studies. Such studies can be executed as one-time examinations or longitudinal studies over specific periods of time. While both provide valuable information about an observed aspect of bilingual speech, it is the longitudinal type that best tracks language acquisition and development over time. Studying one individual over a prolonged period certainly has merit, but looking at defined groups of bilinguals undoubtedly gives a better perspective on bilingualism. Since it is often difficult for researchers to secure long-term access to the same group of people, crosssectional studies are conducted instead, where different individuals or groups are compared to one another at the same point in time. The differences between them account for time continuum existing in longitudinal studies.

The authors of the articles reviewed in the current chapter, for the most part, offer their interpretations of studies on child bilingualism. Their observations and opinions are derived from results of both observational and experimental research. The scholarly merit of these commentaries cannot be disputed. Just as each single study contributes to the body of work on child bilingualism and understanding it, the discourse based on reviews of specific studies is necessary to gain a wider perspective on all of the available findings.

The participant populations of the above-mentioned studies are made up of both genders of bilingual children, who were exposed to two languages either from birth or from a very early age. With the exception of the literacy studies, which looked at an older population of bilinguals (school-age children), other research focused on younger children. The studies examining general language use, preference, code mixing, and grammatical and communicative competence tend to be observational. Various aspects of cognitive processing, such as language concepts, number concepts, problem solving, and vocabulary size lend themselves better to experimental studies.

While these studies provide a wealth of information on bilingualism, they certainly leave much room for further examinations of bilingual children in various aspects of language processing, acquisition, and production. It is a known fact to researchers that experimental research, even carefully designed and planned, is not always possible or practical, given the young age of children and the variables under investigation. However, inclusion of a greater number of experimental studies could open yet another window to the specified aspects of language. A more detailed critique of the reviewed scholarship is offered in the ensuing discussion.

5. Research Gaps and Shortcomings

If the differences between monolinguals and bilinguals are constantly under investigation, the methods used to collect this particular information are not necessarily the most effective. According to Grosjean (1998), the methodological approaches ought to be re-evaluated. It is the author's contention that each of the bilingual study aspects – participants, language mode, tasks, stimuli, and models, presents problems for conducting valid and reliable research.

In order to remedy the situation and secure the validity and reliability of bilingual studies, Grosjean proposes paying greater attention to and focusing on the following concerns. During the participant selection process more detailed information ought to be collected. Biographical data, language history, function and context, and proficiency are a better backdrop for individual and group analysis and patterns. Language mode, being a state of language activation, is a variable and has impact on language production and perception, and thus should not be disregarded. Across many studies stimuli are not similar. Their normalization, Grosjean suggests, could yield the results appropriate for cross-study comparisons. Linguistic experimental tasks are not clearly set up and as a result do not test language aspects they are intended to test. It is not always clear whether these tasks tap into language processing, language representation, or both. Similarly, these tasks at times activate the processing systems of both languages, when only one is tested. Bilingual acquisition models, in Grosjean's opinion, need to be properly developed in accord with their goal. The main flaw of the models is that many of them are based on monolingual models. While the reconciliation of the methodological and conceptual issues in bilingual research may be a long process, it is undoubtedly necessary and can only lead to a deeper understanding of bilingualism.

6. Discussion

Analyzed by many scholars, bilingualism clearly still maintains its aura of inscrutability. The foregoing review brings up a number of issues as well as further questions regarding both the theory and the methodology employed in research on child bilingualism.

Purely formal theoretical approaches deem language to be a natural function, an endowment each child is born with. They assume that each child, if exposed to a normally functioning environment, will acquire the language of the surrounding community. In the case of bilinguals, these theories fail to account for the fact that L2 acquisition does not have the same pattern for all children exposed to L2 in the same L2 milieu.

Functional theories emphasize the role of cognitive processes in language acquisition. Knowledge of a language is comparable to any other knowledge of the world, and interaction is important to increase of any kind of knowledge. Functional approaches suggest that language acquisition is contingent upon social factors. Children extract specific linguistic forms from these interactions and, thus, acquire language. However, these approaches seem insufficient to explain bilingual acquisition processes. Despite typological differences among languages, and despite differences in lexicons and grammatical structures, children acquire elements of languages in the same order, at about the same age, and are able to build mental structures based on the input.

Of all the theoretical frameworks presented by Bialystok (2001), hybrid theories on cognitive processes of bilinguals appear the most plausible. They are a combination of formal and functional approaches to language acquisition, meaning that in line with hybrid theories, inherent language abilities and social factors must exist side by side for a language to be acquired. Although the author warns that hybrid theories should not be seen as sufficient for a theoretical approach to bilingual acquisition, it is important to note that such theories do not discount the role and importance of either cognition or environment. While language can be acquired due to human innate predisposition, the function and participation of the particular linguistic milieu in that process is equally important, as it provides a necessary input and allows for verification of the produced output.

Cook (1992) recognizes the disparity between monolinguals and bilinguals and purports that bilinguals have multicompetent cognition. Multicompetence is offered as an explanation of the way in which a bilingual's mind processes its two languages, and it is considered a distinct state of mind.

Cook's theory of multicompetence adds to the hybrid theories. Recognition of the distinct nature of a bilingual mind and its cognitive processes allowing for communication in two languages speaks in support the formal theory claim of language innateness. On the other hand, multicompetence points not only to interrelatedness of the two languages in a bilingual's mind, but also to a higher metalinguistic awareness strengthening the cognitive system. This fact underlines the role of cognition in bilingualism, which in turn appears also to validate functional theories.

The modular approach proposed by Sharwood Smith (1991) offers to elucidate the workings of isolated language modules vis-à-vis central cognitive operations. The knowledge obtained through this model could certainly benefit studies in bilingual acquisition through its potential explanation of the relationship between language and cognition. Nevertheless, it leaves the role of environmental factors out of the bilingual acquisition process.

Comparing monolinguals to bilinguals thus extends beyond simple comparison of the number of languages spoken by them. Code switching, lexical borrowings, and increased metalinguistic awareness are some of the differences of which scholars are now aware. Any assessment of bilinguals, adults and children alike, calls for a careful account of all variables that may influence the results of a study. In the case of bilingual children there seem to be a far greater number of factors upon which their competency and fluency hinge. Since the existing studies take into consideration and also call for more attention to external variables such as, for example, input and social influences, the role of environment in bilingualism, as proposed in functional theories, cannot be neglected.

Of the four hypotheses on bilingual acquisition proposed by Meisel (2001) (and presented earlier in section 3. 1.), *Differentiation Hypothesis* is the most accepted one. It supposes that bilingual children are able to differentiate two language systems as soon as they have access to grammatical knowledge. Studies show that young bilingual children can, in fact, differentiate languages early on. Despite language mixing and transfer observed in their speech suggesting some language interdependence, bilingual children do not all follow the exact same trends in crosslinguistic interference. Even children who speak the same L1 and L2 differ in their language mixing and language transfer patterns.

These observations further strengthen the differentiation hypothesis and speak to the fact that two languages may develop autonomously.

Finally, the critical period hypothesis has been shown to extend to second language acquisition (Johnson and Newport, 1989). Children can learn their L2 before the age of seven and acquire native performance in that language. Past the seventh birthday language ability shows a linear decline and then declines further after puberty, reaching a plateau where learning another language is subject to individual variations. This important finding elucidates the variable of age in second language acquisition not only in bilingual children but also in adults.

A sound theoretical backdrop in studies of bilingual children, as stressed in the above discussion, must encompass elements of already existing theories in a way that accounts for cognitive and social aspects contributing to or influencing multicompetence. Moreover, they must be upheld by empirical studies.

The most obvious problem the field of bilingualism has faced, as Paradis (2007), Genesee (2001a; 2001b), and Grosjean (1998) find, is the fact that broadly speaking, monolingual norms unfortunately prevail and have often been used in studies of children who speak two languages. Research findings on bilingual children challenge the monolingual approach to language acquisition and correct the misconceptions of bilingualism and its harmful effects on development.

As De Houwer (1990) notes, the metaphor of a young bilingual being two monolinguals in one is just a metaphor. Approaching a bilingual from a monolingual perspective abstracts from the reality in which the bilingual child functions. It obscures the fact that the child often needs both languages to communicate satisfactorily; therefore, there is a constant interplay between L1 and L2.

Keeping in mind the inappropriateness of research that compares and contrasts bilinguals with monolinguals, it is rather peculiar that some scholars (Grosjean, 2008; Meisel, 2001) choose to define bilingualism as the ability to use two or *more* languages, while others (Montrul, 2008) strictly limit this ability to using two languages. All extant research concerning itself with individuals speaking two languages admits to lack of thorough understanding of the phenomenon of bilingualism and underlines the need for further studies. If bilinguals operate with and between two language systems, surely trilingualism, or for that matter multilingualism, must be even more intricate. Perhaps until bilingualism and its complexities are better comprehended, the SLA academic community should rethink its definition by limiting it to strictly two languages. Calling a polyglot a bilingual seems to be an unfortunate misnomer. For this reason precisely, Romaine's (1999) Type 4 classification of bilingual children, which pertains to trilingual children should, I believe, be excluded.

An additional issue that comes up in research on bilingual children is the lack of consensus regarding the issue at what age a child's second langue acquisition is treated as first language bilingualism, and when it remains a second language acquisition. For some scholars first language acquisition takes place before the fifth year of a child's life (Genesee, 1988), for others before their second year of life (De Houwer, 1995). In view of the fact that age of exposure to L2 is the central point of the discussion on first

language bilingualism, the divergence of opinions surrounding it possibly creates an additional obstacle in the comparison of existing research.

What should most definitely not escape scholars' attention is social influence on bilingualism and research on the topic, as well as on interpretation of results and its consequences. De Houwer (1999) emphasizes the lack of empirical studies looking at the influence of beliefs and attitudes on bilingualism. In her opinion, merely observational studies cannot provide sound arguments or support for scholarly theories.

As noted by Paradis (2007) and De Houwer (1995), bilingualism certainly is not an anomaly in the world. Nevertheless, it continues to be treated as such in research. While the norms against which language bilingual proficiencies are measured are those of monolingual speakers, studies on bilingualism mainly favor privileged bilingual children (Romaine, 1999b). This means that immigrant children or children from disadvantaged socio-economic communities, for the most part, are not included in the research, giving at best an incomplete representation of childhood bilingualism.

Furthermore, statistics employed in bilingual studies have been misused in some societies as tools of social and political agendas. For instance, the dropout rate tends to be higher among immigrant children when compared to non-immigrant children. While reading is one of the factors linked to this problem, political agendas steer societies to believe that it is at the expense of their L1 maintenance that these children fail academically (Kimbrough Oller & Jarmulowicz, 2007). Failure on the part of schools to provide proper language education support to children of linguistic minorities, in both L2

and L1, leads to poor performance among these children and to a biased classification as *semilinguals* (Romaine, 1999b).

Appropriate methodologies need to be developed, and the studies must not disregard socio-linguistic factors. As De Houwer (1990) notes, the very nature of bilingual situations or the phenomenon of bilingualism itself at least partially determines the sociolinguistic path of studies on bilingualism. Grosjean (2008) states that adult bilinguals rarely demonstrate a balance in their linguistic skills in both languages, as their two languages are acquired for different purposes and are used in different domains of life and with different people. He refers to this imbalance as *the complementary principle* and uses it to explain bilinguals' levels of fluency. The studies presented above indicate that children rarely exhibit balanced bilingualism. In the vast majority of cases, one of the languages is dominant, mostly due to greater degree of exposure to it.

Perhaps a study looking at the complementary principle in bilingual children's speech could point to patterns present in the language of young bilingual individuals as well as those among other age groups. While source of input appears to be the obvious factor in this matter, future research could possibly benefit from considering children's emotional and psychological factors as variables. Children's own attitudes are also rarely taken into consideration. While the youngest may not be able to provide this information, the older population of first language bilingual learners is capable of giving their opinion. Similarly, a child's emotional bond with one particular interlocutor can influence performance in the respective language. Such studies would have to be not merely linguistic in their approach but interdisciplinary, requiring collaboration of scholars

representing fields such as, for instance, psycholinguistics, developmental and behavioral studies, and possibly sociolinguistics. It seems that child bilingualism can only be fully comprehended when the studied population of young participants is approached not just as a group of bilingual language speakers, but also as complex individuals and groups of individuals who share some of these characteristics.

According to scholars such as Romaine (1999a), quality of input is more important than its amount. Nevertheless, there do not appear to be any studies specifically targeting correlation of input quality and fluency in groups of bilinguals. It is only research based on individual children that points to this factor.

Many of the authors who review studies on child bilingualism, such as Genesee (1988, 1989, 2001b, 2003), Cook (1992), De Houwer (1995), and Meisel (2001) tend to refer to and comment on the same studies. While the importance of these studies and their contributions to the field are not questioned here, this fact seems to indicate a certain dearth of scholarship on bilingualism, which would reach beyond the topics and variables already explored (such as age of exposure, acquisition, language differentiation, code mixing, and linguistic competency as compared to that of monolinguals). The existing research does not really seem to address the issue of language input and its types – informal (through daily interaction with particular linguistic milieus) and formal (through education). Furthermore, due to challenges which longitudinal studies often present, the research focuses on young participants in a given point and time, not on their development over time. Such observation could potentially point to some aspects of first

language bilingualism, which remain obscured by a possibly narrow approach to the studies.

Additionally, the said research on child bilingualism appears to be centered on bilingual children speaking predominantly a combination of Germanic and Romance languages. This fact seems to limit the research and its prospective findings. Studies on crosslinguistic influences in bilingual children, discussed in section 5 of Chapter 3, indicate that language typology might play an important role in the examinations of children speaking two languages. For example, Italian-English bilingual children (ages 1:8 - 3:9) transfer their linguistic knowledge from their L2 English to L1 Italian – they produce more overt pronominal subjects (Serratrice et al., 2004). On the other hand, bilingual Inuktitut-English children (ages 1;10 - 4;6) do not exhibit any crosslinguistic influences in their speech in either L1 or L2 (Zwanziger et al., 2005). The results of these two studies alone underline the fact that language transfer is not a universal phenomenon. Typological closeness and/or remoteness of the two languages in the linguistic repertoire of a young child seem to be factors in production of utterances subject to transfer. Age is not a variable here, since the children in both studies were approximately in the same age range. Comparison of language processing and linguistic strategies among groups of children speaking various combinations of typologically related or distant languages could contribute new and decisive data to the field of SLA, especially data on code mixing.

An important conclusion that can be drawn from the above studies is the fact that bilingualism certainly is not an aberration from the norm or a disadvantage; on the
contrary, it is one of the possible linguistic norms. It remains to be seen whether the perplexity over bilingualism rests with insufficient data or with flawed theories. Much has been done to dispel the uncertainty, but naturally, there is still room and much need for more extensive studies and a larger and wider range of participants.

7. Implications for the Present Research

The empirical study described in Chapters 6 - 9 is based on bilingual Polish-English children aged 4;6 – 8;6. The participants, despite their various ages of first exposure to L2, are considered to be first language bilinguals in accordance with Genesee's (1988) and Genesee and Nicoladis's (2007) classification.

The study does not look at the participants' cognitive skills. However, in order to ensure effective data collection, the study tasks are based on language tasks used in psycholinguistics. In terms of the variables considered in the data analysis, not only are chronological age of the participants and their age of exposure to L2 examined, but also influence of formal and informal types of exposure to L1 and L2, as well as the role of parental input are given due consideration.

The focal point of this research is the use of pro-drop feature and language transfer in L1 and L2, where analysis of the children's speech requires a close look at the clauses generated in both languages. Typological comparison of the languages in question precedes the analysis, informing about expected differences and similarities. Examples of any other crosslinguistic interference (apart from pro-drop feature) in the form of transfer and code switching are carefully examined. Any grammatical mistakes and inaccuracies are analyzed as possible indications of an ongoing language acquisition process in both languages.

The current study acknowledges multicompetence of young bilinguals in that it treats them as speakers and hearers of two languages and recognizes their individual differences. Mistakes found in their speech in L1 and L2 are not considered deviations from the norm; rather, they are analyzed against the backdrop of their bilingualism. Furthermore, in the current study, the participants' L1 and L2 are considered as interacting, yet autonomously developing language systems.

With regard to the research reviewed in this chapter, the current study is not free of obstacles. Although parental input is accounted for in the study, actual samples of the parents' speech are not collected. Therefore, it cannot be said to what extent the children's speech patterns are influenced by those of their parents. Other foreseeable problems could also be related to working with young participants and their individual differences. For example, lack of information on the educational programs in the schools attended by the study participants could impair knowledge of how factors related to school curricula might have affected the language development of the bilinguals being examined.

Notwithstanding the obstacles, this study and its findings provide a notable contribution to the existing scholarship on child bilingualism. Its observations based on empirical investigation further add to the knowledge of bilingual children's speech and expand the understanding of variable correlation in bilingualism. The following chapter presents a preliminary study that looks at pro-drop feature in two bilingual Polish-English children.

CHAPTER 5

PILOT STUDY

1. Introduction

The main focus of this dissertation is child bilingualism and the theories aiming to elucidate understanding of some of the processes accompanying this phenomenon. The idea for the main research for this work came from a small study of two bilingual children, the data for which was accessed through the Child Language Data Exchange System (hereafter CHILDES).

CHILDES is an online corpus established in 1984 by Brian MacWhinney and Catherine Snow meant to serve as a central repository of first language acquisition data gathered by scholars who work with children. Scholars are able to post voice recordings of their participants as well as speech transcripts. In recent years CHILDES has also begun to include language data from classroom language learning, second language acquisition, conversation analysis, as well as aphasics. The CHILDES data is made available to the public and over the years has become a valuable source of information and data for scholars who research various aspects of child language acquisition, both monolingual and bilingual.

As noted in the previous chapter, despite the volume of interest among scholars and the many studies devoted to it, certain areas of the field of bilingualism remain uncharted. One should not underestimate the importance of further studies, which offer even the simplest and most obvious of answers, as they can become the proverbial missing pieces of the puzzle, and only when placed together can allow us to see and comprehend the complex nature of bilingualism. It is important to investigate bilingual individuals – adults and children alike – who are speakers of various language combinations at various levels of fluency, over extended periods of time. Focusing on particular language features in data analysis and comparison can be beneficial to crosslinguistic research.

The current chapter presents the aforementioned preliminary study of the data available on CHILDES and looks at pro-drop as the variant feature of the languages in question – Polish and English.

2. Methodology

2.1. Research Question

If we accept the stipulations of UG, parameter setting takes place early on in a person's life, and by the age of five language development is considered to be completed. The study of bilingual children could shed light on the issues of pro-drop feature, its occurrence and application. Also, variances in pro-drop application or omission, depending on the languages in question, could point to other factors at play such as, for instance, language transfer. Hence, I propose three hypotheses:

- In accordance with UG theory, parameters are reset in L2 acquisition. As demonstrated in White's study (1985), parameter switch from a pro-drop L1 should result in grammatically incorrect non-pro-drop L2.
- 2. Adopting the concept of crosslinguistic interference, language transfer can be expected possibly in both languages; it can be bi-directional.
- 3. Assuming the theory of markedness, the acquisition of marked features, as suggested by SLA studies, takes place after acquisition of unmarked features; thus, if the non-pro-drop feature is marked, it may not be present in the early stages of L2 acquisition.

These hypotheses can be illustrated as follows:

Hypothesis 1: Polish children acquire an L1 with pro-drop parameter (Polish). As they acquire English as their L2, which is a non-pro-drop language, they must switch these parameters. The switch from a pro-drop to a non-pro-drop language is expected to result in the production of ungrammatical utterances in L2 (in erroneous application of pronominal subject omission in English). Occurrence of such errors in the data will support Hypothesis 1.

Hypothesis 2: Following the theory of crosslinguistic influence, L1 is expected to influence L2. However, L2 can also have an impact on L1. This hypothesis will be supported when: 1) the participants' application of pro-drop results in ungrammatical English clauses, and 2) the participants produce a greater number of Polish clauses with overt pronominal subjects (greater than what is accepted by the rules of Polish prescriptive grammar).

In Hypotheses 1 and 2 there is an overlap of the hypothesis proposition. It is expected that due to an interference with the L1 Polish pro-drop parameter, application of pro-drop in English will result in ungrammatical clauses. However, the two theories will be approached in the following manner: in Hypothesis 1 the absence of any changes to the participants' L1 will support UG; as for Hypothesis 2, changes observed in both languages will support bidirectional transfer.

Hypothesis 3: Unmarked features are acquired prior to marked features. Presupposing the markedness of non-pro-drop, there is an expectation that at first only pro-drop clauses will be seen in the participants' English utterances. Lack of grammatically correct clauses with overt pronominal subject in English will support this hypothesis.

The analysis of the data presented in this chapter will be conducted with the above three hypotheses in mind.

2. 2. Participants

As stated in Chapter 1, Polish is considered a pro-drop language – it accepts nullsubjects in clauses in the past, present and future tenses, and any use of personal pronouns is preferential only for emphatic purposes. On the other hand, English is a nonpro-drop language. Omission of a personal pronoun at the beginning of an English clause is possible only in some instances, such as commands, informal questions, and informal answers. Using CHILDES transcripts of speech, I now look at the pro-drop feature in Polish-English bilingual speakers.

The participants observed by the researcher, Magda Krupa-Kwiatkowska, were two bilingual children, Marcin and Basia. In the short analysis below, I look at how these children cope with the null subject feature and whether there is any transfer of the constraint application into English. I use the data to examine a possible influence of the non-pro-drop L2 (English) on the L1 (Polish) of the two participants.

Although Marcin was the target child in Krupa-Kwiatkowska's longitudinal study of language acquisition, other children, such as Basia, were also present, and their interactions with Marcin were accordingly transcribed. The study was conducted in the United States.

Both children were born in Poland, and Polish was the primary language spoken in both children's homes. At the time of the study both children attended the same English-speaking elementary school.

The study commenced a month after Marcin's arrival in the United States. Basia had lived in the United States approximately 18 months longer. Marcin's exposure to English began at the age of 5 with sporadic instruction in English. Upon his arrival to the United States he was 6;2 old. Basia arrived in the United States at the age of approximately 5;7. Table 5.1, below, shows their sociolinguistic background information.

Table 5.1 Age of First Exposure to English and Age at the Time of the Study

Child	Age at first	Age at the time	Age at the time
	exposure to	of the study	of the study
	English	Situation 1	Situation 2
Basia	5;7	7;7	8;1
Marcin	6;6	6;7	7;0

2. 3. Data Analysis

Given Basia's and Marcin's young age and L1/L2 language exposure, I aim to compare the pro-drop feature application in L1 Polish and L2 English. I look at two separate situations recorded approximately 5 months apart.

The total time of the transcribed conversation is 17 minutes in Situation 1 and 17 minutes 20 seconds in Situation 2. Situation 1 data was recorded 6 months after Marcin's arrival in the United States, while Situation 2 - 11 months from the date of his arrival.

The purview of my analysis includes a total of 421 utterances recorded in two separate situations. Broersma and De Bot (2006) define an utterance as a basic clause, containing maximally (but not minimally) one main verb. Thus, in my study I follow the definition of a clause – main and subordinate – as a production unit. Included in the analysis are only those clauses containing finite verbs, regardless of the person, number and tense inflection.

The clauses cited as examples here and below are given in the original language in which they were produced. English glosses are given for Polish clauses. e. g. *BAS: I don't do that. [1 clause]

*MAR: you can open from the inside | but you can't open from the outside.

[2 clauses]

Tables 5.2 - 5.4 present numerical data indicating the number of clauses included in the analysis of each situation.

Table 5.2 – Situation 1 – Numerical Data

Child	Total number of analyzed clauses (Polish & English)	Polish clauses	English clauses	Pro-drop clauses Polish	Pro-drop clauses English
Basia	81	67	14	53	0
Marcin	81	65	16	61	0

 Table 5.3 – Situation 2 – Numerical Data

Child	Total number of analyzed clauses (Polish & English)	Polish clauses	English clauses	Pro-drop clauses Polish	Pro-drop clauses English
Basia	108	17	91	11	2
Marcin	151	20	131	16	2

Table 5.4 – Situation 1 & 2 – Numerical Data

Child	Total number of analyzed clauses (Polish & English)	Polish Clauses	English clauses	Pro-drop clauses Polish	Pro-drop clauses English
Basia	189	84	105	64	2
Marcin	232	85	147	77	2

Tables 5.5 - 5.7 show percentages based on the numbers above. Calculations of the percentages are based on the number of clauses in each situation (in each respective language – Polish and English). Table 5.7 contains the percentages based on the combined number of clauses (all Polish clauses counted separately from all English clauses) from both situations.

 Table 5.5 – Situation 1 – Percentages

Child	Pro-drop	Pro-drop
	clauses	clauses
	Polish	English
Basia	79.10	0
Marcin	93.84	0

 Table 5.6 – Situation 2 – Percentages

Child	Pro-drop	Pro-drop
	clauses	clauses
	Polish	English
Basia	64.70	2.20
Marcin	80.00	1.53

Table 5.7 – Situation 1 & 2 – Percentages

Child	Pro-drop	Pro-drop
	clauses	clauses
	Polish	English
Basia	76.19	1.90
Marcin	90.59	1.36

Tables 5.8 and 5.9 present language use in each of the two situations. The percentages of each language use are obtained by calculation of the ratio of the number of clauses in each respective language to the total number of clauses in both languages.

Table 5.8 – Situation 1 – Language Use

Child	Polish	English
	Clauses	clauses
Basia	82.72	17.28
Marcin	80.25	19.75

Table 5.9 – Situation 2 – Language Use

Child	Polish	English
	clauses	clauses
Basia	15.74	84.26
Marcin	13.25	86.75

2.4. Findings

The total number of Marcin's clauses is 232, of which 85 are in Polish and 147 in English. In 77 of the 85 Polish clauses the subject pronoun was dropped. The English clauses were all grammatically correct with respect to the subject pronoun use. Two instances of null subject occurred in English where it is permissible to do so in English.

Examples:

A.

*MAR: Do you know | where we should put the money... ø see | I put my money here.

B. *MAR: ø gotta go to work! *BAS : bye.

C. *BAS: i jak ø będziemy się bawić? %eng: so how are we going to play?

*MAR: ja nie wiem. %eng: I do not know.

The total number of Basia's clauses is 189, of which 84 are in Polish and 105 in English. In 65 of the 84 Polish clauses the subject pronoun was dropped. The English clauses were all grammatically correct with respect to the subject pronoun use. The subject pronoun was omitted only twice in informal answers. In the first instance (example A below) it is permissible to do so in English given the pragmatic context of the utterance. The reply in example B, although it can be accepted as correct grammatically, is incorrect with regard to pragmatics of the dialogue.

Examples:

A.

*BAS: I could have just opened the door for you. *MAR: what? *BAS: ø could have just opened the door for you.

В.

*MAR: what are you looking at? *BAS: (*) ø looking at you.

C.

*BAS: a <u>ty</u> masz fajnie | bo <u>ty</u> masz tam. %eng: yours is good | because you have it there.

*BAS: <u>ty</u> masz lampę. %eng: you have the lamp. *MAR: ø też masz. %eng: you have one too.

In Situation 1 Marcin had null subject in 93.84% of the Polish clauses. In contrast, in Situation 2 he dropped the subject pronoun in 80% of the clauses. Basia used null subject in 79.10% of her Polish clauses in Situation 1, and 64.70% in Situation 2. In total, Marcin applied pro-drop in 90.59% of his clauses in Polish, while Basia complied with null subject parameter in 76.19%. As can be seen in Tables 5.8 and 5.9 above, in the earlier situation both children used considerably more Polish (Marcin 80.25 and Basia 82.72%); in the latter, English was the main language of communication (Marcin 86.75 and Basia 84.26%).

2.5. Discussion

The two separate situations were recorded approximately five months apart. The change over time in the use of each language is notable, especially given the fact that neither of the children was born in an English speaking environment, and the first exposure of each child to the language was past the age of five. Both of the children began to use English overwhelmingly more than Polish by the time the second situation was recorded. In Situation 1 Polish was used over 80% of time, while in Situation 2 less than 16%.

It is worth mentioning that, within the 5-month period when English L2 came to be the language of choice for both children in their home interactions, Polish L1 continued to be spoken by their parents. With English becoming the language of preference, the percentages of null subject clauses in the speech of both children in Polish decreased. Furthermore, the feature in question – pro-drop – did not appear to cause production of any ungrammatical clauses in L2 English. There was, it seems no language influence causing ungrammaticality of clauses with respect to the use of null personal pronouns in L2. The pro-drop feature did not appear to be transferred from L1 to L2. Both young speakers clearly differentiated linguistic environments necessitating the use of subject pronoun as well as those permitting null subject. Lack of grammaticality errors in the clauses produced by either child in English seems to speak to the fact that they acquired pro-drop and non-pro-drop features.

The data, although small, suggests that the pro-drop parameter from L1 in both children did not affect L2 acquisition and L2 features. In keeping with UG assumptions, the parameters or constraints governing the two languages are different, and they are activated differently. Analyzing the above data with UG theory of parameters in mind, one could say that these children were able to access UG in order to establish a new set of constraints for a new language they were learning.

It is interesting that there appeared to be no conflict and confusion in these speakers' minds as to which language grammar is governed by the pro-drop feature. One could potentially expect errors in English L2 (application of pro-drop feature), especially given the fact that their exposure to English L2 took place after the formation of their L1. Moreover, as far as pro-drop application in Polish is concerned, the data points to its decrease with increased exposure to English. This observation contradicts Hypothesis 1, since, according to UG, no changes to L1 were expected.

Decrease in the number of null subjects in Polish with prolonged exposure to English can be seen as a result of language transfer. Basia, who had been in the U.S. for two years prior to the time of the first study – Situation 1, had a lower number of null subjects than did Marcin, who was new to the English-speaking environment. In Situation 2, both children produced fewer null subject clauses than in Situation 1, just five months earlier.

Basia's exposure to English was overall longer than Marcin's by approximately 18 months. According to Krupa-Kwiatkowska, Basia spoke Polish better than English but preferred to use English in contacts with other bilingual children. Although Polish was the primary language spoken in Basia's and Marcin's homes, unfortunately, there is no specific information as to the amount and/or type of input they received.

In accordance with the theory of markedness, acquisition of marked – periphery rules of grammar takes place only after the acquisition of unmarked – core features. If the pro-drop parameter is accepted as the core parameter in the present study, the children must acquire the marked non-pro-drop rules for English, and that is why, at first, they will produce English clauses that lack pronominal subjects. In the present study Basia, who had first contact with English two years prior to the time when Situation 1 was recorded, produced only overt pronominal subjects in English and made no errors in English clauses. Similarly Marcin, who had a short 1-month exposure to English before data collection in Situation 1, made no grammatical mistakes with regard to pro-drop in English. This observation seems to oppose markedness theory. Mistakes in the non-pro-

drop context would be expected in the speech of both children just acquiring their L2; nevertheless, none of them made these errors.

From the small sample of Polish/English data employed in this study it can be inferred that the two features – pro-drop and non-pro-drop – do not influence children's languages in such a way as to lead to production of grammatically incorrect clauses. No interference from L1 to L2 in null subject production was observed in the children's speech; however, there was an observable interference/transfer from L2 to L1 (language transfer here was unidirectional from L2 to L1). Both children began to produce fewer clauses with pro-drop in Polish. Although such clauses with subject pronouns are not considered ungrammatical in Polish, prescriptive Polish grammar suggests omission of subject pronouns in all contexts permitting it, especially with the first- and second person subjects, where in Polish there is no potential for ambiguity. Subject pronoun use in Polish generally indicates emphasis on the subject-agent. This is not the situation in the dialogues of Basia and Marcin.

An SLA study (White, 1985) showed that Spanish L1 speakers transfer pro-drop to English L2. The above data contradicts those findings. How is it possible that two L1 pro-drop languages affect L2 acquisition of a non-pro-drop language differently? How relevant is the age of the study participants here? And finally, can a non-pro-drop L2 influence subject pronoun use in a pro-drop L1? These are only some of the questions raised by the existing data.

Of the theories discussed earlier in Chapter 2, processing and performance limitations appear to support the findings of the samples from Marcin's and Basia's speech, but in the context of bilingualism. The more exposure to English they had as listeners and speakers, the fewer the occurrences of pro-drop in L1 were observed. Interestingly enough, it was not their L1, as predicted by UG, that influenced their L2, but rather their L2 influenced theirL1 production. This finding underlines the presence of language transfer.

Within the framework of UG, Bloom (1990) found that the non-drop parameter is the core subject pronoun constraint. In the findings presented here, non-pro-drop also surfaces as the dominant feature. However compelling the results, they are not sufficient to make this a UG-based claim.

When it comes to grammatical complexity of a language, the analyzed data were not sufficient to look deeper into the matter. It is reasonable to think that syntactic variation, namely word order, which is strict in English (SVO) and allows for variations in Polish (e.g. SVO, SOV, OVS), could have also contributed to the changes in the rate of null subject vs. overt subject occurrence. At this point, such statements remain speculative in nature. The interface of syntax and pro-drop feature presents itself as a possible and appealing path to pursue for future studies.

These contradictory and inconsistent findings question a solely UG-based approach and underscore the need for further research. It seems highly unlikely that the answer to the pro-drop query will present itself based on data derived exclusively from two languages at a time. Juxtaposing the data from monolingual speakers of a pro-drop language with that of monolingual speakers of a non-pro-drop to arrive at a plausible answer to the question of pro-drop (and its place in UG) yields conflicting results. Perhaps rather than looking for one universal feature, the present scholarship ought to investigate the possibility of finding a solution to the parameter/feature question in grammatical structures of languages and their acquisition among bilinguals and their interlanguages. Furthermore, a comparative study of bilingual speakers (both adults and children) of a broader selection and different combination of L1 and L2, including mixed-pro-drop languages, could provide telling data not only with regard to parameter setting and resetting, but also regarding the possible influence of language transfer on null subject pronouns. Conceivably, even looking at two languages of the same kind – pro-drop vs. pro-drop or non-pro-drop vs. non-pro-drop – may prove to be beneficial in that it can show how particular grammatical structures influence the null subject parameter. Additionally, it would be central to the study to look at how closely the age of L2 acquisition is linked to the frequency of pro-drop versus non-pro-drop use. Any research aimed at elucidating the issue of the null subject parameter unquestionably needs to be a study on a larger scale taking a wide spectrum of languages into account.

2. 6. Study Limitations

To reiterate, the study under review is small in scope, and the two situations looked at cannot be considered a *bona fide* longitudinal study. More situations would need to be analyzed in order to see whether the observed patterns continued to exist in the speech of the two children. This limitation can be overcome by conducting a longitudinal or a cross-sectional study including a larger number of participants from specific age groups. Such a study would not only allow for more data collection but would also consider the pro-drop feature in light of the age variable.

Since both children were very young at the time the data were originally collected, it is conceivable that the lack of $L1 \rightarrow L2$ feature influence can be attributed to the fact that the subject pronoun parameters are not completely set, as UG theory predicts it.

Additionally, obtaining more thorough knowledge of the amount and type of language input received by Basia and Marcin would reveal information that could be important to the process of data analysis. Recording samples of speech from the children's parents and analyzing them for pro-drop occurrence might point to input as the main factor in pro-drop decrease, as opposed to language transfer.

Similarly, obtaining the parents' opinions on bilingualism and raising bilingual children, as well as their own proficiency in English and attitudes toward this particular L2 might count as important socio-linguistic factors of the research.

3. Conclusion

This short analysis may be insufficient as a basis for any broader kinds of statement on the issue at hand. Nevertheless, it provides a glimpse at an extensive topic and also points to possible research. It is interesting that there appears to be no conflict and confusion in the speakers' minds as to which language grammar is governed by the pro-drop constraint. Polish L1 is a pro-drop language, and one could potentially expect errors in the non-pro-drop English L2, especially given the fact that their exposure to L2

took place at the time when formation of L1 was considered to be completed. Incidents of ungrammaticality, however, were not recorded. Thus, the earlier proposed Hypothesis 1 is not supported.

Tendencies to decrease pro-drop application in L1 (without rendering clauses grammatically incorrect) in Basia's and Marcin's speech result from language transfer. Interestingly enough, transfer observed in the data is not L1 \rightarrow L2 but rather L2 \rightarrow L1, which supports the theory of bi-directionality of language transfer.

UG and SLA consider markedness a general, crosslinguistic phenomenon. Consequently, numerous studies aim to find the unmarked parameter. Basia and Marcin appeared to acquire the non-pro-drop feature in English L2 without any difficulties. In fact, there is even a visible change in production of clauses in Polish from pro-drop towards non-pro-drop. This finding, in light of the third proposed hypothesis, suggests that, in fact, non-pro-drop could be the unmarked feature.

To conclude, further investigation of the present topic conducted in the form of a longitudinal study is definitely necessary to determine the precise circumstances of prodrop vs. non-pro-drop feature transfer and their dominance as well as universal markedness.

The following Chapters 6 and 7 discuss the main study of this dissertation and present its methodology, data analyses, and findings. The focal point of the main study is the pro-drop feature in bilingual children, and the data is analyzed using the same hypotheses as those used in the pilot study. Findings from the limited research cited above will serve as a point of departure for the comprehensive analysis of the main research data.

CHAPTER 6

STUDY: METHODOLOGY AND SOCIOLINGUISTIC DATA

1. Introduction

The preceding chapter presented the pilot study, which essentially prompted the idea of the focal research for this dissertation. The pilot study revealed intriguing findings, which educed further attention and pursuit of the study of pro-drop and non-prodrop features in bilingual Polish-English children.

This chapter reports on the methodology used in data collection during the main research on which this dissertation is based. Furthermore, it provides an illustration of the sociolinguistic backgrounds of the study's pool of participants.

2. Study Participants, Place, and Recruitment Methods

2. 1. Criteria for the Participants' Selection

The study was based on results of research conducted with two groups of bilingual children (Polish L1 and English L2). In keeping with the stipulations of UG, language development in an individual is considered to be complete by the age of five, once the process of parameter setting has taken place. This does not mean that one ceases to learn language. In fact, Nippold (1988) claims that it is difficult to identify the age of language development completion. What constitutes the end of language development in this context is acquisition of the language's sound system, its basic vocabulary, as well as the grammar structure, which at the given point approximates that of an adult speaker. After the age of five the process of language development is marked by increasing grammatical fluency and ongoing lexical acquisition.

If one is to study bilingual children's speech, especially with regard to features such as pro-drop and non-pro-drop (considered a parameter in UG), one must, regardless of one's allegiances to and attitude toward the UG scholarly legacy, necessarily look at the age factor as a milestone for any significant inaccuracies in bilingual language production. The order and timeline for acquisition of the languages, and the type of bilingualism – simultaneous versus sequential must also be considered. Although different age criteria have over the years been considered by scholars to distinguish between simultaneous and sequential (successive) bilingual acquisition (anywhere from within one month of birth to before three years of age), this researcher follows Genesee and Nicoladis's (2007) classification, which considers the period from birth to four years of age to be the time of simultaneous acquisition.

Therefore, the main stipulation of the study was that all children included in the study must either have been born in an English-speaking country, or have come to one during their infancy, before the onset of the language acquisition process, in order to be considered simultaneous bilinguals. This ensures that their speech samples can be compared in terms of overt and covert subjects.

Age and education were the primary variables. The study was created to account also for amount of exposure to both L1 and L2 (how often each of the languages is heard and how much interaction on the part of the subject takes place in L1 and L2) and different kinds of L1 and L2 input (direct – family, friends; indirect – television, radio). A separate questionnaire was prepared for the parents of the participating children, in which they would provide the approximate number of hours their child had been exposed to either language.

The participants were to be grouped according to their age and exposure to formal education. One group would consist of children younger than five, before the core grammar language acquisition process is considered to be over, and the other of those older than five, preferably 8-9, after the aforementioned process was considered completed.

2. 2. Study Location

The study itself was conducted in Toronto and Mississauga, two adjacent Canadian cities in the province of Ontario. The choice of location was dictated by the need to find a community with an ethnic group of Polish-English speakers.

In view of the fact that research involving human subjects has a potential for additional obstacles such as mistrust of the studied community, personal biases against outsiders (researchers), or miscommunication based on language limitations, this researcher's knowledge of Polish and personal ties to the Polish community in the said area were the main factors in the selection of the location and the potential group of participants.

2. 3. Selection of Participants

Prior to conducting the study, the researcher established contact with the principal of one of the Polish schools in Toronto, informing her about the study and asking for assistance in disseminating information about the study to the parents of the two groups of children – 4-5 and 8-9-year-olds.

The school offers classes to Polish-Canadian children whose parents wish them to learn Polish in an educational facility in order not only to improve their oral skills but also to become fully literate in the language. The program is based on the curriculum of Polish public elementary schools and high schools. Classes are conducted on Saturdays between 8:00 am - 3:00 pm.

On the day when the study was to commence, the researcher visited the school in the morning and met with teachers and some of the parents, offering them more information about the purpose of the study and details regarding the way in which it was to be carried out. The legalities of the procedure itself were also discussed. The parents were able to ask additional questions of the researcher and learn more about the goal of this scholarly project. A few of them agreed to their children's participation in the study and made appointments; others chose to take some time to make the decision and simply collected leaflets with a detailed study description and the researcher's contact information.

3. Sociolinguistic Background of the Participants

3.1. Selection Process

According to Marian, Blumenfeld and Kaushanskaya (2007), "There is currently no uniform procedure for determining bilingual language dominance and proficiency" (p. 941). Researchers, as these scholars point out, often use various methods of language assessment such as subject self-rating, self-reported proficiency, comprehension, production, reading, etc. Given the young age of all of the subjects, particularly those in Group 1, it was not expected that each child would be equally fluent in both languages. For the purpose of this study, the children had to be able to form simple Subject-Verb-Object sentences in each language.

To account for any other possible complications that the nature of working with young children might bring about, the examiner aimed to interview a larger group of participants in the case when some of the obtained data would have to be discarded. There was no official preliminary selection stage.

The final group of participants included a smaller number of children with a less pronounced division in terms of the two age groups that this study was designed for. The breakdown of the participants was as follows. There were ten participants in total – six males and four females. The age span of the group was from 4;6, being the youngest, to 8;6, being the oldest participant.

The subsequent part of this section of the chapter offers sociolinguistic backgrounds on each of these young partakers in the study. The information is first compiled in tables, which are then followed by detailed descriptions of each child. Categories taken into consideration in the sociolinguistic aspects include daily exposure to both languages, language preference exhibited by each child, education, language spoken with parents, other contact with either Polish or English, as well as information about the children's parents and their language preferences, education levels, and general attitudes towards their children's bilingualism. All of the information presented below was collected from the parents of the participating children in the form of questionnaires. The children are discussed one by one in the chronological order of their respective interviews.

The amount of time indicated for daily exposure of each child to his or her relevant languages is more of an average estimate than a report on a rigid schedule. The figures cited below are based solely on those offered by the parents in the questionnaires.

3. 2. Sociolinguistic Backgrounds of the Participants as a Group

The tables below present information on the participants' sociolinguistic backgrounds. The first table (Table 6.1) provides basic information about each of the children such as age, gender, place of birth, as well as age at first contact with English and the frequency of said contact. Each of the children was born to a Polish speaking family; therefore, the children's birth is considered their first contact with Polish and it is not accounted for in the tables.

Table 6.1 Personal Data

Child	Gender	Age	Place	Age at	First contact	Frequency
			of	Immigration	w/English	at first contact
			birth	-	_	
1	F	8;6	Toronto	n/a	2;5	every day
2	М	8;4	Toronto	n/a	1	no information ³
3	М	6;9	Toronto	n/a	birth	no information
4	М	6;3	Warsaw	6	4	2 hrs/week
5	М	7;4	Toronto	n/a	3	every day
6	F	5;6	Toronto	n/a	birth	5 days/week
7	М	4;7	Toronto	n/a	2	8 hrs/day
8	F	6;2	Toronto	n/a	birth	2 hrs/week
9	F	5;0	Toronto	n/a	birth	no information
10	М	4;6	Toronto	n/a	birth	no information

Tables 6.2 and 6.3 summarize the children's amount of daily exposure to each language. The total amount of time (first column) is provided in hours and then broken up into active and passive contact with the respective languages. Any interaction in Polish and English was calculated as active exposure, whereas experiences with media (television, radio, music) were considered to be passive exposure.

Child	Daily exposure	Daily exposure	Daily exposure
	to English	to English	to English
	total time (hrs)	(active)	(passive)
	(interaction +	- interaction	- media
	media)		
1	9.5 - 10.5	6.5	3 - 4
2	9.5	6.5	3
3	13 - 14	11 - 12	2
4	7	1.5	5.5
5	13.5 - 14.5	12 - 13	1.5
6	5	4.5	40 min
7	12.5	10	2.5
8	8 - 9	8	40 min
9	15 <	10<	4 - 5
10	8	6	2

Table 6.2 English Language Exposure

 $^{^{3}}$ This information was not available, as parents did not provide it in the questionnaires.

Table 6.3 Polish Language Exposure

Child	Daily exposure	Daily exposure	Daily exposure
	to Polish	to Polish	to Polish
	total time (hrs)	(active)	(passive)
	(interaction +	- interaction	- media
	media)		
1	8.5	8.5	0
2	14	8 - 12	2
3	1	1	0
4	14.5	12	2.5
5	1	1	0
6	13	12	1
7	6.5	6	30 min
8	6.5	6	15 – 20 min
9	4	3 - 4	10 min
10	9	6 - 8	1

Tables 6.4 and 6.5 offer information about the participants' parents such as their age and highest level of education, language used at home with the children and with each other, and other linguistic behaviors such as code switching and even reading to the children. The role of grandparents in the children's lives was also accounted for.

Table 6.4 shows whether the child lived with both or one parent. In the case of single parent homes, if the other parent was present in the child's life, their personal information was included.

Table 6.4 Parents – Personal Data

Child	Parents at home	Age	Education	
	at nonne			
1	2	M 45	M secondary	
		F	F not provided	
2	1	M 35	M secondary	
		F 37	F secondary	
3	1	M 29	M MA	
4	2	M 31	M MA	
		F 45	F secondary	
5	1	M 33	M BA	
6	2	M 38	M MA	
		F 46	FMA	
7	2	M 31	M secondary	
		F 40	F secondary	
8	2	M 35	M MA	
		F 34	FBA	
9	1	M 31	M secondary	
		F 43	F secondary	
10	2	M 40	MBA	
		F 46	FBA	

In the questionnaires, the parents were asked about their child's linguistic development as compared to that of a monolingual child, and also about the changes they observed in their child's speech with respect to the following four categories: pronunciation (P), vocabulary (V), grammar (G), and syntax (Sx). These reports are listed in Table 6.5.

Table 6.5 Parents – Linguistic Information

Child	Language spoken w/ child	Parent language w/ each other	Non-Polish parent language	Code Switching	Reading to child	Role/Presence of Grandparents	Observed language changes
1	Polish English	Polish English	n/a	yes	Polish English	no rare visits	Polish: P, V, G, Sx
2	Polish	Polish	n/a	no	Polish English	no rare visits	no
3	Polish English	n/a	n/a	yes	Polish English (more Polish)	no rare visits	Polish: P,V, G, Sx English: P, V
4	Polish	Polish	n/a	no	Polish	no very frequent visits	Polish: P,V, G, Sx
5	Polish English	n/a	n/a	yes	English	no	Polish: P,V, G, Sx
6	Polish	Polish	n/a	yes	Polish English	no rare visits	Polish: Sx English: V, Sx
7	Polish	Polish English	n/a	yes	Polish English	yes live with	Polish: Sx English: G
8	Polish	Polish	n/a	yes	Polish English	no very frequent visits	Polish: Sx English: G, Sx
9	Polish English	English	English	yes	Polish English	yes live with	no
10	Polish	Polish	n/a	yes	Polish English	no rare visits	no

The next section expands on the information given in the tables by providing a detailed description of each child. As in the table records above, the participants will be presented in the order in which they were interviewed.

3. 3. Sociolinguistic Background of Individual Participants

Child #1, the oldest of the participants, was an 8;6 girl. Her first and daily contact with English began when she was 2;5. She was an only child and lived with both of her parents, who used Polish at home (6.5 hrs daily) and sporadically English. The mother of the girl (age 45) had secondary education. No specific information about the father was provided. The parents used both languages in the interactions between themselves. Apart from her parents, the child had frequent contact with her aunt and two cousins who also spoke Polish.

The girl spoke English with other children for 6.5 hours per day and Polish for 2 hours. She watched English television for 3 hours every day and listened to English language radio and music daily. According to her mother, the child made mistakes in Polish pronunciation, vocabulary, grammar, and syntax.

Child #2 was an 8;4 boy. His first contact with English was at the age of one year. He lived with his mother and a 3;5 sister. His interaction with the family was in Polish (8-12 hrs per day) and only some in English (30 min daily). On a daily basis he used English with other children for 6 about hours and Polish for 8 hours. His contact with English and Polish television amounted to an average of 2 hours per each daily. His exposure to music and radio in Polish and English was minimal (Polish 5 min; English 5 min to 1 hr). Both of the boy's parents (mother, age 35; father, age 37) had secondary education and spoke Polish with each

other and with their children. Every two years the boy spent his summer in Poland. Apart from his parents, the child had frequent contact with his aunt and cousin who also spoke Polish. The child was also learning French at school and told the researcher he enjoyed it very much and liked the language.

Child #3 was a 6;9 boy. Although he was born in Toronto and was exposed to English from birth, he lived in Poland from the age of 2 months until the age of 1;5. He spent most of his time at the daycare (10 hrs/day) where he spoke English. His only interaction in Polish was with his mother (1 hr/day). He did not have any interaction in Polish with other children. On average he watched English television for 1.5 hours per day and listened to English music and radio for about 30 minutes.

He had some exposure to vocabulary from other languages such as Turkish, Spanish, and German, but did not use any of them. He lived only with his mother (age 29) who had a Master of Arts degree. She reported speaking both Polish and English with her son. The boy had sporadic contact with his maternal grandmother, a Polish speaker.

According to the mother, the child was in speech therapy for two years to help him with English. At the time of the study the mother noted that he experienced problems with English pronunciation and vocabulary. In terms of Polish, all aspects of that language (pronunciation, vocabulary, grammar, syntax) were challenging for him.

Child #4 was a 6;3 boy. Of all the children interviewed he was the only one who was born in Poland and immigrated to Canada at the age of 6. His first contact with the English language was at the age of 4 - 2 hours per week, when he was taking language classes in Poland. He interacted with his parents in Polish. At home English was used for about 30 minutes a day. The boy played with other children and used Polish and English each for 1 hour a day. His exposure to music and radio was 1 hour in each language, 1.5 hours to television in Polish, and 4.5 hours to English language television.

The boy's mother (age 31) had a postsecondary degree (M.A.), and the father (age 45) had secondary education. They spoke Polish with each other. The child also had frequent contact with his grandparents who spoke Polish.

In terms of language changes observed in her son's speech, the mother noted that all aspects of his Polish (pronunciation, vocabulary, grammar and syntax) seemed to be influenced by English and were changing. This child was also using calques from English to Polish. The mother noted that the boy often demonstrated lack of concentration. This problem, however, was not diagnosed by a medical professional or medically treated.

Child #5, a 7;4 boy, had his first contact with English at the age of 3. From that point on he heard English daily. He lived at home with his mother (age 33) who held a B.A. degree. The mother spoke both Polish and English with the boy, estimating about 1 hour in Polish and 2 hours in English. Apart from that, the child had on average 10-11 hours of interaction in English mainly at school with other children. He did not use Polish apart from the interactions with his mother at home and did not have any exposure to it via the media. He watched English television for 1 hour daily and listened to English radio and music for 30 minutes. His interaction with animals was also in English.

As far as linguistic development is concerned, the mother mentioned that the child had difficulties with Polish pronunciation, vocabulary, grammar and syntax. Child #6 was a 5;6 girl. She was born in Toronto and was exposed to English since birth for 5-7 days per week. She lived with her parents and a younger brother (age 3;5). At home the family spoke Polish and English daily (Polish 4 hrs; English 30 min). The parents noted that the child attended a Polish language daycare where she spoke Polish (8 hrs) and English (4 hrs) with her teachers and other children. The girl had contact with media in both languages: 30 minutes of television each in Polish and English, 30 minutes of radio and music in Polish daily, and 1 hour of radio and music in English over the course of a week. The girl spoke to her parents and brother in Polish. This was also the language she spoke to their house pets.

The girl's parents (mother, age 38; father, age 46) both had higher education – M.A. degrees. They spoke Polish with each other. No other adult family members participated in the raising of this child. Her contact with grandparents was rare. At the age of 4 she spent one month in Poland. The parents commented on errors she made in sentence structure in both languages and on her problems with English vocabulary.

Child #7, a boy of 4;7, was the second youngest of the participants. Born in Toronto, his first contact with English was reported to have taken place at the age of 2 with a frequency of 8 hours per day. The child lived with both parents and had no siblings. The boy spoke both languages at home with his parents; his daily contact with spoken Polish was 8 hours and with English 2 hours. His daily interaction with all other children entailed exclusive use of English for about 8 hours each weekday. The child was exposed to Polish media for 1.5 hours daily – 1 hour of radio and 30 minutes of television, and 1.5 hours of
English language television. This participant had visited Poland for 3 months only once in his life. The mother indicated that the boy also had some contact with Spanish.

Both of the boy's parents (mother, age 31; father, age 40) had secondary education. They used both languages when communicating with each other, but only Polish with their son. Since the family resided with the grandparents, the child had close contact with other adult speakers of Polish. The mother noticed syntax errors in Polish and grammar errors in English in her child's language.

Child #8 was a 6;2 girl. She was born in Toronto and had sporadic contact with English for the first two years of her life. She lived with her parents and younger brother (age 1;5) with whom she interacted in Polish. The parents reported speaking only Polish at home with their children (6 hrs/day). During the week the girl attended a local school where she interacted with other English-speaking children for 8 hours a day. On average, she used Polish with other children for about 1 hour a week, but preferred to interact with them in English. Her exposure to English and Polish radio and music was limited to about 10 minutes a day; she watched 1 hour of Polish television a week and 30 minutes of English television programs on a daily basis. She had been to Poland twice for 3 weeks each time. At school she was learning basic French and enjoyed speaking it.

Her parents both had postsecondary education (mother, age 35, M.A.; father, age 34, B.A.). They spoke Polish with each other. Among the inaccuracies in their daughter's language they noticed mistakes in Polish and English syntax and grammar issues in English. The child was also using calques from English to Polish.

Child #9 was the third youngest among the partakers of the study. She was a 5-yearold girl who lived with her mother and maternal grandparents. Born in Toronto, she had contact with English since birth, as her father was not a speaker of Polish. The girl's interaction with the family involved on average 3-4 hours of Polish and 8 hours of English daily. During the week she regularly attended a daycare where only English was spoken and would spend there on average 9 hours, speaking English with her teachers and other children. At home she was exposed to English radio and music daily for 1-2 hours and 3 hours of television. Her contact with the Polish language media amounted to 1 hour a week. The girl spoke both languages to her family members. According to her mother's report, the girl used Polish and English in her interaction with other Polish-Canadian children and only Polish to speak to animals and house pets.

The girl's parents (mother, age 31; father, age 43) interacted in English. While the father did not speak Polish, it was the mother who used both languages with the girl and also code switched with her child. The grandparents only spoke Polish with the child. No changes or issues in the girl's speech were mentioned. It was pointed out that the child was learning French at the daycare and interacted with Chinese speaking children, from whom she was learning some Chinese vocabulary.

The youngest of the participants, Child #10, was a 4;6 boy. He was born in Toronto and had daily contact with English since birth. The child lived at home with both parents and a much older, 20-year-old sibling. His exposure to the Polish language on a daily basis averaged from 6 - 8 hours at home. He spent about 6 hours in an English-speaking environment at daycare during the week. The boy used both Polish and English at home but

only English with other children. His daily exposure to media language included 1 hour of television in each language and 1 hour of radio in English. Every year during summer the child spent one month in Poland.

Both of the child's parents (mother, age 40; father, age 46) had post-secondary education (B.A.). They spoke Polish with each other and reported speaking Polish with their son but also admitted to code switching. They noticed no changes brought on by bilingualism in either of their son's languages. No other adults participated in this boy's rearing.

3. 4. Other Common and Individual Sociolinguistic Characteristics of the Participants

Information compiled in Table 6.6 concerns the parents' attitudes toward bilingualism and maintenance of Polish. Furthermore, the parents were asked about their children's linguistic development as compared to that of monolingual children.

		1	
Child	Importance of	Fears regarding	Linguistic development as
	Polish	bilingualism	compared to monolingual
	maintenance	-	children
1	very important	n/a	do not know
2	very important	n/a	same
3	very important	n/a	do not know
4	very important	n/a	better
5	rather	n/a	worse
	important		
6	very important	Afraid child	same?
		will stop	
		speaking Polish	
7	very important	n/a	same
8	very important	no	same
9	very important	no	same
10	very important	no	same

Table 6.6 Parents – Linguistic Information About Children

All parents of the interviewed children considered their children's bilingualism to be very important, in other words supported it. The mother of Child #5 was the only one who listed bilingualism as rather important versus very important. Of all the parents she was also the only one who read stories to her child exclusively in English. Conversely, the mother of Child #4 reported reading to her son only in Polish.

The parents of Child #6 were worried that their child would one day stop speaking Polish. No other parents expressed any concerns with regard to their child bilingualism.

In terms of linguistic development, parents of six children (Children #2, 6, 7, 8, 9, 10) considered their children's language skills to be comparable to those of the monolingual children in Poland, two were uncertain (Children #1 and #3), one regarded them to be worse (Child #5), and one thought them to be better (Child #4).

Apart from the parents of Child #2 and #4, all other parents reported code switching with their children.

Table 6.7 contains information about the children's schooling in Polish and English. Although not all of the participants were literate in either of the languages, formal exposure to the language implies here that the children were exposed to both Polish and English outside of their home environment.

203

Table 6.7 Schooling in Polish and English

Child	Formal	Formal
	Exposure to Polish	Exposure to English
	-	
1	school	school
2	school	school
3	kindergarten	daycare
4	n/a	n/a
5	school	school
6	daycare	n/a
7	n/a	daycare
8	daycare	daycare/kindergarten
9	n/a	daycare
10	n/a	daycare

Of the ten participants, five attended a Polish language school on Saturdays (Children #1, 2, 3, 5, 8). Child #6 attended Polish daycare a few times a week, where she interacted with children in English, but where Polish was predominantly spoken.

Child #4 was the only study participant not born in Canada, and his exposure to English took place later than that of all other participants. Children #7, 9, and 10 – the youngest three participants, had no exposure to Polish outside of their home environments.

Children #1, 2, and 5 attended an English language school during the week, while Children #3, 7, 8, 9 and 10 attended an English language daycare or kindergarten.

Parents of Child #3 and Child #4 were the only ones who stated that their children had some problems with speech and concentration. As noted above, Child #3 had attended speech therapy for two years. The details of the nature of the therapy and the age at which therapy commenced were not disclosed to the researcher. The mother of Child #4 commented on the boy's lack of concentration, but as stated previously, the child had never been diagnosed with any health problem or learning disability. No other parents reported their children having a speech or hearing impediment or any learning disability.

Given their dissimilar sociolinguistic backgrounds along with individual differences, it is challenging to separate these young participants into specific groups for the purposes of analyses. Therefore, for a more detailed analysis, I attempt to identify common trends while focusing on each individual child's case.

4. Task Description

The data for the study were collected by means of a set of the following three language tasks:

- 1) spontaneous conversation
- 2) a preplanned psycholinguistic task of story elicitation
- 3) elicitation of autobiographical narrative

The first task was intended for the purpose of establishing contact with the child and to create a comfortable, conversation-conducive atmosphere, as well as to ascertain particular language preferences in each participant (i.e. whether a child preferred L1 over L2, L2 over L1, code switched, etc.). During this task the researcher spoke only Polish. General topics of conversation included matters from the child's daily life, such as favorite games he or she liked to play with his or her friends, favorite toys, stories, etc. The older, school-age participants were also asked about their favorite subjects, school experiences, favorite books, and the like.

The second task – a preplanned psycholinguistic task of story elicitation, served to elicit data containing clauses (main and subordinate clauses) in the third person singular and plural. Mercer Mayer's picture book *Frog, Where Are You?* (New York, 1969) was used as the stimulus for the activity. Each child was asked to look through the picture book and to retell the short story contained in it. This book is frequently used by psycholinguists who study child language acquisition and provides an independent variable in terms of a topic (Olshtain & Barzilay, 1991; Isurin, 2005; Isurin, 2008; Polinsky, 2008).

The third task involved elicitation of speech, the purpose of which was to obtain samples of clauses with first person singular subjects. Depending on the topics broached in the first task, the children were asked about topics and events pertaining to their lives: favorite holidays, birthdays, Christmas, special kindergarten/school events, etc.

Each set was carried out first in Polish, and then repeated in English.

5. Procedure

Each child was interviewed in his or her own home environment. The parents of the children were present in the same room or in the next room. Before each interview started the researcher informed the parents and children once again what the project entailed and thanked them for agreeing to help with the study. The parents were given consent forms, which underlined the fact that their participation in the study was strictly voluntarily and that they and their child reserved all rights to withdraw from the research at any moment. They also received questionnaires pertaining to their children's language exposure and any concerns that they as parents might have had, and changes in their children's language they

had noticed. The participants were informed that the use of a video recorder was solely to assure proper recording of the data in case of malfunction of the audio recorder. Both the video and voice recordings were to be stored in a secure place. They were to be used only for the process of transcription and were never meant to be made public.

Once the parents read and signed the consent forms and filled out the questionnaire, the interviews began.

The languages used and studied were Polish and English. The researcher made efforts to follow the order of tasks with each child, despite the fact that some of the participants, in particular the youngest ones, were often not obliging.

Each conversation started in Polish. For some children interacting in Polish did not seem easy or even possible. The researcher attempted to continue to ask questions in Polish with the hope of obtaining some samples of speech in Polish. Once the set of tasks in Polish was completed, or when a child produced no Polish utterances, the second part of the interview in English followed.

Speech was simultaneously videotaped and recorded on a voice recorder. Each interview session lasted only as long as it was necessary to complete each of the task sets. However, if the child did not feel comfortable during the interview and did not want to participate in it, or was not interested in fulfilling each of the tasks, the meeting was terminated.

Upon finishing, the researcher thanked each child and offered him or her a gift of appreciation for his or her help in the form of a colorful Slinky toy, a small Frisbee, or a sticker. In my analysis of the data I look at utterances produced by each child recorded during one meeting first in Polish and then in English. Broersma and De Bot (2006) define *utterance* as a basic clause, containing (maximally but not minimally) one main verb. Thus, in my work, I follow the definition of a clause – main and subordinate, as a production unit. Included in the analysis are only the clauses containing finite verbs, regardless of the person, number, and tense inflection.

Tables 6.8 and 6.9 provide specific information about each particular interview including its length in time for each language part and number of registered clauses used in the data analysis.

Child	Total time of	Length of	Length of
	interview	conversation	conversation
		in Polish	in English
1	38:59	19:07	19:52
2	24:36	11:23	13:13
3	21:31	9:00	14:36
4	24:27	6:40	17:47
5	12:15	4:48	7:27
6	28:51	6:45	22:6
7	41:53	6:15	34:18
8	47:08	16:52	30:16
9	34:25	13:02	21:23
10	25:09	n/a	n/a

Table 6.8 Length of Interviews in Polish and English

Child	Total number of	Clauses	Clauses
	clauses	in Polish	in English
1	734	317	417
2	162	87	75
3	144	0	144
4	217	131	86
5	66	14	52
6	313	84	229
7	292	25	267
8	476	116	360
9	374	121	253
10	94	31	63

Table 6.9 Number of Clauses Analyzed in Polish and English

6. Parental Role in the Study

The parents of the school children with whom the researcher spoke exhibited a variety of reactions from eagerness to help and contribute to the existing scholarship on child bilingualism, through the desire just to help the researcher, to mistrust, and finally to unconcealed lack of interest.

Some parents, it seems, were not favorably disposed to the analysis of their children's language skills. Others, possibly, were afraid that the study was nothing but a clandestine test and, should their children score low, it would cast a shadow of judgment on their parental skills and involvement in their children's education, not to mention putting their children's ability to speak two languages fluently into question. Conversely, the parents who offered to participate in the study were very helpful and interested in the nature of the research.

7. Data Analysis

Following Genesee's (1988) and Genesee and Nicoladis's (2007) classification of bilingualism, the researcher considers her participants to be bilingual first learners, as they each began to acquire his or her second language before the age of five. This classification falls within the psycholinguistic theory of first language acquisition, which considers this process to be completed by the time a child finishes his or her first five years of life.

The interviews with each child were simultaneously videotaped and recorded. The data were later transcribed and coded for occurrences of pro-drop, non-pro-drop, noun subjects, code switching, language transfer, grammatical and syntactic errors and/or inaccuracies, and other perceptible changes in either of the languages. In order to assure accuracy of the analysis, grammaticality judgment of the English clauses was done in consultation with native speakers of that language.

The pro-drop and non-pro-drop features in bilingual children's speech are the focal points of the main study; therefore, sentences were analyzed for occurrence of overt and null subject pronouns per clause, and in the analysis of the findings they are looked at within the confines of pro-drop versus non-pro-drop feature theories. Whilst a clause was the smallest important unit analyzed, it was also looked at as a part of a complex sentence of which it was a segment. This approach does not entail syntax analysis *sensu stricto*. Rather, it is used to facilitate identification of grammatical and ungrammatical omissions of pronominal subjects.

While the data will be looked at with the same hypotheses in mind as those used in the pilot study, the most emphasis and attention will be given to the first hypothesis of crosslinguistic interference, as this is the chief approach to the present study. The hypotheses are:

- 1. Adopting the concept of crosslinguistic interference, language transfer can be expected possibly in both languages bi-directional.
- In accordance with UG theory, parameters are reset in L2 acquisition. As demonstrated in White's study (1985), parameter switch from a pro-drop L1 should result in grammatically incorrect non-pro-drop L2.
- 3. Assuming the theory of markedness, the acquisition of marked features, as suggested by SLA studies, takes place after acquisition of unmarked features; thus, if the nonpro-drop feature is marked, it may not be present in the early stages of L2 acquisition.

The final analysis is qualitative and quantitative. The findings will be discussed within the framework of multicompetence and the existing research and theory of language transfer.

8. Study Limitations

Although the study is based on speech samples obtained from ten young participants, it can still be considered relatively small in scope.

The small pool of subjects and lack of clearly separate and uniform age groups certainly reduced this study's chances of offering findings substantial in size, which could potentially point to language patterns within each age group and even between them.

Given the limited time this researcher had to conduct this study, both languages were tested at the same time, possibly affecting the language mode activation of each participant.

In terms of variables, not all children had exposure to Polish language outside of their homes. While some attended Saturday Polish school or daycare, others did not. Despite great efforts on the part of the researcher to obtain equivalent, or close to equivalent speech samples from each child in both languages, in some instances it was nearly impossible.

Since the researcher did not know any of the children personally prior to the interview day, each individual interaction was defined by the child's personal characteristics and impacted the type of utterances that were recorded. While some children were outgoing and talkative, others simply answered the questions they were asked and volunteered no additional information.

What is more, while it was indeed beneficial to have the help of the parents, their presence did not always prove to be optimal for the data collection. The interactions of the parents and their children affected to some degree the language samples, since they spoke in Polish or code switched during the interview time.

As far as the questionnaires are concerned, this study faced problems encountered in any research involving self-reported data. For example, it is difficult to state just how careful and accurate the parents of each child were in filling out the questionnaires. While in two cases both mom and dad were answering the researcher's questions on the survey, in the remaining eight it was the mother of the child alone.

While the amount of exposure to each language is of great importance to this study, it is not possible to obtain precise numbers in non-laboratory conditions. The information obtained from the parents with regard to their children's exposure to and amount of time spent in interaction in each language is at best an approximation. Education level of the parents is of value if we look at the register of the child in the Polish language. However, it cannot be said to what extent these parents themselves would have been aware of the changes in their L1 due to transfer from English and how frequently and in what contexts they were more prone to code switch. Since no samples of parents' speech both in Polish and English were collected, it is not possible to observe any probable influence of their way of speaking on the language of their children.

Finally, the transcriptions and their analyses were done by this researcher, who was also the only judge in the matter of the noted changes and inaccuracies in the children's speech. This is a fact that naturally increases the potential for human error in the general analysis.

CHAPTER 7

STUDY: PRO-DROP VERSUS NON-PRO-DROP – ANALYSIS AND FINDINGS

1. Introduction

As in the pilot study analysis, so also here, I look at clauses produced by each child recorded during one meeting, which was conducted first in Polish and then in English. I follow the definition of a basic clause, main or subordinate, which describes it as containing one main verb. In the analysis I include only clauses containing finite verbs, regardless of the person, number, and tense inflection.

Since the samples are drawn from spontaneous speech, instances where there is a repetition of a subject pronoun or a verb resulting from hesitation are not included in the main count of clauses. Sentences with impersonal subjects in Polish and presentational sentences in English are included in the total final count of the analyzed clauses and are counted separately from personal sentences.

The main focus of my analysis will be subject pronoun omission and production in both languages. I investigate the phenomenon of code switching in the children's speech, as this ties in with language transfer. However, code switching and its examples found in the data will be discussed in more detail in Chapter 8. In this chapter, I focus my attention particularly on the findings of pro-drop. First, I present general tables with numerical summaries of the pro-drop feature and its distribution in terms of percentages. Subsequently, a detailed analysis of pro-drop is offered with regard to the proportions of pro-drop and non-pro-drop features in the participants' speech as well as the variables affecting them. Afterward, I offer a detailed analysis of each individual child's speech, again focusing only on pro-drop and non-pro-drop. Lastly, the findings are discussed in light of the proposed hypotheses. Any other findings observed in the studied clauses constitute the main topic of the next chapter.

As previously stated in Chapter 3, I refer to *language transfer* as a covert process, in which L1 influences L2 and/or L2 influences L1. Conversely, any explicit changes at the lexical level, that is incorporation of L2 lexical items into L1 discourse, are considered instances of *code switching* (or *code mixing*).

2. Numerical Summary of the Findings on the Pro-drop Feature

2. 1. Data

Table 7.1 Polish

Child	Age	Polish total number clauses	pro-dro total number	pro-dro 1 st sg.	pro-dro 1 st pl.	Non- pro- drop total	non- pro- drop 1 st sg.	non- pro- drop 1 st pl.	noun subject	imperso subject pronoun	interr. subject pronouns
						number pronomina subjects					
1	8;6	317	42.58	11.67	7.57	18.30	5.36	0.32	32.18	5.36	1.58
2	8;4	87	40.23	12.64	6.90	21.84	4.60	0	35.63	1.15	1.15
3	6;9	0	0	0	0	0	0	0	0	0	0
4	6;3	131	41.98	11.45	5.34	7.63	4.58	0	30.53	19.08	0.76
5	7;4	14	35.71	14.28	0	21.43	14.28	0	14.28	28.57	0
6	5;6	84	50	11.90	9.52	4.76	0	0	38.09	7.14	0
7	4;7	25	44	12	0	32	12	0	12	8	4
8	6;2	116	61.21	34.48	9.48	8.62	2.59	0.86	24.14	6.03	0
9	5;0	121	41.32	10.74	1.65	32.23	19.83	0	17.35	9.09	0
10	4;6	31	70.97	41.93	0	25.81	25.81	0	0	3.22	0

Table 7.2 English

Child	Age	English total number clauses	pro-dro total number	pro-dro 1 st sg.	pro-dro 1 st pl.	Non- pro- drop total number	non- pro- drop 1 st sg.	non- pro- drop 1 st pl.	noun subject	present. sent.	interr. subject pronouns
						pronomina subjects					
1	8;6	417	4.56	0	0	81.29	12.47	0.72	8.15	10.55	0
2	8;4	75	2.67	0	0	56	18.66	1.33	32	9.33	0
3	6;9	144	2.08	0	0.69	60.42	20.83	10.42	27.08	12.5	0
4	6;3	86	3.49	0	0	69.77	10.46	2.32	13.95	12.79	0
5	7;4	52	1.92	0	0	61.54	26.92	1.92	12.79	15.38	0
6	5;6	229	9.61	0	0	68.12	4.37	1.75	24.02	8.30	0
7	4;7	267	11.61	0	0	68.16	26.97	6.74	7.12	12.73	1
8	6;2	360	1.67	0.28	0	77.50	29.72	8.33	15.28	5.28	0.28
9	5;0	253	4.74	0	0	67.20	30.04	1.98	12.65	15.41	0
10	4;6	63	20.63	3.17	0	74.60	52.38	0	0	4.76	0

2. 2. Findings on the Pro-drop Feature

As mentioned in the introduction to this chapter, the ensuing section focuses specifically on close analyses of the pro-drop feature in the speech of the participants in both Polish and English. It looks at percentages of pro-drop and non-pro-drop clauses in the respective languages, their percentages in proportion to the total number of clauses produced, as well as the total number of clauses with specific types of subject pronouns and nouns. In this section pro-drop and non-pro-drop is analyzed with respect to the variables of age of language acquisition, age at the time when the data were collected, amount and type of exposure to each language, and finally parental level of education.

The data will be organized in tables, with focus on specific variables and their interaction. Each table is discussed separately, and the data on pro-drop feature therein is evaluated in relation to the individual variables.

It is important to state here that while the ungrammaticality of a pro-drop clause is easy to identify in English (pro-drop is allowed in the imperative, in colloquial replies and questions, and in coordinate clauses where the subject is the same as in the main clause and can easily be discerned), the situation is not as straightforward in Polish. Being a pro-drop language, Polish accepts null-subjects in sentences in each person, number, and grammatical tense. Where in principle non-pro-drop in Polish does not automatically render a sentence *sensu stricto* ungrammatical, according to the rules of prescriptive grammar it is preferred that the overt pronominal subjects be used for emphatic purposes. It can be said that in Polish pronominal subject production is a matter of discourse pragmatics, the same way that subject omission is in English. More frequent use of overt subject pronouns in Polish cannot be explained, however, by means of simply pragmatics or ungrammaticality. To reiterate, a regular application of non-pro-drop in Polish, without any discourse conditions calling for it, is not equivalent to subject omission in English considered ungrammatical.

This disparity between the ways these two languages look at the case of pro-drop grammaticality complicates the process of data analysis. In the analysis of the data from speech samples in Polish the percentages of pro-drop and non-pro-drop will be indicative of the changes in L1 production and possible crosslinguistic influences from English L2. Examination of the speech sample in English will not only take into account the percentage of pro-drop but will also indicate the percentage of grammatical and ungrammatical pro-drop use.

2. 2. 1. Pro-drop in Polish and English

The four tables in this section give an overview of the percentage of clauses with prodrop and non-pro-drop in Polish and in English. Each of the tables presents the total percentage of pro-drop and the percentage of clauses with pro-drop or non-pro-drop in firstperson singular and plural produced by each child in each respective language. The percentages present a ratio of pro-drop and non-pro-drop clauses to the total number of the recorded clauses. The first two tables present data from Polish.

Table 7.3 Polish – Pro-drop

Child	pro-drop	pro-drop	pro-drop	pro-drop
	total %	1 st sg. %	1 st pl. %	1 st sg. & pl. %
1	42.58	11.67	7.57	19.24
2	40.23	13.80	6.90	20.70
4	41.98	12.98	5.34	18.32
5	35.71	14.28	0	14.28
6	50	10.71	9.52	20.23
7	44	12	0	12
8	62.07	34.48	9.48	43.96
9	41.32	10.74	1.65	12.39
10	70.97	41.93	0	41.93

Table 7.3 shows the total number of clauses produced by each child and the percentage of instances of null subjects in first-person singular and first-person plural as well as first-person singular and plural combined. The first general observation is that, on the whole, the participants omit subjects less often than it is allowed for by the prescriptive grammar of Polish. Also, subject pronouns are used more often with the first-person plural subjects than with the first-person singular.

Child #3 did not produce any clauses in Polish; therefore, he is not included in any of the basic calculations and will not be taken into consideration in further analyses of the Polish data.

The total pro-drop in terms of percentage ranges from 70.97 (the highest percentage) to 35.71 (the lowest) with an average of 47.65. First-person singular pro-drop ranges from 41.93 (the highest) to 10.71 (the lowest) – an average of 18.06; first-person plural pro-drop ranges from 9.52 to 0, with an average of 4.49.

Child	non-pro-drop	non-pro-drop	non-pro-drop	non-pro-drop
	total %	1 st sg. %	1 st pl. %	1 st sg. & pl. %
	pronominal subjects			
1	18.30	5.36	0.32	5.67
2	21.84	4.60	0	4.60
4	7.63	4.58	0	4.58
5	21.43	14.28	0	14.28
6	4.76	0	0	0
7	32	12	0	12
8	8.62	2.59	0.86	3.45
9	32.23	19.83	0	19.83
10	25.81	25.81	0	25.81

Table 7.4 Polish – Non-pro-drop in Pronominal Subjects

Table 7.4 shows again the percentage of instances of overt pronominal subjects in first-person singular and first-person plural produced by each child, as well as first-person singular and plural combined. From the point of view of prescriptive grammar, the data point to an increase in pronominal subject use, especially in the use of the first-person singular pronoun.

While Child #6 did not produce any overt subject in the first-person singular and plural, she cannot be excluded from the calculations as Child #3 was, since she did provide a sample of speech in Polish. Lack of overt subjects in her speech cannot be neglected and will be analyzed in reference to variables of age and exposure to both L1 and L2 in the subsequent sections.

The total non-pro-drop in terms of percentage ranges from 25.81 (the highest percentage) to 4.76 (the lowest) with an average of 19.18. The percentage of non-pro-drop in first-person singular ranges from 25.81 to 0 with an average of 9.89; non-pro-drop for first-person plural ranges from 0.86 to 0.32 – an average of 0.13.

The following two tables demonstrate distribution of pro-drop in the English speech sample. Since it is only pro-drop that can be an issue of grammaticality in English, non-prodrop occurrence and percentage are not going to be discussed here.

Child	pro-drop	pro-drop	pro-drop
	total %	1 st sg. %	1 st pl. %
1	4.56	0	0
2	2.67	0	0
3	2.08	0	0.69
4	3.49	0	0
5	1.92	0	0
6	8.73	0	0
7	11.61	0	0
8	1.67	0.28	0
9	4.74	0	0
10	20.63	3.17	0

Table 7.5 English – Pro-drop

Table 7.5 above presents data on the total percentage of pro-drop in relation to the total number of clauses produced by each individual child in English.

The total pro-drop in terms of clauses ranges from 20.63 to 1.67 – an average of 6.21. The percentage in omission of personal pronouns in first-person singular and plural is very small, to be almost negligible.

Looking at the percentage of clauses with pro-drop in the table above, the natural question that follows pertains to their actual grammaticality. Table 7.6 below demonstrates the percentage of grammatical and ungrammatical pro-drop clauses. The percentages are calculated using the total number of pro-drop instances as a common denominator (as total); that means the percentage of ungrammatical pro-drop is a fraction of the total number of pro-

drop occurrences. First-person singular and plural null subject instances are accounted for in the calculations of grammaticality of pro-drop clauses.

	r				
	Grammatical				Ungrammatical
	pro-drop				pro-drop
Child	imperatives	coordinate	colloquial	grammatical	ungrammatical
	_	clauses		total percentage	total percentage
1	26.31	63.16	0	89.47	10.53
2	0	100	0	100	0
3	0	33.33	0	33.33	66.67
4	0	100	0	100	0
5	0	0	100	100	0
6	0	50	0	50	50
7	70.97	0	6.45	77.42	22.58
8	50	0	50	100	0
9	66.67	33.33	0	100	0
10	30.76	0	69.23	100	0

Table 7.6 English – Pro-drop Grammaticality Breakdown

The data in Table 7.6 give a breakdown of grammatical instances of pro-drop, according to the context when it was applied. The table also presents juxtaposition of the percentages of grammatical pro-drop occurrence in English with the ungrammatical instances of null subjects.

Of all ten participants, the majority used pro-drop in English correctly and only four used pro-drop inappropriately. The percentage of ungrammaticality ranges from 66.67 to 10.53 with an average of 37.44. Of the ten participants six made no mistakes at all, two made some mistakes, and two others still exhibited 50 percent or more instances of ungrammatical pro-drop use. This table will be examined again closely in section 2.3.2 devoted to English only.

Thus far, the general overview of findings points to some changes in the use of prodrop feature in both languages. Children tend to use overt subject pronouns in Polish with higher frequency than it is expected according to prescriptive grammar; moreover, they also tend to use first-person singular pronouns with higher frequency. While the distribution of pro-drop in English speech samples shows that the majority of children did not have difficulties with its correct application, there were four children for whom pro-drop appeared to present a problem. In addition, there are considerable differences in the percentages of ungrammatical pro-drop among these four children.

Since both languages, Polish and English, appear to be affected to some degree by the participants' knowledge of the two languages, it is necessary to examine these changes in light of the variables established earlier. Part 2.4. of this section focuses on analyzing prodrop feature in Polish and English according to the specific variables.

2. 2. 2. Pro-drop and Non-pro-drop

The following section of the chapter is devoted to a closer assessment of the data focusing specifically on pro-drop and non-pro-drop jointly with regard to first-person singular and plural.

The four tables below present an analysis of ratios of pro-drop and non-pro-drop in the Polish and English clauses generated by the participants. To determine the percentages of each, the number of instances of null subjects and overt subjects in first-person only is used as the total sum of examined clauses. Table 7.7 presents the ratio of pro-drop and non-pro-drop in the first-person singular in Polish, Table 7.8 the ratio in the first person plural.

Child	pro-drop	non-pro-drop
	1 st sg. %	1 st sg. %
1	68.52	31.48
2	75	25
4	73.91	26.09
5	50	50
6	100	0
7	50	50
8	93.02	6.98
9	35.13	64.86
10	61.90	38.10

Table 7.7 Polish – Pro-drop and Non-pro-drop – First-person Singular

It can be seen from the table above that the participants did not all have the same ratios of pro-drop to non-pro-drop in their speech in Polish. While all of them omitted the subject pronoun in the first-person singular, some did it with higher frequency than others. For instance, Child #6 omitted pronominal subjects in all of her utterances, but Child #9 only in 35.13 percent.

Child	pro-drop	non-pro-drop
	1 st pl. %	1 st pl. %
1	96	4
2	100	0
4	100	0
5	0	0
6	100	0
7	0	0
8	91.67	8.33
9	100	0
10	0	0

Table 7.8 Polish – Pro-drop and Non-pro-drop – First-person Plural

Table 7.8 presents omission and production of pronouns in first-person plural. In the speech samples from Children #5, 7, and 10, there are no instances of these pronouns. However, Children #2, 4, and 6 omitted this pronoun in all instances, and Children #1 and #8 in over 90 percent.

These are noteworthy differences in the percentages on their own and as compared between the two tables. Children omit the first-person plural pronoun, it seems, more often than the first-person singular one.

The next two tables present an analysis of ratios of pro-drop and non-pro-drop in the English clauses of the study participants. Table 7.9 presents the ratio of pro-drop and non-pro-drop in first-person singular, while Table 7.10 in first-person plural.

Child	pro-drop	non-pro-drop
	1^{st} sg. %	1 st sg. %
1	0	100
2	0	100
3	0	100
4	0	100
5	0	100
6	0	100
7	0	100
8	0.93	99.07
9	0	100
10	5.71	94.29

Table 7.9 English – Pro-drop and Non-pro-drop – First-person Singular

What clearly stands out from the above data is the fact that, with the exception of Child #8 and Child #10, all other children produced overt subject pronouns in all of their clauses with first-person singular subject. Child #8 omitted the subject pronoun in 0.93 percent of clauses. The context in which this omission occurred was of a colloquial nature – a reply to the researcher's question. Child #10 produced clauses with pro-drop in 5.71 percent of those requiring first-subject singular pronoun. His null subject clauses were not ungrammatical, as each of them was a colloquial reply.

Child	pro-drop	non-pro-drop		
	1 st pl. %	1 st pl. %		
1	0	100		
2	0	100		
3	6.25	93.75		
4	0	100		
5	0	100		
6	0	100		
7	0	100		
8	0	100		
9	0	100		
10	0	0		

Table 7.10 English – Pro-drop and Non-pro-drop – First-person Plural

In the clauses with first-person singular subject, eight of the children produced an overt subject. Child #3 omitted the pronominal subject 'we' in 6.25 percent of clauses. Nevertheless, the omission was not ungrammatical – the null subject was in a coordinate clause and could be inferred from the preceding main clause. Child #10 did not produce any clauses with first-person plural subject.

As in the previous section, the findings show interesting patterns in the participants' speech. While there is a difference in the use of pro-drop feature in Polish between the first-person singular and plural, there does not appear to be the same divergence in English.

Children appear to understand the need to apply personal subject pronouns in English, and they also seem to recognize the fact that it is not necessary to use pronominal subjects in Polish.

2. 2. 3. Nominal and Third-Person Pronominal Subjects in Polish

Null subjects in the first- and second-person singular and plural involve an omission of a subject pronoun. This omission does not cause any ambiguity since the subjects can always be easily discerned from the context. Conversely, when third person pronouns are taken into consideration, there exist in reality two possibilities for what is omitted. The first and obvious choice is a pronoun, the second one is the noun for which this particular pronoun substitutes. Due to the existence of these two options for overt subject in the third person singular and plural in Polish, it is pertinent to this study to analyze overt nominal and third person pronominal subjects together.

During the preplanned psycholinguistic task of story elicitation (retelling the story of the frog), the young participants had a choice of using either a noun or a pronoun. Since third-person pronouns take the place of nouns, it is difficult, if not impossible, to discern whether a particular speaker intended to use one or the other. Consequently, this section of the chapter pays attention to non-pro-drop in Polish by concentrating on nominal and overt pronominal third-person singular and plural subjects.

Table 7.11 below provides a record of the aforementioned subjects. The percentages are based on the total number of all nominal subject clauses and all third-person singular and plural pronominal subject clauses.

Child	Polish nominal subjects	Polish pronominal subjects					
	total %	total %					
		3 rd ps.sg. & 3 rd ps.pl. %	3 rd ps.sg. %	3 rd ps.pl. %			
1	72.34	27.66	24.11	3.55			
2	67.40	32.6	30.43	2.17			
4	90.70	9.30	9.30	0			
5	66.67	33.33	33.33	0			
6	88.89	11.11	11.11	0			
7	37.50	62.50	62.50	0			
8	84.85	15.15	12.12	3.03			
9	58.33	41.67	41.67	0			
10	0	0	0	0			

Table 7.11 Overt Nominal and Third-person Pronominal Subjects in Polish

Although Child #10 produced utterances in Polish, none of them contained a nominal or third-person pronominal subject.

The data show that a third-person singular pronoun was used by eight participants and with high frequency. Only three of the participants used a third-person plural pronoun in the subject position, and they did so in very few instances. Nominal subjects, nevertheless, were used most often.

Child	Polish	Polish	Polish	Polish
	$3^{\rm rd}$ sg.	$3^{\rm rd}$ sg.	3 rd pl.	3 rd pl.
	non-pro-drop	pro-drop	non-pro-drop	pro-drop
1	45.33	54.67	21.74	78.26
2	53.85	46.15	16.67	83.33
3	0	0	0	0
4	26.67	73.33	0	100
5	33.33	66.67	0	100
6	40	60	0	100
7	41.67	58.33	0	100
8	40	60	9.09	90.91
9	42.86	57.14	0	100
10	0	0	0	100

 Table 7.12 Polish – Pronominal Third-person Singular and Plural Subjects

 Pro-drop and Non-pro-drop

Table 7.12 compares percentages of null and overt subjects in third-person singular and plural. The percentages are calculated based on the total number of clauses with and without a pronominal third-person subject. The numbers reveal that, with the exception of Child #2, the children omitted the third-person singular pronoun more often than they produced it, and all the children preferred pro-drop instead of an overt subject pronoun in third-person plural. However, the percentages of overt subject pronouns in the third-person singular are relatively high in comparison to those of third-person singular null subjects.

Child #10 produced sentences in Polish, but neither of them contained pronominal subjects in third-person singular.

Table 7.13 looks at the percentages of all overt and covert subjects in third-person singular and plural contexts. Again, the total number of all these clauses was used to calculate percentages of particular types of subjects. As seen in Table 7.12, children omitted third-person singular and plural pronouns more often than they produced them, and as shown in Table 7.11 nominal subjects were used most often.

Child	Polish	Polish		Polish		
	nominal	non-pro-drop		pro-drop %		
	subjects	pronominal subj	ects %			
	total %	3 rd ps. sg. %	3 rd ps. pl. %	3 rd ps. sg. %	3 rd ps. pl. %	
1	51	17	2.50	20.50	9	
2	49.21	22.22	1.59	19.05	7.94	
4	62.90	6.45	0	17.74	12.90	
5	33.33	16.67	0	33.33	16.67	
6	53.33	6.67	0	10	30	
7	18.75	31.25	0	43.75	6.25	
8	57.14	8.16	2.04	12.24	20.41	
9	34.43	24.59	0	32.79	8.20	
10	0	0	0	0	100	

Table 7.13 Polish Overt Nominal & Pronominal Third-person Singular and Plural Subjects vs. Third-person Singular and Plural Pro-drop

Table 7.14 below presents the total percentages of nominal subjects, pronominal subjects in third-person singular and plural, and null subjects in third-person singular and plural. Nominal subjects and overt pronominal subjects are totaled and their percentages are juxtaposed with those of pro-drop instances. The overall trend among these young speakers (without taking into account Child #3 and Child #10, who did not produce any of these subjects) is to produce more overt nominal and pronominal third-person subjects than to omit subjects.

Child	Polish	Polish	Polish	Polish
	nominal subjects	non-pro-drop	nominal	pro-drop %
	total %	pronominal	& overt 3 rd ps.	
		subjects %	pronominal %	
		3 rd ps.sg. &		3 rd ps.sg. &
		3 rd ps.pl. %		3 rd ps.pl. %
1	51	19.50	70.50	29.50
2	49.21	23.81	73.02	26.99
3	0	0	0	0
4	62.90	6.45	69.73	30.64
5	33.33	16.67	50	50
6	53.33	6.67	60	40
7	18.75	31.25	50	50
8	57.14	10.20	67.34	32.65
9	34.43	24.59	59.02	40.99
10	0	0	0	100

 Table 7.14 Polish Overt Nominal & Pronominal Third-person Singular and Plural Subjects

 vs. Third-person Singular & Plural Pro-drop

So far the data suggest that the participants omit subject pronouns in the first-person singular more often than in the plural but also, on the whole, use overt pronominal subjects more often than it is permitted by prescriptive grammar. Whereas subject pronoun omission is more frequently seen in the clauses with third-person singular and plural subjects, the total percentage of nominal and pronominal third-person subjects is greater than that of null subjects.

Analysis of second-person singular and plural pronouns, overt and null, will not be of value to the present study, as the interviews the researcher conducted with the children focused on spontaneous conversation, story elicitation, and autobiographical narrative. The expected sentence subjects, then, were nouns and singular and plural first- and third-person pronouns.

The above data suggest certain general trends observed in the Polish and English speech samples of the young participants. What is more, each language seems to be affected in some way by the other. The non-pro-drop feature in English does not appear to be problematic for the majority; that is, the young speakers are aware of the need to produce an overt subject pronoun in English. However, of the ten participants, four made some mistakes with English pro-drop. While the numbers point to increased frequency of non-pro-drop in Polish on the whole, as compared to what is preferred in prescriptive grammar, it is the application of non-pro-drop in the first- and third-person singular that brings about the question of its cause and requires an explanation. Consequently, the following section is devoted to the analysis of the observations stated above, with regard to variables such as age, exposure, education, etc.

2. 3. Correlation Between Variables and Pro-drop

The data analyses that follow look at the pro-drop feature and its correlation with the variables of age at the time of data collection, age of acquisition, amount and type of

exposure to each language, and the level of parental education. Each language is examined separately. As it was stated at the beginning of section 2.2. of this chapter, the difference between the treatment of the pro-drop feature in Polish and English dictates the course of the analysis. The focal point of examination in the sample of Polish is the percentage of non-pro-drop in each of the participants' speech. In contrast, the pro-drop feature and its correct (grammatical) and incorrect (ungrammatical) use are at the core of the English sample examination.

2.3.1.Polish

Age

The first variable considered in the analysis is that of age at the time of data collection. Since all of these children were born to Polish families, their contact with that language started immediately at birth. Therefore, the variable of age of first-time exposure to Polish is not analyzed separately. The percentages are calculated based on the combined number of clauses containing pro-drop and non-pro-drop in first-person subjects (singular and plural) and then in all third person subjects, including nominal subjects.

Child	Age	Pro-drop %	Non-pro-drop	Pro-drop	Non-pro-drop
			%	%	%
		1 st sg.	1 st sg.	1 st pl.	1 st pl.
1	8;6	46.83	21.52	30.38	1.26
2	8;4	54.55	18.18	27.27	0
5	7;4	40	60	0	0
4	6;3	56.67	20	23.33	0
8	6;2	72.73	5.45	20	1.82
6	5;6	5;6 52.94 0		47.06	0
9	5;0	33.33	61.54	5.13	0
7	4;7	50	50	0	0
10	4;6	61.90	38.10	0	0

Table 7.15 Polish Overt and Null Pronominal Subjects in First-person Singular and Plural

The data presented in Table 7.15 indicate that Children #5, 7 and 9 use non-pro-drop in the first-person singular most frequently. While Children #7 and #9 are among the youngest participants and are also close in terms of age, Child #5 is older by over two years. Out of all the participants, only two children used a first-person plural subject pronoun, and then only with low frequency. The overall look of the data in the table does not point to any specific patterns in the use of overt pronominal subjects regarding the participants' age at the time of the study.

Presented in Table 7.16 are the percentages of all nominal and third-person singular and plural pronominal subjects (overt and null).

Child	1 00	Daliah	Daliah			Daliah			
Child	Age	Polish	Polish			Polish			
		nominal	non-pro-dr	op %		pro-drop %			
		subjects	-			· ·			
		total 0/	2rd ma an	2rd ma ml	2rd ma an P	ord	2 rd ma m1 0/	2rd ma an P	
		total %	o ps.sg.	5 ps.pi.	$5 \text{ ps.sg.} \alpha$	3	5 ps. pl. %	$5 \text{ ps.sg.} \alpha$	
			%	%	3 rd ps.pl. %	ps.sg.		3^{ra} ps.pl. %	
						%			
1	8;6	51	17	2.50	19.50	20.50	9	29.50	
2	8;4	49.21	22.22	1.59	23.81	19.05	7.94	26.99	
5	7;4	33.33	16.67	0	16.67	33.33	16.67	50	
4	6;3	62.90	6.45	0	6.45	17.74	12.90	30.64	
8	6;2	57.14	8.16	2.04	10.20	12.24	20.41	32.65	
6	5;6	53.33	6.67	0	6.67	10	30	40	
9	5;0	34.43	24.59	0	24.59	32.79	8.20	40.99	
7	4;7	18.75	31.25	0	31.25	43.75	6.25	50	
10	4;6	0	0	0	0	0	100	100	

 Table 7.16 Polish Overt Nominal & Pronominal Third-person Singular and Plural Subjects

 versus Third-person Singular & Plural Null Subjects

Child #10, as it was previously mentioned, produced clauses in Polish, but none of them contained an overt subject – either nominal or third-person pronominal. Child #7, one of the youngest participants, used nominal subjects least often. The remaining children did not exhibit specific pattern of percentages; however, three children – Children #4, 8, and 6 had the highest percentages of nominal subjects.

As far as third-person pronominal subjects (singular and plural) are considered, Children #9 and #7 have the highest percentage of non-pro-drop (just as with the first-person singular), while Children #4, 8, and 6 show the lowest percentages for overt third-subject pronouns. Only some of the participants produced clauses with third person plural pronominal subjects.

In terms of the pro-drop feature, here again Children #4, 8, and 6 show the lowest percentages of null subjects for third-person singular subjects, whereas Child #7 used the pro-drop feature with third-person subject pronoun most frequently of all participants.

Information presented in the tables above reveals that children in the age group 5;6 – 6;3 produced the fewest clauses with overt first- and third-person subjects in the singular and plural but also the highest percentage of nominal subjects. Children younger than five and older than 7;4, according to the tables above, use the least nouns and the most pronouns in first- and third-person singular.

The next section addresses the variable of exposure to Polish. The variable of age and exposure to English is considered later in the chapter.

Exposure to Polish

Since age of the participants at the time the study was conducted does not indicate a clear pattern in null vs. overt subject pronoun production, possibly the amount and type of exposure to Polish can point to some causes for the existing percentages of overt subjects in these participants' speech samples.

Table 7.17 below contains the information on each child's daily amount of exposure to Polish. The exposure is measured in hours and is divided into active, which requires interaction in the language, and passive, which entails simple exposure to the language via media and music. The participants are listed in the order from the highest to the lowest number of hours of daily exposure to Polish.

Although the main point of interest is the percentage of overt nominal and pronominal subjects, the data in the table also present the percentages of null subjects. The percentages of null and overt nominal and pronominal subjects are based on the total number of all utterances in Polish.
Child	Age	Daily	Daily	Daily	pro-drop	non-pro-drop	nominal
		exposure	exposure	exposure	in Polish	in Polish	subjects
		to Polish	to Polish	to Polish			in Polish
		total time	(active)	(passive)			
		(hrs)	- interaction	- media			
		[interaction +					
		media]					
4	6;3	14.5	12	2.5	41.98	7.63	30.53
2	8;4	14	8-12	2	40.23	21.84	35.63
6	5;6	13	12	1	50	4.76	38.09
10	4;6	9	6-8	1	70.97	25.81	0
1	8;6	8.5	8.5	0	42.58	18.30	32.18
7	4;7	6.5	6	30 min	44	32	12
8	6;2	6.5	6	15-20 min	62.07	8.62	24.14
9	5;0	4	3-4	10 min	41.32	32.23	17.35
5	7;4	1	1	0	35.71	21.43	14.28

Table 7.17 Polish - Daily exposure, Pro-drop and Non-pro-drop

The amount of total exposure to Polish did not appear to have a particular influence on the frequency of pro-drop and non-pro-drop use in the speech of the participants. The children with most exposure to Polish (9-14.5 hrs) used pro-drop with the same frequency as those who had contact with the language for half that amount of time (4-8.5 hrs). However, Child #5, who had the least exposure to Polish, used pro-drop the least often. While there is no particular difference between this child's and the other children's use of overt subject pronouns, his use of nominal subjects is second lowest in the group.

The highest percentage of pro-drop in Polish is observed in the youngest participant's speech. It is important to note here that he was also the most difficult to obtain data from, and many of his utterances were simple one- or two-word replies.

The only uniformity visible among the children with 8.5-14.5 hours of exposure to Polish is that they produced the most nominal subjects in their clauses. This can be explained possibly by the fact that more active exposure to Polish facilitated acquisition of new vocabulary, thereby decreasing the need to rely on pronouns when referring to objects.

Table 7.18 presents percentages of null and overt subjects with regard to the variable of formal exposure to language, that is, through Polish-language school, kindergarten, or daycare. Some of the participants, as can be seen, had no formal contact with Polish. The percentages are based on the total number of Polish clauses recorded.

Child	Age	Formal	pro-drop	non-pro-drop	nominal
		exposure to	in Polish	in Polish	subjects
		Polish			in Polish
1	8;6	school	42.58	18.30	32.18
2	8;4	school	40.23	21.84	35.63
5	7;4	school	35.71	21.43	14.28
8	6;2	daycare	62.07	8.62	24.14
6	5;6	daycare	50	4.76	38.09
4	6;3	n/a	41.98	7.63	30.53
9	5;0	n/a	41.32	32.23	17.35
7	4;7	n/a	44	32	12
10	4;6	n/a	70.97	25.81	0

Table 7.18 Polish - Formal Exposure, Pro-drop and Non-pro-drop

The children who did not have any exposure to the language in a more formal environment did not on the whole use pro-drop more or less than those children who had attended some form of Polish-language school or daycare. It appears, however, that three of the children who did not have any formal exposure to Polish produced overt pronominal subjects more often than children who had some form of Polish language schooling; these were also the youngest three participants of the study.

Table 7.19 looks at total percentages of all nominal and pronominal subjects recorded. The focal point of the table is non-pro-drop; therefore, the participants are listed

according to the percentages of overt pronominal subject use from the highest to the lowest. The table shows the type of formal exposure to Polish, as well as the amount of active exposure to the language.

Child	Age	Formal	Daily	pro-drop	non-pro-drop	nominal
		exposure to	exposure	in Polish	in Polish	subjects
		Polish	- interaction			in Polish
9	5;0	n/a	3-4	41.32	32.23	17.35
7	4;7	n/a	6	44	32	12
10	4;6	n/a	6-8	70.97	25.81	0
2	8;4	school	8-12	40.23	21.84	35.63
5	7;4	school	1	35.71	21.43	14.28
1	8;6	school	8.5	42.58	18.30	32.18
8	6;2	kindergarten	6	62.07	8.62	24.14
4	6;3	n/a	12	41.98	7.63	30.53
6	5;6	daycare	12	50	4.76	38.09

Table 7.19 Polish – Formal Exposure to Language and Non-pro-drop

The data presentation in the table above supports the findings from the previous one, that is – the children with no formal exposure to Polish tended to produce the highest number of overt subjects. Table 7.19 helps to see that the three participants with the highest non-prodrop percentages not only had no formal schooling in Polish, but also were the youngest (age 5;0 and younger).

Another visible group who produced notably higher non-pro-drop utterances were the children who had attended Polish school on Saturdays, that is, those who were literate in the language. Finally, the lowest percentage of utterances with overt pronominal subjects is noted among children age 5;6 - 6;3 of whom two had contact with Polish outside of their family home. Child #4 exhibited a notably low percentage of non-pro-drop despite lack of formal exposure to Polish. The three children with the least non-pro-drop had relatively high active exposure to Polish. Child# 8 had only 6 hours of interaction in Polish daily but she also attended a Polish language kindergarten, which could explain the low percentage of overt pronominal subjects.

What is noteworthy in the above observation is the fact that the amounts of interaction in Polish and its type as well as age both influence the percentage of non-prodrop. What needs to be investigated further is the correlation between Polish non-pro-drop and the participants' exposure to English.

Exposure to English

The variable considered in Table 7.20 is the amount of exposure to English and prodrop and non-pro-drop in Polish. The percentages are based on the total number of recorded utterances in Polish.

Child	Age	Exposure to	Daily	Formal	non-pro-drop	pro-drop
		English	exposure to	exposure to	in Polish	in Polish
		total	English	Polish		
			- interaction			
9	5;0	15<	10<	n/a	32.23	41.32
7	4;7	12.5	10	n/a	32	44
10	4;6	8	6	n/a	25.81	70.97
2	8;4	9.5	6.5	school	21.84	40.23
5	7;4	13.5-14.5	12-13	school	21.43	35.71
1	8;6	9.5-10.5	6.5	school	18.30	42.58
8	6;2	8-9	8	kindergarten	8.62	62.07
4	6;3	7	1.5	n/a	7.63	41.98
6	5;6	5	4.5	daycare	4.76	50

Table 7.20 Exposure to English and Non-Pro-Drop in Polish

The participants are listed according to the highest percentage of non-pro-drop. The table indicates the amount of total and active exposure to English and the level of formal exposure to Polish.

Child #9, who had the most total contact with English and no formal contact with Polish, produced the highest percentage of non-pro-drop in Polish, while Child #6, with the smallest number of hours of daily contact with English and exposure to Polish at a daycare, had the fewest clauses with overt subjects. The other two children who produced the least number of overt subjects in Polish, Children #8 and #4, also had a lower total amount of exposure to English; only one of them, Child #8, attended a Polish-language kindergarten.

Although Child #10 did not spend as much time with English as Children #9 and #7, he was the youngest child in the group studied. He produced few clauses with overt nominal and pronominal subjects on the whole. Children #5, 1, and 2, whose contact with English extended from 9.5 hours to over 15 hours daily, were also the oldest participants, who had had formal schooling both in English and in Polish.

The two groups of children – the one without any formal contact with English and the one who attended a Polish-language school – had had the most exposure to English. They also produced clauses with the most overt pronominal subjects. Children in the third group, regardless of their formal exposure to Polish, had the least non-pro-drop and also the least exposure to English.

In accordance with UG theory, the opposite patterns should be expected, that is the youngest participants should have the lowest non-pro-drop, followed by the older children,

ending with the school-age children. Given that these children speak two languages, the pattern of the data may point to language transfer as a plausible explanation.

Another observation pertains to null subjects. It appears, more often than not, that those participants who have less contact with English tend to omit pronominal subjects more frequently than those who have more contact with it.

Child #5 has the lowest percentage of pro-drop in Polish and at the same time, the highest number of hours of interaction in the English language. This trend, however, cannot be generalized, since not all of the participants adhere to it. For instance, Child #4 shows a rate of pro-drop comparable to those of Children #9, 7, 1, and 2, but the total amount of time he spends in the English-speaking environment in comparison to these four children is less.

This analysis points to the fact that there is indeed a correlation between production of overt subjects in Polish and the amount of contact with English. That is, the less time the children spent interacting in English and being exposed to that language, the less they produced overt subjects in Polish. More contact with English, active and passive, resulted in higher percentages in production of overt pronominal subjects. This observation, again, points to crosslinguistic influence as an explanation of the observable tendency.

The level of parental education as it may relate to and influence the percentages of pro-drop and non-pro-drop in the children's speech is the last variable which is presented in Table 7.21. The percentages are calculated based on the total number of clauses with null and overt subjects in first-person contexts. The table also presents the amount of time each child interacts daily in Polish. This variable, although previously discussed, is reconsidered here in

light yet another variable in hope that it reveals more information about the children's tendencies to use overt and null pronominal subjects.

The nine participants included in this analysis are divided into three groups based on their parents' levels of education. The first group is comprised of four children who live with both parents and whose parents, both or one, have post-secondary education. Child #5 (along with Child #3, who is not included in the analysis of Polish for reasons stated above) belongs to the second group of children raised by a single parent. Finally, the third group consists of children whose parents have only secondary education.

Child	Age	Parental	Daily exposure	pro-drop	non-pro-drop
		Education Level	to Polish	in Polish	in Polish
			- interaction	total %	total %
4	6;3	M M.A.; F Sec	12	41.98	7.63
8	6;2	M M.A.; F B.A.	6	62.07	8.62
6	5;6	M M.A.; F M.A.	12	50	4.76
10	4;6	M B.A.; F B.A.	6-8	70.97	25.81
5	7;4	M B.A.	1	35.71	21.43
1	8;6	M Sec; F not provided	8.5	42.58	18.30
2	8;4	M Sec; F Sec	8-12	40.23	21.84
9	5;0	M Sec; F Sec	3-4	41.32	32.23
7	4;7	M Sec; F Sec	6	44	32

Table 7.21 Polish Pro-drop/Non-pro-drop and Parental Education Level

Children #6, 8, and 10 produced the highest percentage of total pro-drop. Each of these children lived at home with both parents present and *both* of the parents had post-secondary education.

Interestingly enough, the children with the lowest percentages of non-pro-drop (Children #4, 8, and 6) were those who lived with both parents but whose *mothers* held graduate degrees.

Children #6 and #8 are the two with the highest percentages of pro-drop and lowest percentages of non-pro-drop. The two of them lived with both parents and both of the parents had secondary and even postsecondary degrees.

The four children (Children #4, 6, 8, and 10) discussed above did not share the same amount of exposure to Polish. Children #4 and #6 had contact with the language 12 hours daily, and Children #8 and #10 about 6-8 hours. Again, as it was seen in the analysis of Table 7.19 above, the percentages of null and overt subjects in their speech do not seem to be contingent upon the actual exposure to Polish only.

As far as children of the parents with secondary education are concerned, they exhibit very close percentages of null subjects – between 40 - 44 percent – regardless of their age and amount of active exposure to Polish. Since the percentage from this very range can also be observed in Child #4, it is difficult to claim that the percent range is limited to the particular group of young speakers.

As far as non-pro-drop is considered, its highest percentages are noted in the speech of two children whose parents had secondary education. These are also the youngest two participants in the third group of the parental-education-level category.

Child #5, who is the only one listed in the category of children with single parents, produced the lowest percentage of clauses with pro-drop, while his non-pro-drop ratio was numerically close to that of the children from the third group.

In brief, the numbers suggest that the children of mothers with graduate degrees produced the fewest clauses with overt subjects. On the other hand, children whose fathers have secondary degrees used null subjects with similar frequency.

The following two tables – Table 7.22 and 7.23 display the data on pro-drop and nonpro-drop once again with the level of parental education as a variable. Here, however, the percentages are calculated not as above on the total number of clauses recorded, but on the sum number of pro-drop and non-pro-drop instances in the first-person and third-person singular and plural cases, as well as on the nominal subjects. The listing of the participants and variables is the same as in Table 7.21.

Child	Age	Parental Education	Pro-drop	Non-pro-drop
		Level	in Polish	in Polish
			1 st sg. & pl. %	1 st sg. & pl. %
4	6;3	M M.A.; F Sec	80	20
8	6;2	M M.A.; F B.A.	92.73	7.27
6	5;6	M M.A.; F M.A.	100	0
10	4;6	M B.A.; F B.A.	61.90	38.10
5	7;4	M B.A.	40	60
1	8;6	M Sec; F not provided	77.21	22.78
2	8;4	M Sec; F Sec	81.82	18.18
9	5;0	M Sec; F Sec	38.46	61.54
7	4;7	M Sec; F Sec	50	50

 Table 7.22 Polish First-person Singular and Plural Pro-drop/Non-pro-drop and Parental Education Level

Children #8 and #6 had the lowest percentages of non-pro-drop, followed by Children #1 and #2. On the other hand, the highest percentages of overt subjects appear in the speech of the youngest participants, the children of parents with secondary education, and in the speech of the child raised by a single mother.

Children #6 and #8 are the two with the highest percentages of pro-drop and lowest percentages of non-pro-drop. The two of them lived with both parents, and both of the parents had secondary and even postsecondary degrees.

Children #4, 8, 6 from the first group and Children #1 and #2 from the second group have the highest percentage of pro-drop (77.21 – 100%). Whereas the first three children belong to the group where at least one of their two parents have post-secondary education, the other two children's parents (Child #1 and #2) have secondary education. Children #1 and #2, however, are the oldest of all the participants. In this case age as well as the parents' higher education appear to be of importance in the rate of null subject production.

The remaining children (Children #10, 5, 9, and 7) show lower percentages of prodrop. While they do not share the same groups in terms of the main variables and are not close age-wise, three of them (Children #10, 9, and 7) are the youngest participants in the entire group and do not have any formal exposure to Polish. This supports the findings from Table 7.20. The only explanation for the percentages of pro-drop in the speech of Child #5 can be that this child had the least amount of exposure to Polish in general.

Child	Age	Parental Education	Polish	Polish	Polish
		Level	pro-drop %	non-pro-drop	nominal
				pronominal	subjects
				subjects %	total%
			3 rd ps.sg. &	3 rd ps.sg. &	
			3 rd ps.pl. %	3 rd ps.pl. %	
4	6;3	M M.A.; F Sec	30.64	6.45	62.90
8	6;2	M M.A.; F B.A.	32.65	10.20	57.14
6	5;6	M M.A.; F M.A.	40	6.67	53.33
10	4;6	M B.A.; F B.A.	100	0	0
5	7;4	M B.A.	50	16.67	33.33
1	8;6	M Sec; F not provided	29.50	19.50	51
2	8;4	M Sec; F Sec	26.99	23.81	49.21
9	5;0	M Sec; F Sec	40.99	24.59	34.43
7	4;7	M Sec; F Sec	50	31.25	18.75

 Table 7.23 Polish Nominal and Third-person Pronominal Pro-drop/Non-pro-drop and Parental Education Level

The children of mothers with graduate degrees exhibited the lowest percentages of non-pro-drop in third-person singular and plural pronouns, while the highest percentage is seen among the children of parents with secondary education (the third group).

The oldest two participants (Children #1 and #2) have the lowest percentages of null subjects, followed by Children #4 and #8 (the oldest two in the first group). Child #10, who is also the youngest participant of all, has the highest pro-drop rate. Children #6 and #9 have the pro-drop rate of 40 percent. While they are in different groups according to the main variable, these two participants are fairly close in age.

The highest percentages of nominal subjects are noted in the children whose mothers have graduate degrees (Children #4, 8, and 6). The lowest percentages of nominal subjects are seen in the two youngest participants (Children #10 and #7), regardless of the parents' education level.

The last three analyses on the whole suggest that education level of both parents and children's ages are important aspects in overt subject production.

Summary

Overall, the participants used overt subjects in Polish with higher frequency than is required by prescriptive grammar of Polish, although in the first- and third-person singular they still used overt pronouns with more frequency than in the respective contexts in the plural. Also, subject-pronoun omission is more frequently seen in utterances with thirdperson subjects – singular or plural; however, the total percentage of nominal and pronominal third-person subjects is greater than that of null subjects.

As far as the production of non-pro-drop (the total percentage of overt pronominal subjects) is concerned, the youngest population (children under the age of five) had the highest percentage, followed by the oldest (over the age of 7;4). The middle group – Children #4, 6 and 8 (over five and under seven) – had the lowest percentage of non-pro-drop of all the participants. The percentages for first-person singular non-pro-drop showed the same tendency.

The above trend, which lists the youngest children as having the highest percentage of non-pro-drop, cannot be accounted for through UG theory. Judging by the rules of prescriptive grammar, the expected pattern would be one in which children's production of null subjects perhaps increases with age by a small percentage or remains the same.

The analyses of Polish language samples point to correlation between the participants' production of overt subjects and their amount of exposure to both Polish and

English. An increase in production of overt subject in Polish is correlated to increased amount of contact with English, active or passive. Correspondingly, the less interaction the children had with English, the less they produced non-pro-drop in Polish. These observations seem to identify crosslinguistic influence as an explanation of the observable tendencies. What is more, the level of education of the parents also appears to be an important factor in the occurrence of pro-drop and non-pro-drop alike. It is possible that the parents who have higher education are more inclined not only to support their children's bilingualism but also to assure that the children maintain fluency in their L1 Polish and speak the language properly. This reason might be a source of motivation for the parents themselves to be more careful in their use of Polish, more attentive to the use of proper grammar and vocabulary thereby providing their children with valuable input.

The following subsection is devoted to the analysis of the pro-drop feature in English, in both its grammatical and ungrammatical occurrences in the English speech sample of the participants.

2. 3. 2. English

As previously discussed in section 2.2., the analysis of English focuses on null subjects and the issue of their grammaticality. Since the anomalous omissions are of most interest to this study, each variable is examined in relation to percentage of ungrammatical pro-drop.

The very first table (Table 7.24) in this section presents the variable of the children's chronological ages and the percentage of pro-drop in their speech – total and ungrammatical. The participants are listed according to their age, from the oldest to the youngest.

Child	Age	pro-drop	ungrammatical
		total	pro-drop
		in English	in English
		%	%
1	8;6	4.56	0.48
2	8;4	2.67	0
5	7;4	1.92	0
3	6;9	2.08	1.39
4	6;3	3.49	0
8	6;2	1.67	0
6	5;6	8.73	4.39
9	5;0	4.74	0
7	4;7	11.61	2.63
10	4;6	20.63	0

Table 7.24 English and Grammaticality of Pro-drop

As seen in the above data, ungrammatical English pro-drop occurs in the speech of the three children over the age of five, as well as in the speech of one of the youngest ones (under five years of age). Since both the oldest and the second youngest (among the group) occasionally applied pro-drop ungrammatically, it cannot be stated that age alone is directly related to null subject production and its grammaticality.

Moreover, while Child #1 and Child #7 do exhibit some issues with correct pro-drop use, the percentage of errors in subject omission in their speech is small when considered against the total percentage of pro-drop; Child #3 and Child #6 produced about 50 percent of their pro-drop utterances incorrectly. The above observations need to be investigated in light of other variables, such as age of first exposure to English and its amount. Table 7.25 focuses on this information.

Child	Age	First	First	pro-	pro-drop
		contact	contact	drop	ungrammatical
		w/English	w/English	total	%
			frequency	%	
3	6;9	birth	no information ⁴	2.08	1.39
8	6;2	birth	2hrs/day	1.67	0
6	5;6	birth	5 days/week	8.73	4.39
9	5;0	birth	no information	4.74	0
10	4;6	birth	no information	20.63	0
2	8;4	1	no information	2.67	0
7	4;7	2	8hrs/day	11.61	2.63
1	8;6	2;5	every day	4.56	0.48
5	7;4	3	every day	1.92	0
4	6;3	4	2hrs/week	3.49	0

Table 7.25 First contact with English and Pro-drop in English

From the data contained in Table 7.25 it can be seen that the majority of the participants produced grammatically correct null subjects. The four children who do exhibit ungrammaticality in the pro-drop application were not all exposed to English from birth, and the frequency of their contact varied. Children #3 and #6, who, as noted above, made the most mistakes in pronominal-subject omission relative to the percentage of all instances of pro-drop they produced, had had contact with English since birth. Conversely, the other two children who produced ungrammatical pro-drop first came in contact with this language at the age of two or later. The children's amount of first exposure to the language also differed. These observations rule out the possibility of the variable of age of exposure being the sole factor in erroneous pro-drop production.

⁴ No information in the data tables indicates that the parents did not provide it in their questionnaires

The following table (Table 7.26) illustrates the breakdown of the types of null subjects that were noted in the recorded data. The percentages of each pro-drop category are calculated based on the total number of clauses with null subjects. The participants are listed according to their ages (from the oldest to the youngest).

The two main categories are instances of pro-drop – grammatical and ungrammatical. Within the grammatical category, there are three subgroups: imperatives, coordinate clauses, and colloquial utterances. Coordinate clause null subjects included here are the ones where the subject of the both clauses is the same. Instances of colloquial pro-drop include informal replies and questions.

		Grammatical pro-drop			Grammatical pro-drop	Ungrammatical pro-drop
Child	Age	imperatives	coordinate clauses	colloquial	total percentage	total percentage
1	8;6	26.31	63.16	0	89.47	10.53
2	8;4	0	100	0	100	0
5	7;4	0	0	100	100	0
3	6;9	0	33.33	0	33.33	66.67
4	6;3	0	100	0	100	0
8	6;2	50	0	50	100	0
6	5;6	0	50	0	50	50
9	5;0	66.67	33.33	0	100	0
7	4;7	70.97	0	6.45	77.42	22.58
10	4;6	30.76	0	69.23	100	0

Table 7.26 English Pro-drop Types and Age

Not all the children produced each type of utterance with grammatically acceptable null subject; the reason behind this, most likely, is the nature of the interview and the amount of time spent talking with the researcher. This fact, however, does not imply that they do not do it at all. The youngest two participants each produced imperatives and colloquial clauses with null subject. They were both under the age of five when according to UG null subject is expected to take place more often than in the older speakers. Also, neither of them produced pro-drop in complex sentences. Child #7 was much more gregarious and talkative than Child #10 and tended to reply in full sentences. Child #10 limited most of his responses to short, colloquial style phrases.

The oldest two children produced the highest percentages of coordinate clauses with null subjects and no colloquial replies, whereas the highest rates of imperative context prodrop are noted in the speech of the youngest three children.

The ungrammatical pro-drop instances in the speech of the four participants were in the vast majority failures to provide a nominal or pronominal third-person subject of a main clause, and it is conceivable that they could have occurred due to insufficient vocabulary volume in these speakers.

Child #1 and Child #3 each omitted a subject twice during story telling or conversation with the researcher. Child #6 made ten erroneous applications of null subject during the story telling task. In the case of these three children, the ungrammaticality of their pro-drop can be said to be a result of crosslinguistic influence from Polish. In Polish, each of the sentences with a missing subject would be understood based on the verbal morphology.

Child #7 made seven incorrect subject omissions. Two of them were the same as those of the children above, but the remaining five could not be attributed to language transfer. They were omissions of the pronoun in presentational sentences. There were instances of pro-drop observed in young speakers under the age of five, for whom subject omission is a stage in the language-acquisition process.

Language Exposure

The next two variables considered in the data analysis are exposure to English and to Polish. Table 7.27 looks at the amount of time children had contact with English (both passive and active) and at their instances of ungrammatical pro-drop use. Conversely, in Table 7.28 the amount of time spent in a Polish language environment is juxtaposed with the percentages of ungrammaticality in English. In each table the participants are listed according to their total amount of exposure to the respective languages, from the most to the least amount of time.

Child	Age	Daily exposure	Daily exposure	Daily exposure	pro-drop	pro-drop
		to English	to English	to English	total	ungrammatical
		total time (hrs)	(active)	(passive)		
		[interaction + media]	- interaction	- media		
9	5;0	15<	10<	4-5	4.74	0
5	7;4	13.5-14.5	12-13	1.5	1.92	0
3	6;9	13-14	11-12	2	2.08	1.39
7	4;7	12.5	10	2.5	11.61	2.63
1	8;6	9.5-10.5	6.5	3-4	4.56	0.48
2	8;4	9.5	6.5	3	2.67	0
8	6;2	8-9	8	40 min	1.67	0
10	4;6	8	6	2	20.63	0
4	6;3	7	1.5	5.5	3.49	0
6	5:6	5	4.5	40 min	8.73	4.39

 Table 7.27 Exposure to English and Pro-drop in English

Child #7 and Child #10 have high percentages of pro-drop in total, despite the many hours spent in contact with English. To reiterate, the ages of these two children can be a factor here. Since both of them are under the age of five, the high percentages of pro-drop could speak in support of the fact that, indeed, some features of the language are not completely acquired before the age of five, and also in support of UG.

Child #6, who had the least exposure to English, had the highest percentage of ungrammatical pro-drop. However, the other three children who made mistakes in applying null subjects in English were in contact with the language for longer periods of time daily. In view of the fact that ungrammaticality in pro-drop can be related to the children's knowledge of Polish, it is imperative to look at the correlation of exposure to Polish and pro-drop in English – both grammatical and ungrammatical.

Child	Age	Daily exposure to Polish total time (hrs) [interaction + media]	Daily exposure to Polish (active) - interaction	Daily exposure to Polish (passive) - media	pro-drop in English total %	pro-drop in English ungrammatical total %
4	6;3	14.5	12	2.5	3.49	0
2	8;4	14	8-12	2	2.67	0
6	5;6	13	12	1	8.73	4.39
10	4;6	9	6-8	1	20.63	0
1	8;6	8.5	8.5	0	4.56	0.48
7	4;7	6.5	6	30 min	11.61	2.63
8	6;2	6.5	6	15-20 min	1.67	0
9	5;0	4	3-4	10 min	4.74	0
3	6;9	1	1	0	1.92	1.39
5	7;4	1	1	0	2.08	0

Table 7.28 Exposure to Polish and Pro-Drop in English

Children #4, 2, and 6 spent the most time of all participants interacting in Polish, but only Child #6 produced errors in pro-drop in English. As it can be seen in Table 7.27, Child #6 had the least exposure to English. Nevertheless, Child #4 and Child #2, despite their greater exposure to Polish and definitely less intensive contact with English, did not present any problems with grammaticality of null subjects in English. What is more, even Child #3, who had the least contact with Polish and whose exchanges were principally in English, made errors in pro-drop. In the case of Child #7, the interaction of age and exposure variables can account for not only the high percentage of pro-drop overall, but also its ungrammatical application in English.

01.11.1		D 11	D '1	D ''	D '1		1
Child	Age	Daily	Daily	Daily	Daily	pro-drop	pro-drop
		exposure	exposure	exposure	exposure	in English	in English
		to English	to English	to Polish	to Polish	total	ungrammatical
		total time	(active)	total time	(active)		
		(hrs)	- interaction	(hrs)	- interaction		
		(interaction		(interaction			
		+ media)		+ media)			
9	5;0	15<	10<	4	3-4	4.74	0
5	7;4	13.5-14.5	12-13	1	1	1.92	0
3	6;9	13-14	11-12	1	1	2.08	1.39
7	4;7	12.5	10	6.5	6	11.61	2.63
1	8;6	9.5-10.5	6.5	8.5	8.5	4.56	0.48
2	8;4	9.5	6.5	14	8-12	2.67	0
8	6;2	8-9	8	6.5	6	1.67	0
10	4;6	8	6	9	6-8	20.63	0
4	6;3	7	1.5	14.5	12	3.49	0
6	5;6	5	4.5	13	12	8.73	4.39

 Table 7.29 Exposure to English and Pro-drop in English

Table 7.29 contrasts the amount of exposure to each of the languages and shows the percentages of ungrammatical pro-drop. The main goal of such a presentation of variables is to illustrate better the correlation between exposure to both languages and its possible effect

on grammaticality in one of these languages. While there is no specific trend common to all of these participants, in the case of Child #6 there does appear to be a connection between the level of ungrammaticality of her English null subject clauses and the amount of time she spends in each of the linguistic environments. She has the least contact with English of all the children in the group and also the most contact with Polish. In her case, the greater contact with Polish seems to affect the grammaticality of her English null subject clauses.

On the other hand, in order to understand the potential cause of the ungrammaticality seen in the speech of Children #3, 7, and 1, it is necessary to examine the variable of formal exposure to English.

Table 7.30 presents the participants according to their respective levels of formal contact with English – that is either through school or daycare. Within each group the participants are listed according to their ages, starting with the eldest.

Child	Age	Contact	pro-drop	pro-drop	
		w/English	total	ungrammatical	
		through	in English	in English	
		school/daycare			
1	8;6	school	4.56	0.48	
2	8;4	school	2.67	0	
5	7;4	school	1.92	0	
3	6;9	daycare	2.08	1.39	
8	6;2	daycare	1.67	0	
9	5;0	daycare	4.74	0	
7	4;7	daycare	11.61	2.63	
10	4;6	daycare	20.63	0	
4	6;3	n/a	3.49	0	
6	5;6	n/a	8.73	4.39	

Table 7.30 Formal Exposure to English and Pro-drop

Children #4 and #6, who had no formal exposure to English, are also the two children who had the least amount of total contact with English, especially through active interaction. Only one of them exhibits ungrammaticality in utterances with null subjects. On the whole, the ungrammaticality of pro-drop in L2 does not appear to be linked to any formal contact with the language.

Summary

The above analyses do not substantiate existence of any specific trends among the young bilingual Polish-English speakers that would result in an increased production of grammatical or ungrammatical omission of subjects. Although the participants do not exhibit any patterns as a group, a closer look at their individual cases allows for certain inferences.

As the data suggest, the variables of age and age of first exposure do not seem to affect grammaticality of null subject utterances in English directly. Similarly, the level of education or formal exposure to English can be discounted as a factor aiding in production of grammatical sentences.

Of the four children who made mistakes in pro-drop application, only Child #6 had a relatively small amount of exposure to English and spent much time interacting in Polish. She had the highest rate of incorrect pro-drop utterances of the four children.

Since ungrammaticality in pro-drop is observed in four children of different chronological ages and different ages of exposure to English, whose numbers of hours of contact with the two languages are dissimilar, the incorrect application of pro-drop cannot be explained through any specific straightforward patterns based on particular variables. It appears, rather, that the interaction of factors could reveal more information about the observed data (as it was seen in the case of Child #6).

The next section of this chapter is devoted to separate analyses of the data from each participant with concentration on null and overt subjects as produced by each child, and they are considered from the stance of possible crosslinguistic influence.

3. Detailed Analysis of Each Individual Child's Speech with Attention to Pro-drop

3.1. Child #1

Pro-Drop vs. Non-pro-drop in Polish

Pro-drop

Out of 317 Polish clauses she produced, there were 135 in which she applied prodrop. The application of pro-drop was carried out correctly, in agreement with the rules of grammar. The child made no mistakes in the sentences where she omitted subject pronouns.

CH1: **[pro-drop]** Miałam je jak miałam pięć lat chyba. *I had them when I was five, I think.*

Non-pro-drop

Of all of her 160 clauses with overt subject, 102 contained overt subjects in the form of a noun - a proper name or a common noun. The child produced sentences with overt subject pronouns in 58 sentences.

In each of the study tasks designed to obtain the data – that is, in spontaneous conversation, in a preplanned psycholinguistic task of story elicitation (retelling a short story – picture book), and in elicitation of autobiographical narrative (events from children's lives)

e.g.

- the participant exhibited a tendency to non-pro-drop when a new topic was introduced and whenever she reintroduced herself as the main subject in the narrative. In her speech overt subject tended to appear in sentence-initial position, with personal pronouns in each subject and number. The observable inclination, however, was to use overt subject in the first-person singular.

e.g.

- CH1: **Ja**... ja bardzomam talent do tańca bo **ja** chodzę na Biały Ozeł. *I... I very much... have a talent to dance because I go to White Eagle.*
- CH1: Tak. I tak idzie...Hmm... To jest takie koło. **Ja** to nie lubię robić. *Yes. And it goes so... Hmm... This is a circle. I do not like to do it.*
- R: Co myślisz że może się stać? What do you think can happen?
- CH1: Ja myślę, że tutaj uhm... patrzy sowa. Ja myslę, że to było... nie mogą być takie takie wielkie kamyki. Nie mogą. To chyba to było takie... jak się mówi taki...raindeer. I think that here... an owl is looking. I think that this was... there cannot be such such little stones.. They can't. This, I think was such... how do you say a... reindeer.
- R: Acha, myślisz, że będzie jeleń, tak...albo łoś. Um-hmm, you think it will be a deer, right... or a moose.
- CH1: Acha, **myslę**, że będzie jeleń. *Um-hmm, I think it will be a deer*.
- CH1:Ja... **ja** bardzo lubię Boże Narodzenie bo **ja** bardzo lubię Wigilię i bardzo mi ten opłatek smaczny jest i **ja** też lubię Wigilię bo jest takie specjalne jedzienie jest co moja mama czasami nie robi.

I... I like Christmas because I like Christmas Eve and this wafer is very tasty and I also like Christmas Eve because there is this special food that my mom sometimes does not make.

Also, she produced personal pronouns in utterances forming complex sentences,

where the subject of the main and the subordinate clause was the same.

e.g.

CH1: Nie, **on** tak robi, bo **on** jest zły. *No, he does this, because he is mad.*

CH1: **One** muszą być trochę w wodzie, bo **one** lubią wodę i **on** krzyczy: "Żabku, gdzie jesteś?" *They have to be a little in the water, because they like water and he is shouting: Froggie, where are you?*

In Polish, as it was noted in the typological breakdown of pro-drop feature in the Polish language in Chapter 1 above, overt subject is considered redundant if the subject of the subordinate clause is the same as that of the main clause. Similarly, there is no need for overtness of the subject in two adjacent clauses, since they share the subject, and this subject was made clear in the preceding clause. While the application of an overt pronominal subject does not violate the rules of grammar, it is considered superfluous.

From the small sample of Polish it is clear that she produced more clauses with nonpro-drop than it is expected in Polish from the point of view of prescriptive grammar. This tendency is not a prominent one.

In all of the 17 clauses containing impersonal subjects, the subject pronoun was applied correctly. The same goes for the interrogative pronoun use.

Pro-Drop vs. Non-pro-drop in English

Non-pro-drop in English

The participant exhibited no problems in production of overt subject pronouns in the English portion of her conversation. In the 417 utterances analyzed there are 339 with over subject pronouns and 44 with presentational subject constructions.

Also, four utterances were noted in which the subject was introduced by a demonstrative pronoun. Each of the above-mentioned utterances is grammatically correct.

e.g. CH1: Miley Cyrus is the main character... **that's** Miley as Hannah.

CH1: These are the nice giants...

Pro-drop in English

The participant applied pro-drop feature in 19 of her English utterances, of which five

are imperatives where omission of the subject pronoun is grammatically correct.

e.g.

CH1: Look at the pictures!

Another 12 examples in which the subject is omitted include clauses that are coordinate clauses of complex sentences. The omitted subjects can be inferred from the respective preceding clauses, as presented below.

e.g.

- CH1: But the bees felt him and **[pro-drop]** looked and when the boy stopped looking he was... There was a skunk there and uhm... And then the dog barked really loud, the bees heard him and **[pro-drop]** came out the hive and then...
- CH1: So if he didn't wanna know if the BFG wasn't looking he got **he** got Sophie and [**pro-drop**] ate her and she wanted her to come out.

In the next two instances subject omission is not warranted by the rules of grammar.

In the first example the sentence begins with a negated modal verb. The subject of this clause

can, nevertheless, be inferred from the previous sentences.

e.g.

CH1: I know they are. And there is this girl Sophie, she can't sleep. She's in dormitory 'cause she's an orphan. **[pro-drop]** Can't sleep so she's like trying to sleep since she was ten and she lived in the dormitory. And there is this teacher and **[pro-drop]** absolutely no no going down. Even if you go to the bathroom you can't – you will get punished.

The clause below lacks the subject. The example comes from the preplanned psycholinguistic task of story elicitation. This instance of subject omission can potentially be attributed to the circumstance of spontaneous speech production during a language task. Given the age of the child, perhaps other factors are at play, such as the child's bilingualism, or her fluency in Polish.

e.g.

CH1: And then the... [**pro-drop**] came into the... He went into the forest to look and there is a beehive and all the bees are following him.

Results

The data point to the child's tendency to produce more overt subject pronouns in Polish, especially in first-person singular and in the utterances which together form complex sentences.

In terms of pro-drop and non-pro-drop features, the participant's English utterances were correct, with the exception of two, and fell within the grammatically prescribed boundaries. From the point of view of UG, given the age of this participant, it is unlikely that the mistakes in pro-drop are brought on by the ongoing process on language development. Since in the same context in Polish both of the null subject applications would be correct, as their subjects are stated clearly in the preceding sentence, it is possible to consider language transfer as the trigger for this mistake in English.

Similarly, increase in production of overt subjects in Polish clauses could be seen as influenced by the child's L2 – English.

3.2. Child #2

Pro-Drop vs. Non-pro-drop in Polish

Pro-drop

The boy produced 87 clauses in Polish. Of those 35 had covert subject pronouns. There were no specific grammar issues in any of the utterances.

e.g.

CH2: [**pro-drop**] Gram... czasami [**pro-drop**] gram w siatkówkę. *I play... sometimes I play volleyball.*

Non-pro-drop

In the boy's Polish clauses, 52 had overt subjects. Of these, 19 contained subject pronouns, and 13 had noun subjects. In the two instances of non-pro-drop the subject was in the form of an impersonal subject and interrogative pronoun. Each of the utterances was grammatically correct.

There are a few instances in which the boy used first-person singular subject pronouns. He tended to use them at the beginning of sentences.

e.g. CH2: ... **ja** lubię kolorować ...*I like to color*.

The use of other subject pronouns was not contextually inappropriate, and it did not present any grammatical anomaly. However, in the case of the example below, the use of an overt third-person pronoun is redundant from the point of view of prescriptive grammar of Polish, as the two clauses are coordinate and share the subject.

e.g. CH2: ... **on** ma tego chłopca i **on** idzie na tego psa. ...*he has this boy and he is going to this dog*.

Pro-Drop vs. Non-pro-drop in English

Pro-drop

The participant produced 75 clauses in English of which two had missing subjects. Both utterances with pro-drop were parts of complex sentences; their subjects were stated in the preceding clauses rendering them grammatically correct.

e.g.

CH2: But **he** took the frog and **[pro-drop]** went home.

Non-pro-drop

Of the 75 English clauses 42 had overt subject pronouns, 24 contained noun subjects,

and seven are classified as presentational sentences. All of these utterances were grammatically correct.

e.g.

CH2: After that **you** eat some cake, then **you** get a bowling pin, and **you** can sign your friend's name.

Results

While this sample indicated increase in the use of overt subject pronouns in Polish, it

did not point to any changes in the child's English.

3.3. Child #3

Pro-Drop vs. Non-pro-drop in Polish

This participant produced no clauses in Polish; therefore, there are no samples of speech where there would be overt or null subjects in Polish.

Pro-Drop vs. Non-pro-drop in English

Pro-drop

The child produced 144 clauses in English. Of them, only three lacked subjects.

e.g.
R: A jak się bawisz z kolegami, to w co się bawicie? *And when you play with friends, what do you play?*CH3: Go outdoors i octopus. 'Go outdoors and octopus. The example cited above is an answer to a question in which the subject is clearly

stated. The child, nevertheless, chose to answer with a verb in the infinitive form and an adverb of place, followed by a conjunction in Polish and an English noun naming a game he played with friends. The second ungrammatical omission involved the absence of the main subject of a sentence.

The third subject omission in English was an utterance which was a coordinate clause of a complex sentence. The omitted subject can be inferred from the preceding clause, as presented below. The clause is grammatical.

Non-pro-drop

Of the 141 clauses with overt subjects, 87 contained subject pronouns, 39 noun subjects, and 18 were presentational-sentence subjects. They were all correct and presented no unusual language patterns.

e.g.

CH3: They have circle heads and they have circle bodies and the other kids got square heads...

Results

Due to insufficient amount of data the correlation of transfer and pro-drop feature in the speech of this participant cannot be discussed.

3.4. Child #4

Pro-Drop vs. Non-pro-drop in Polish

Pro-drop

The participant produced 131 clauses in Polish; of them 55 had null subjects. He omitted the subject pronoun in each of the utterances where the subject was first-person singular and first-person plural. All instances of subject omission adhere to the prescriptive grammar rules in Polish.

e.g.

CH4: **[pro-drop]** Bawimy się w takie gry, ale **[pro-drop]** nie wiem jak się nazywają. *We play these games, but I don't know what they are called.*

Non-pro-drop

The boy produced overt subjects in 76 clauses, of which ten were overt personal pronoun subjects, 25 impersonal third-person singular subjects, one interrogative pronoun, and the remaining 40 of them contained noun subjects. All of them fall within the norms of grammar.

e.g.

CH4: **Ja** wszystkich lubię. *I like them all.*

The overt subjects in the examples above are not used as an emphatic tool, and in accord with the rules of prescriptive grammar of Polish, pro-drop would be preferred in such instances.

CH4: Jak mój tata ma wolne, to **ja** wtedy chodzę do szkoły. *When my dad has a day off, then I go to school.*

Pro-Drop vs. Non-pro-drop in English

Pro-drop

The subjects were omitted in three of the 86 of the participant's English utterances.

e.g.

CH4: ...you must put this off and [pro-drop] put this in and [pro-drop] do the rest here.

CH4: Then the dog go on the tree and [pro-drop] get some honey.

In each of the clauses the omission is allowed. Despite the mistakes in verb conjugation in the second example, there is no ungrammaticality as far as pro-drop is concerned; the subject of the utterance can be inferred from the preceding clause.

Non-pro-drop

Each of the remaining 83 English clauses had an overt subject. In 60 of them it was a personal pronoun, 11 had presentational-sentance subjects, and 12 noun subjects.

e.g.

CH4: I was going with my friends and my mom. Then we saw a kid who doesn't have a costume.

CH4: There is one more and I don't know what his name is.

Results

The participant used overt subject pronouns in his Polish speech sample in contexts where they were not required by prescriptive grammar. This could be considered a result of crosslinguistic influence from English. His production of overt subjects in English showed no ungrammaticality.

3.5. Child #5

Pro-Drop vs. Non-pro-drop in Polish

Pro-drop

The participant produced 14 clauses in Polish, of which five had the pro-drop feature.

e.g.

CH5: [**pro-drop**] Szukali go i na balkonie. *They looked for him also on the balcony.*

Non-pro-drop

Out of 14 in total, nine were non-pro-drop clauses, three contained personal pronoun subjects, two had noun subjects, and four utterances were impersonal third-person singular subjects.

e.g. CH5: A **ja** to tu będę wklejał. And I will stick it in here.

CH5: Bo **ja** chcę iść do łazienki. Because I want to go to the bathroom.

Pro-Drop vs. Non-pro-drop in English

Pro-drop

The child produced 52 clauses in English. Only one of them was a pro-drop utterance. While the context of the conversation would require the use of a subject in this short sentence, its omission in this instance can be attributed either to the child's colloquial answer or an attempt to use an imperative form in reply to the researcher's question. Due to the ambiguity, this instance is not considered ungrammatical. e.g.
R: I możesz to do prądu włączyć i ładować. And you can plug it in and charge it.
CH5: [pro-drop] Just wind it up.

Non-pro-drop

Out of 52 of his English clauses, the child produced overt subjects in 51, and 32 of them had pronominal subjects, 11 nominal, and eight were presentational sentences. All of them were correct.

e.g.

CH5: And then he falls out and then he... then he is mad.

Results

Although he spoke Polish, this child's L2 English was the preferred language of communication. What is more, the child had limited ability to speak Polish. The instances where he used subject pronouns in his Polish clauses could be attributed to the influence of English in which he was fluent, rather than to the ongoing process of language acquisition (he was 7;4 years old).

3.6. Child #6

Pro-Drop vs. Non-pro-drop in Polish

Pro-drop

The child produced in total 84 clauses in Polish of which 42 had null subjects. Her speech was characterized by rare use of personal pronoun subjects.

e.g.

CH6: Ale Kaja już nie jest w moim przedszkolu. Już [**pro-drop**] chodzi do szkoły. [**pro-drop**] Ma cztery lata ale [**pro-drop**] chodzi do Italian szkoły. *But Kaja is not in my kindergarten any more. She goes to school. She is four years old and goes to Italian school.*

Non-pro-drop

Of the 84 Polish clauses 32 had overt subjects - four had pronominal subjects, 32

nominal, and six were impersonal third-person singular subjects.

e.g.

- CH6: **On** poszedł spać razem ze swoim pieskiem. *He went to sleep together with his doggie.*
- CH6: I potem chłopczyk zawołał przez okno a piesek próbował zdjąć słoik głowy. And then the little boy tried called out the window and the doggie tried to remove the jar off of his head.

Pro-Drop vs. Non-pro-drop in English

Pro-drop

There were 299 clauses this child produced in English. and 20 of them contained pro-

drop. In ten of the instances she applied pro-drop correctly, that is, the subjects of the

utterances could be discerned from the preceding coordinate clauses which together formed

complex sentences.

e.g.

CH6: And they're sitting and [pro-drop] have a string and holding and he saying: "What?"

The other ten of the clauses that were missing subjects are grammatically incorrect.

e.g.

CH6: There was a fish and *[pro-drop] have a shell...

CH6: King was and then... and then ***[pro-drop]** find a berry.

CH6: They're throwing the berry that each other was just throwing to each and there was swimming. *[pro-drop] Run away.

The above examples illustrate the types of clauses with pro-drop that this participant produced in English. In each of the pro-drop instances above, Polish grammar rules allow subject omission. In each of the sentences the missing subject would be clarified by morphology of the verb, even in the third example, which in an English sentence is ambiguous.

Non-pro-drop

Among the 299 English clauses, 155 had pronominal subjects, 55 had noun subjects, and 19 clauses were presentational sentences. There were no ungrammaticalities noted in any of them.

e.g. CH6: **He** is a boy and **he** was crying...

Results

This child's fluency in Polish L1 was greater than her fluency in English. She produced few Polish utterances with overt pronominal subjects in comparison to the number of clauses with null subjects.

The application of the pro-drop rule in her English sentences, as in the case of the previous child, could be attributed precisely to her knowledge of Polish and fluency in the language. The fact that the child applied pro-drop in Polish clauses not only with accuracy but also with increased frequency can be an indicator of possible crosslinguistic influence where the knowledge of Polish affects her performance in English.
3.7. Child #7

Pro-Drop vs. Non-pro-drop in Polish

Pro-drop

Child #7 produced 25 clauses in Polish;11 of them were with pro-drop. There is nothing atypical about them.

e.g.

R: A dlaczego on wchodzi na górę? And why is he going up?
CH7: Bo [pro-drop] chce zobaczyć co jest zepsute. Because he wants to see what is broken.

Non-pro-drop

Among the 25 Polish clauses, there were 14 with overt subjects, of which eight contained overt personal pronoun subjects, three had noun subjects, two impersonal subjects, and one had an interrogative pronoun subject. Again, none of them was unusual, although none of them is recommended by prescriptive grammar of Polish.

e.g. CH7: **Ja** wiem tą bajkę. *I know this story*.

CH7: **Ja** nie wiem. *I don't know*.

Pro-Drop vs. Non-pro-drop in English

Pro-drop

The child produced 267 clauses in English, of which 31 had null subjects. Of those 31, 22 were in utterances with the imperative, and two of them were colloquial questions and replies, none of which requires an overt subject.

e.g. CH7: [**pro-drop**] Wanna see that?

The child, nevertheless, did produce seven utterances where lack of an overt subject is considered ungrammatical. These were omissions of the main subject as well as of the pronoun in presentational sentences. The examples of ungrammaticality beneath show the type of mistakes the child made.

e.g. CH7: Someone scary is inside there. But SpongeBob is going in there? R: What is he going to do? CH7: Be very quiet but is **[pro-drop]** gonna wake up.

R: What is it? CH7: [**pro-drop**] Is a big flower tree.

R: And what's that? CH7: Mhm... [**pro-drop**] is something to color... I need this.

R: What's that? CH7: **[pro-drop]** Is a moon.

Non-pro-drop

Among the 268 clauses in English, the participant produced 182 with overt pronominal subjects, 19 with nominal subjects, and 35 with presentational sentences, all of which were grammatical.

e.g. CH7: **He** will hide right in there.

Results

The child produced 14 clauses in Polish which contained personal pronoun subjects.

However, he failed to produce overt subjects in some of his English utterances. In the case of

this child, five of his seven incorrect subject omissions cannot be explained by L1 interference. Here his age and, related to that, his as yet incomplete language acquisition are more of the causes of the ungrammaticalities.

3.8. Child #8

Pro-Drop vs. Non-pro-drop in Polish

Pro-drop

The child produced 116 clauses in Polish; 71 of them did not have overt subjects. All

of them were correct.

e.g.

CH8: [pro-drop] Nie pamiętam czy [pro-drop] mam... 'I do not remember whether I have it...'

Non-pro-drop

Of the 116 Polish clauses, 45 had overt subjects. In ten of them, the child used

pronominal subjects, 28 contained noun subjects, and seven were impersonal constructions.

CH8: Nie wiem, czy są w moim pokoju. Ale jak ja sprawdzę po całym domu... I don't know whether they are in my room. But if I check the entire house...

Pro-Drop vs. Non-pro-drop in English

Pro-drop

Of the 360 clauses in English, the girl produced six with pro-drop: three of them

contained imperatives, and three were colloquial replies. All of them were grammatical.

e.g.

CH8: [pro-drop] Didn't have time to bake them, but I know I saw tons in the basement.

e.g.

Non-pro-drop

354 clauses contained the non-pro-drop feature. Of them 279 were pronominal subjects, 55 noun subjects, 19 presentational sentences, and one was an interrogative pronoun.

e.g. CH8: **We** got couple books.

Results

Child #8 was fluent in both languages and comfortable speaking each of them. The existing data do not provide sufficient evidence to observe correlation of language transfer and pro-drop.

3.9. Child #9

Pro-Drop vs. Non-pro-drop in Polish

Pro-drop

Out of the 121 Polish clauses, 50 had null subjects.

e.g.

CH9: Tutaj [**pro-drop**] mam cupcakes. *I have cupcakes here.*

Non-pro-drop

Of the 121 Polish clauses, 71 had overt subjects: 39 pronoun subjects, 21 noun

subjects, and 11 impersonal constructions.

e.g.

CH9: **Ja** mam duże lalki żeby bawić się. *I have big dolls to play with.*

Pro-Drop vs. Non-pro-drop in English

Pro-drop

The child produced 253 English utterances; 12 of them had null subjects. None of the pro-drop instances were ungrammatical, as eight of them were imperative verb forms, and four coordinate clauses, the subjects of which could be discerned from the preceding clauses.

e.g.

CH9: She doesn't have wings but she dressed herself with wings and **[pro-drop]** started flying at the first flowerbed.

CH9: They became her friends and **[pro-drop]** saved her home.

Non-pro-drop

Among the 253 English clauses, 241 contained overt subject. In 170 cases the subjects were pronouns, in 32 nouns, and the remaining 39 were presentational sentences.

e.g.

CH9: I just don't know. I just know that.

CH9: He just turned, and he just changed.

Results

The child tended to use overt subjects in sentences where it was not necessary per the rules of prescriptive Polish grammar. Her young age and the number of instances where she used pronoun subjects seem to suggest that the use of pro-drop in Polish could have been affected by the participant's fluency in English rather than by her age itself.

3.10. Child #10

Pro-Drop vs. Non-pro-drop in Polish

Pro-drop

This boy produced 31 clauses in Polish, of which 22 had null subjects. Most of them were short replies to questions asked by the researcher or the boy's mother. The child's most frequent reply was:

CH10: **[pro-drop]** Nie wiem. *I don't know*.

Non-pro-drop

Of the 31 Polish clauses, nine had overt subjects. One of them was an impersonal construction; the remaining eight were all first person singular personal pronouns. The child used them in situations where the emphasis in the phrase was on the agent, that is, on himself.

e.g. CH10: A **ja** też mam recorder. *I have a recorder too*.

CH10: **Ja** ci pokażę jak zrobić. *I'll show you how to do.*

Pro-Drop vs. Non-pro-drop in English

Pro-drop

The boy produced 63 clauses in English, among which 13 lacked overt subjects. Of

these 13 instances, four were imperatives, and one involved a colloquial reply to a question.

e.g.

CH10: [pro-drop] Can't get to with it...

The remaining nine were all one- or two-word replies to questions asked during the task of story elicitation. The child responded with the participial portion of the analytic tense (the present continuous tense) but without the subject.

e.g. R: What is he doing? CH10: **[pro-drop]** Sitting.

M: What do you think they are doing? CH10: **[pro-drop]** Finding her.

Non-pro-drop

Among the 50 English clauses with overt subjects, 47 had pronominal subjects and three were presentational sentences.

e.g. CH10: Why are **they** like this?

CH10: **I** want to show them to my mom.

Results

The speech sample obtained does not offer sufficient information regarding the correlation of pro-drop and language transfer. Instances of the missing subjects in the English portion of the conversation can be attributed to the young age of the child and his difficulty replying in longer utterances.

4. More About the Individual Characteristics of the Participants

Of the ten participants, the two youngest Children #7 (4;7) and #10 (4;6) produced the highest percentages of null subjects in English. In Polish, however, their percentages of non-pro-drop were higher than those of the other participants. If the rate of null subjects is connected with the age factor, as it is maintained in UG theory, then how could the opposite trend in Polish be accounted for?

Child #10 (4;6) was the youngest among the group. He was very shy and not eager to interact with the researcher. In spite of a concerted effort, the researcher was unable to obtain a clear sample of narration. The child provided only one sample of the preplanned psycholinguistic activity based on retelling a picture book story, and the said sample was elicited with the help of the boy's mother. Much of the recorded speech produced by the boy consists of one- or two-word responses, of which few contain overt nominal or pronominal subjects. In the case of this little boy, it is difficult to discern which language is dominant.

Child #7 (4;7), the second youngest member of the studied group, appeared to have very good comprehension in both languages, but his command of English was better than that of Polish, despite the mistakes he made during the interview.

Child #9 (5;0) was the third youngest participant. She was very outgoing and enjoyed the interaction with the researcher, perceiving it as another opportunity to play. She had a much stronger command of English than Polish.

Like the previous participant, Child #5 (7;4) comprehended both languages but his comprehension in Polish was limited. He preferred interacting in English, particularly when a question called for a longer reply.

Children #1 (8;6) and #2 (8;4) were the oldest participants. They both attended an English speaking school during the week and also had Saturday Polish-language school. Both of them spoke English and Polish quite well and were literate in both languages. In spite of this, Child #1 admitted to the researcher that she found Polish more difficult, and Child #2

was much more comfortable and conversant during the English portion of the conversation. His replies in English tended to be full sentences, not only short one- or two-word replies.

Child #4 (6;3) was exposed to English for the first time at the age of four, which makes him unique in this study group. He understood and spoke both languages but, despite a few mistakes he made in Polish, he was clearly more comfortable with that language.

Child #6 (5;6) understood both English and Polish but spoke Polish better than English. Although not the youngest participant, she made the most mistakes speaking English and had the highest percentage of ungrammatical pro-drop in English. Also, she had the lowest non-pro-drop rate in Polish.

Child #8 (6;2) was fluent in both languages; however, she exhibited a preference to speak in English when describing her experiences associated with the English-language environment.

Child #6 and Child #8 had the highest percentages of null subjects and the lowest percentage of overt subjects in Polish. Their exposure to English was lower than that of the other children in the studied group. Both girls lived at home with both parents, who each had post-secondary education (both mothers held M.A. degrees).

Child #6 had the highest exposure to Polish and the lowest to English. Child #8 had more contact with English than with Polish, and the difference in hours was approximately two hours. In spite of that, of the two girls, Child #8 had a higher total percentage of pro-drop in Polish and only a little higher percentage on total non-pro-drop. Her total pro-drop rate in English was lower than Child #6's, and there were no grammatically issues in her application of null subjects. Child #3 (6;9) was the only child among the ten participants who was unable to produce Polish utterances, long or short, although he understood Polish. He relied only on English to communicate with the researcher.

Among the participants, only Child #4 and Child #6 exhibited preferences for use of Polish during their interactions with the researcher, while all the other children favored English as their language of interaction, and it was this language that appeared to be the dominant one among seven of these children (with the exception of Child #10, as discussed above). This can be explained by the fact that, with the exception of these two children, the rest of the participants had contact with an English-speaking environment through school or daycare. They spoke this language daily with their peers and friends; therefore, English was the language of the playground, while Polish remained the language of their home environment. While Children #1, 2, 8, and 9 were certainly capable of interaction in Polish, they favored English when describing the aspects of reality they had experienced within the context of the English language. Code switching between the two languages in both directions was noted in Children #1, 2, 4, 5, 7, and 9. Child #3 also exhibited code switching, but in his case it entailed mainly using Polish conjunctions in an English-language reply. Child #8 only code-switched from Polish to English and Child #6 from English to Polish. Children #1, 4, and 6 demonstrated an awareness of the distinction and separateness between Polish and English, which was not observed in the other participants. When unable to recall a particular lexical item in one language, they switched to the other, but acknowledged the reasons for code switching.

The existing study group consisted of ten bilingual Polish-English children, but it was not a uniform group. The brief accounts given above further underscore their individual differences such as personality and language preference. In terms of these disparities, the linguistic descriptions of each child in the group are by no means exhaustive. They serve the purpose of providing more background information about each participant with the hope that they shed some light on the findings from data analyses.

As it has been shown, personal differences can affect production of speech samples. Personality traits can interact with language preference or comfort, as seen in Child #10 and Child #9, and thereby affect length and quality of the obtained sample. It is then imperative that studies on child bilingualism take an intrasubjective approach to account for individual characteristics as possible variables. Awareness of their existence and, in turn, their possible interactions with other variables can assist in understanding observed trends, or even the lack thereof, in young bilinguals' speech.

4.1. Ungrammaticality issues

Errors in the application of null subjects in English were found in the speech of Children # 1, 3, 6, and 7. Child #6 had the most errors, the least contact with English (5 hrs), and the most contact with Polish (13 hrs). The other three children had high total formal and informal exposure to English (9.5 – 14 hrs). Their contact with Polish varied from 1 - 8.5 hours per day. In terms of language exposure, only Child #6 does not comply with the pattern.

For the most part, the ungrammaticalities of the instances of pro-drop involved lack of a subject in the main clause. The mistakes made by Children #1, 3, and 6 appeared in contexts where Polish grammar allows for pro-drop. Child #7 made only two such mistakes, and the remaining five could not be justified through a comparison with Polish. In view of this observation, it is likely that ungrammatical pro-drop in English registered in this study could support crosslinguistic transfer from L1.

4. 2. Pro-drop and Language Transfer

The existing body of scholarly work on the topic of null subjects in Polish analyzes it from the point of view of formal linguistics and examines it within the structural and generative approaches. To the researcher's knowledge, there are few studies devoted to the analysis of pro-drop in Polish within the framework of psycholinguistics and second language acquisition, and none that approach null subject in Polish with language variation in mind. Lack of data on linguistic behaviors of native speakers with respect to the pro-drop feature render such a study as this more complex in its analysis. The entire investigation of pronominal subject omission in Polish is based on the norms outlined by prescriptive grammar, and there is no available information that could offer an alternate or additional standard for the purpose of comparison in the present study.

For that reason, the analysis of the Polish language data collected for the main study has to rely on the standards suggested by prescriptive Polish grammar and also on the findings of the small pilot study discussed in Chapter 5 of this dissertation. Results of the pilot study revealed that the two children whose speech samples were analyzed produced fewer clauses with null subjects in Polish over time, as their contact with English increased. Both of these children were born in Poland, and their first exposure to English was only after they had passed their fifth birthdays. The findings pointed to language transfer as a possible reason for the decrease in null subjects in these children's L1. The percentage of pro-drop in Polish in the two children in the pilot study decreased over a fivemonth period from 79.10 to 64.70 percent for the first child and from 93.84 to 80.00 percent for the second child. It is important to stress that the children in the pilot study were born in Poland and were only in contact with the English language past the fifth year of their lives.

Unlike these two subjects, the main study participants were (with the exception of Child #4) born in Canada (in one of its Anglophone provinces), and all of them had first exposure to English anywhere from birth to the fourth year of life, that is, before the fiveyear mark, underscored by UG as an important threshold in the process of language acquisition.

In light of the pilot-study findings, it does not seem unreasonable to consider crosslinguistic influence the main cause for the changes observed in the speech of the main study contributors. The amount of exposure to each language did influence the application of pro-drop and non-pro-drop in their Polish and pro-drop in their English.

The Polish null subject rates of all the children participating in the main study were even lower than those noted in the pilot study children in Situation 1 and even Situation 2 (except for Child #10, who provided many colloquial replies). The children produced overt pronominal subjects in clauses where not only the grammar but also the context precluded the need for an overt subject. Furthermore, the percentages of non-pro-drop in Polish were the highest among the children who had no formal exposure to the language but did have relatively high active contact with it (about 10 hrs per day) and whose amount of exposure to English was high. To illustrate, Child #5, who had the least contact with Polish, produced the fewest clauses with pro-drop in that language. In contrast, Child #6 (5;6), who had the least contact with English, produced the fewest examples of non-pro-drop in Polish and had the highest percentage of ungrammatical pro-drop clauses in English.

Comparison of the same sentential contexts of subjects in Polish and English served in this analysis as an uncomplicated assessment of grammatical null subject errors in English. That is, if a pro-drop in English is ungrammatical in a particular clause but would be grammatical in the same type of clause in Polish, it points to an error brought on by language transfer from Polish. This simple method allows one to become aware of the fact that indeed, the four participants made mistakes in English sentences exactly in places where Polish context allows for pro-drop.

Taking all these observations into account, language transfer appears to be a conceivable explanation for the changes observed in the languages of the children. More arguments in favor of crosslinguistic influence as a reason for the present findings are revealed in the discussion section that follows. It returns to the hypotheses proposed in the pilot study as possible explanations of the null subject phenomena observed in bilingual children.

4. 3. Discussion of the Findings in Light of the Hypotheses

The proposed hypotheses were as follows:

- 1. Adopting the concept of crosslinguistic interference, language transfer can be expected possibly in both languages; that is, it can be bi-directional.
- 2. In accordance with UG theory, parameters are reset in L2 acquisition. As demonstrated in White's study (1985), parameter switch from a pro-drop L1 should result in grammatically incorrect non-pro-drop (or ungrammatical pro-drop) in L2.
- 3. Assuming the theory of markedness, the acquisition of marked features, as suggested by SLA studies, takes place after acquisition of unmarked features; thus, if the nonpro-drop feature is marked, it may not be present in the early stages of L2 acquisition.

In view of the fact that language transfer is the main approach taken in the analysis of the data, the first hypothesis is looked at last and is given the most attention. The discussion proceeds beginning with the second and third hypotheses.

Consistent with UG theory and its parameters, all of the participants of the present study first were exposed to a pro-drop language, that is Polish L1, and then to a non-pro-drop L2 – English. That is to say, they had to switch parameters from L1 to L2. This transition is expected to cause ungrammaticality in L2 non-pro-drop clauses. As for the children who were exposed to both languages from birth, since they were raised by Polish-speaking parents, they had higher initial exposure to Polish and started to speak in their L1 first.

Children #7 and #10 are the youngest participants and both are under the age of five – before the threshold age, when all of the grammatical structure of a language is deemed to be in place. According to UG theory, it is in their speech where most of the errors should be

seen on account of the parametric shift. Pro-drop in Polish L1 should affect their application of overt subjects in English L2. Both of the children produced the highest percentages of clauses with null subjects in English, and in Polish their rates of pro-drop correspond with those of the other participants. This fact appears to speak in support of UG theory, namely that pro-drop is the core parameter. However, while these two children both produced more null subject clauses, only the speech of Child #7 exhibits ungrammaticality. Had the pro-drop parameter been reset to assist with changes of grammar from Polish to English, it stands to reason that both Children #7 and #10 would have made some mistakes in English and that their non-pro-drop rates in Polish would have been lower than those of the older children in this study.

Furthermore, as it was discussed in the preceding section, the older children also exhibited problems with the appropriate application of pro-drop in English. These children were older, and some of them had had more exposure to English than the two boys in question. If the pro-drop parameter were reset, how can there be so much dissimilarity in all of the participants' performance? Six of the participants did not make any mistakes in prodrop application in English. Moreover, these six children on the whole demonstrated an awareness of the two different grammar systems and distinguished correctly between the contexts for subject omissions in English and in Polish. The results of the study appear to challenge the second hypothesis.

Additionally, according to UG, the variable of first exposure to L2 should be a factor in parameter resetting. In this study, two of the children who made errors in pro-drop in English (Child #1 and Child #6) were exposed to their L2 from birth. This observation further opposes Hypothesis 2, as children who were exposed to a language from birth should have overcome parameter resetting and thus produced no ungrammatical pro-drop clauses in English that were registered in the study. Naturally, the participants were not tested at the time of their initial exposure to L2, and there is no information available about their production of grammatical pro-drop clauses in English at that time. Language changes related to the process of parameter resetting cannot be observed. Lastly, the overall decrease in pro-drop production in the Polish speech samples of the young participants cannot be explained by UG. As a consequence, the present study findings do not support the hypothesis based on UG theory.

The third hypothesis concerns the theory of markedness, addressed in detail in Chapter 2. In accordance with this theory, acquisition of marked, periphery rules of grammar takes place only after the acquisition of unmarked, core features.

The issue of pro-drop constraint markedness is a topic of contention for UG scholars, and there is a lack of consensus as to which of the parameters [+pro-drop] or [-pro-drop] is the core parameter. Scholarly investigations conducted thus far do not offer sufficient support for either.

If the pro-drop parameter is accepted as the core parameter in the present study, the children must acquire the marked non-pro-drop rules for English. Compared with the other participants, Children #7 and #10 produced the highest percentages of null subjects in English but their non-pro-drop rates in English are still higher than those of pro-drop. At the same time, their rates of null subjects in Polish are similar to those of the others in the group. This observation presumably supports the theory of markedness. All children begin with the

unmarked pro-drop parameter and then acquire the marked one. Children #7 and #10 at the time of the study produced more non-pro-drop in English than pro-drop, since they are the youngest. Acquisition of the marked feature is more recent for them; consequently, their pro-drop rates in English are still higher than those of the other children in the studied group. Again, as it was stated above in consideration of the UG rules, all the participants were tested past the initial acquisition stage. Therefore, the rates of pro-drop and non-pro-drop in their speech at that particular time are unknown.

What seems to challenge the theory that pro-drop is the core parameter, nevertheless, is the fact that the percentage of non-pro-drop clauses in Polish is high. Both Child #7 and Child #10 produced the highest rates of overt subjects in Polish. If pro-drop were in actuality the unmarked feature, why would the youngest participants exhibit such trends in their clauses? The expected results would be lower rates of overt subject clauses in Polish not higher rates than those of the older members of the group.

Alternatively, the supposition that non-pro-drop is the default parameter, although supported by the fact that Children #7 and #10 had the highest non-pro-drop percentages in Polish, is challenged by their lowest percentages of null subjects in English. If markedness is in effect, why is there such inconsistency between the two languages in terms of the percentages of subject production? What is more, how can the theory of markedness account for the increase in overt subject production in Polish in the older population of the participants?

The participants of the study are all considered simultaneous bilinguals. If the parameters are indeed universal, the participants would have exhibited certain trends with

regard to either pro-drop and its grammaticality or non-pro-drop proportions. Correspondingly, any changes observed in the participants' speech during the parameter resetting would have also presumably patterned in a manner pointing to progression of acquisition of the said parameter. The findings, however, fail to uphold the universality of parameters and do not offer firm support for the theory of markedness as seen within the UGbased approach.

The theory of markedness could be applicable to this study when considered not as a universal but rather as a language-specific characteristic. Markedness regarded as part of a contrastive analysis of the two particular languages in question could possibly account for the differences in unmarked features. To illustrate, in Polish pro-drop is the unmarked constraint and non-pro-drop is marked. Consequently, children acquire the unmarked feature first and then, as they continue the language acquisition process, they learn to apply the marked constraint. In English it is pro-drop that is marked and non-pro-drop unmarked. The children are expected to learn non-pro-drop first. However, it has been shown (Hyams, 1986; Wang *et al.*, 1992) that when children start speaking English their production of clauses with pro-drop is a stage in the process of parameter-setting. Here again, markedness is deficient in terms of providing a satisfactory explanation for the results in the speech of the bilingual children in question. The highest percentage of overt subjects (marked) in Polish in the youngest children (age five and under) and the ungrammaticality in pro-drop (marked) production in English found in the children of various ages (8;6, 6;9, 5;6, and 4;7), given the exposure type and amount, are not supported by theory of markedness.

As previously discussed in Chapter 2, markedness has been considered by SLA researchers as a factor in second language learning and linked to occurrences and directionality of errors, namely to crosslinguistic influences. A shift from an unmarked to a marked feature between languages was believed to be more problematic and to present more potential for error than marked-unmarked configuration. Research has also pointed to the fact that unmarked structures in the target language are acquired faster than marked structures, regardless of learners' L1. More recent studies have overthrown these former conclusions by showing evidence that, just as differences between languages do not always result in transfer, similarities do not always facilitate successful acquisition of L2. Furthermore, marked forms can be transferred just as unmarked forms, and the probability of positive transfer between two different languages is no less or greater than the probability of negative transfer between similar languages. Although markedness has ultimately failed as a reasonable account for language transfer phenomena, some of the generalizations about language studies based on markedness theory can indeed indicate probable tendencies or predispositions of second language learners and even bilinguals. While in the present study the theory of markedness underscored the difference between the pro-drop feature role in Polish and English, it could not successfully explain the observed inconsistencies.

Neither the second nor the third hypothesis offers a sound argument for the findings of the current study, since the observed trends in pro-drop and non-pro-drop production in the participants' speech contradict both theories. While the hypotheses could potentially support the findings from one language at the time, they fail to assist in understanding the patterns exhibited by these young bilinguals. It is imperative for this study, however, to find a good way to analyze its findings as well as to understand and account for them within the current theories of language acquisition and bilingualism.

The very first hypothesis proposed at the beginning of the discussion offers such an approach, as it is based on the argument of language transfer and its bidirectionality. In agreement with this hypothesis, acquisition of a pro-drop L1 and a non-pro-drop L2 is expected to cause errors in production of L2 non-pro-drop clauses. Occurrences of such errors would provide support for this hypothesis.

The two particular oddities observed in the data analysis (percentages of non-prodrop in Polish among the youngest participants as well as ungrammaticalities in English prodrop lacking any specific trend) and discussed in light of the first two hypotheses seem to be explicable when examined through the lens of crosslinguistic influence. Polish is treated here as the children's L1 since they were all exposed to it from birth. Their first exposure to English L2 varied. Notwithstanding, all the participants are considered simultaneous bilinguals due to the fact that their exposures to L2 took place before the age of four.

Examination of the Polish data revealed that the children had higher than expected percentages of null subjects (expected based on the rules of prescriptive Polish grammar) and that the youngest participants had the highest rates of overt subjects. Since Polish is a prodrop language, these results are rather unexpected; so are the pro-drop ungrammaticalities noted in the speech sample from English. With the exception of two mistakes made by Child #7, the remaining erroneous omissions in English can be attributed to the children's knowledge of Polish. Examination of speech transcripts from the Polish portion of the interview shows that eight of the ten children exhibited the tendency to produce overt pronominal subjects in sentences where they are not required by rules of prescriptive grammar, and where they are unnecessary, since the subject of each sentence can be discerned from the context of the conversation or from the verbal morphology. The examples of these non-pro-drop clauses are presented below.

- CH1: **Ja**... ja bardzomam talent do tańca bo **ja** chodzę na Biały Ozeł. *I... I very much... have a talent to dance because I go to White Eagle.*
- CH1: Nie, **on** tak robi, bo **on** jest zły. *No, he does this, because he is mad.*
- CH1: **One** muszą być trochę w wodzie, bo **one** lubią wodę i **on** krzyczy: "Żabku, gdzie jesteś?" *They have to be a little in the water, because they like water and he is shouting: Froggie, where are you?*
- CH2: ... **ja** lubię kolorować ...*I like to color*.
- CH4: Jak mój tata ma wolne, to **ja** wtedy chodzę do szkoły. *When my dad has a day off, then I go to school.*
- CH4: **Ja** wszystkich lubię. 'I like them all.'
- CH5: A **ja** to tu będę wklejał. And I will stick it in here.
- CH5: Bo **ja** chcę iść do łazienki. Because I want to go to the bathroom.
- CH6: **On** poszedł spać razem ze swoim pieskiem. *He went to sleep together with his doggie.*
- CH7: **Ja** wiem tą bajkę. *I know this story*.
- CH7: **Ja** nie wiem. *I don't know*.

CH8: Nie wiem, czy są w moim pokoju. Ale jak **ja** sprawdzę po całym domu... *I don't know whether they are in my room. But if I check the entire house...*

CH9: **Ja** mam duże lalki żeby bawić się.

I have big dolls to play with.

Polish grammar and verb conjugation obviate the need for overt subjects in the sentences cited above. Since the first two hypotheses did not aid in rationalization of such occurrences, it is possible that an increase in the production of overt subjects in Polish can be explained by the knowledge of English, where non-pro-drop is the norm. These phenomena appear to be understandable in light of language transfer. Knowledge of English affects production of grammatical non-pro-drop in English; knowledge of English influences production of null subjects in Polish. Accordingly, the first hypothesis emerges as the most satisfactory explanation.

This discussion of the findings and the hypotheses proposed to account for them points to the fact that language transfer can be the most plausible of the hypotheses. UG has the potential to account for some of the observations, but fails to give a clarification for all of them. Given that Hypotheses 1 and 3 have the most potential for offering explanation for the observed tendencies in the children's pro-drop feature use in L1 and L2, they merit further discussion here in a closer consideration of the variables used in the study.

Of all the main variables considered in the analyses such as age, amount and type of exposure to each language, and the level of parental education, *amount of exposure* appeared to be decisive in terms of the percentages of null and overt subjects in the children's Polish. Parental education also appeared to be a factor in the production of non-pro-drop. In the case of the speech samples from English, *age* of the participants had the most impact on their

overall production of null subjects. Finally, *exposure to each of the two languages* came into view as a potentially notable factor in formation of grammatically incorrect utterances lacking subjects. A thorough discussion of these variables proceeds from here.

All of the children in the study were exposed to Polish from birth. At the time of the study, their exposure to L1 varied anywhere from one hour to over 14 hours. While the amount of total exposure to Polish was not directly linked to the frequency of pro-drop and non-pro-drop in the children's speech, the participants who had contact with this language for over 8.5 hours daily had the highest rates of nominal subjects in their clauses. This observation speaks to the fact that more active exposure to Polish could facilitate acquisition of new vocabulary, thus decreasing the need to depend on pronouns in reference to people and objects. However, looking at the rates of pro-drop in third-person singular and plural, only two of the four children who had the highest rates of nominal subjects, also had lower rates of pro-drop in the third-person contexts. The two were the oldest participants. This observation seems to suggest that pro-drop could be linked to an interaction of the variables of age and language exposure; that is, in bilingual children exposure alone does not affect vocabulary acquisition.

The children who did not have any formal exposure to Polish did not on the whole use pro-drop more or less than the children who attended a Polish language school or daycare. Nonetheless, formal exposure to Polish is seen as a factor in the rates of non-prodrop. The three children with the highest percentages of overt subjects did not have any form of formal contact with Polish. These children were also the youngest three participants (ages 5 and under). This observation supports the role of the exposure variable in production of overt and null pronominal subjects in Polish. It can be said that while the amount of contact with Polish itself did not influence the production of clauses with pro-drop and non-pro-drop in this language, the type of exposure, namely through a Polish language educational facility, appeared to have some bearing on the percentages of non-pro-drop in the children's L1. The variables of age and formal education appear to interact. The role of the ethnic educational facilities is not only to provide care for the children and to teach them the basics of learning at a given level, but first and foremost, it is to expose the young students to their L1 language. There, language acquisition and development is promoted though various group activities, shared playtime, and exposure to L1 stories and songs. Structured L1 instruction and active use are meant to aid young bilinguals in achieving and hopefully maintaining native proficiency in Polish. Children are encouraged to use their first language in interaction with teachers and peers, and to help in creating a monolingual environment. Such supervised and planned exposure to Polish inevitably aids in L1 advancement, even if only on a small scale. The participants who attended a Polish language school or daycare produced fewer clauses with overt subjects than those who did not. UG assumes that their parameters were already set, and as a consequence, the participant's language should not be marked by changes in pro-drop frequency. Decrease in overt subject production upon contact with L1 in its more formal and structured setting cannot be accounted for by UG. The variable of formal exposure to language, however, could be supported by language transfer theory. Through exposure to and interaction in L1 in a linguistically controlled environment, the participants' own L1 is altered and their use of overt pronominal subjects reduces. This change is not a conscious process – a fact that speaks even more in favor of language transfer as its origin.

Additionally, the study revealed that the amount of contact with English also correlated with overt subject production in Polish. The more time the children spent interacting in English the more they used non-pro-drop feature in their Polish. The lowest rates of overt subjects in Polish were noted exactly among the children with the least exposure to English.

The children's prolonged immersion in the particular linguistic milieu – L1 or L2 – affects their production of non-pro-drop clauses in Polish. Exposure to L1 through formal contact with it points to lower percentages in overt subjects; more exposure to L2 leads to higher rates of non-pro-drop in L1. Once more, UG offers no basis for this observation. Consequently, such phenomena are explainable through language transfer theory, as the languages in a bilingual's mind interact, or influence each other, and also are contingent upon the variable of exposure – its length and type.

To sum up, the amount and type of exposure to Polish, combined with age, influenced the percentages of non-pro-drop in the children's Polish. Additionally, the children's exposure to English was an important factor in overt pronominal subject production. As far as findings on the production of Polish are concerned, they were supported by the language transfer hypothesis, rather than by the UG approach. However, initial observation of the data from English showed some support for UG theory. This issue is discussed next.

In the speech samples from English, *age* of the participants appeared to be the most evident variable in the children's production of pro-drop clauses in their L2. The youngest of the participants produced the highest rates of null subject clauses, while the percentages of pro-drop among the older population were distinctly lower. From the point of view of UG

theory, the fact that the youngest children (under the age of five) omit pronominal subjects with higher frequency than the older participants is not unusual, just as any grammaticality issues in pro-drop application are also expected. The fact that only one of these two children exhibited mistakes in pro-drop use in English weakens this argument and compels the researcher to look for other explanations for this occurrence.

Information on the time of first exposure to English shows that the child who made grammatical pro-drop errors had his first contact with English at the age of two years. This observation would suggest then, that contact with L2 from birth might have aided in acquisition of overt pronominal subjects and avoiding errors.

Of the four children who made errors in English pro-drop, two were exposed to English from birth. They were not the oldest of the participants, but were past their fifth and sixth years of age at the time of the study. It would be expected that by that time they had already overcome the parameter resetting, and such mistakes as erroneous pro-drop application would not be noted in their speech. The very fact that ungrammaticality is found in these older children's speech is rather intriguing and goes against the UG confines. What is more, the two children who were not exposed to L2 until the age of three and four applied pro-drop in English correctly. Exposure to English from birth does not appear to be a factor aiding in grammaticality of speech in this case.

Looking further into the variable of exposure does not offer any more explanation for ungrammaticalities in pro-drop. The actual amount of contact with English at the time of first exposure to it (birth or otherwise) was also different for each of the four children in question. Based on the information given by their parents, these children were exposed to L2 anywhere from 5 - 7 days a week – the amount of time which did not vary much from that of the children who applied pro-drop correctly, whether they had contact with English from birth or not. These observations challenge the UG approach even further.

In Polish the children under the age of five had the highest total percentages of nonpro-drop. The same children had the highest percentages of pro-drop in English. While UG theory can justify the frequency of pro-drop feature in these participants' English, it fails to account for this disparity in both languages simultaneously. In keeping with UG, the pattern expected in Polish would show the lowest rates of non-pro-drop in the speech of those aged five years and younger and likely higher in the children older than five. Such divergence seems to depart from the theoretical UG account of language acquisition. Parameter resetting does not offer a plausible explanation of the above observation.

Since all of the participants were exposed to Polish from birth, this variable does not factor into the data. Amount of exposure to Polish by itself did not point to any tendencies in production of overt subjects. On the other hand, formal contact with the language presented itself as a possible variable in non-pro-drop application. Nonetheless, the argument of formal language exposure being a variable in the context of pronominal subject production and omission does not provide strong support for UG.

Exposure to each of the two languages was a compelling factor in formation of ungrammatical pro-drop utterances. The data from the present study seem to suggest that an extensive exposure to Polish and little contact with English can be linked with ungrammaticality in pro-drop application in English. Furthermore, the ratio of errors in null subject clauses in relation to the total number of pro-drop clauses is higher than that of other

children who also make errors in L2 pro-drop but whose exposure to the two languages is reversed. The participant who exhibited the highest percentage of ungrammatical pro-drop use in English and also the highest ratio of pro-drop in English was exposed to both languages from birth. The frequency at the first contact was 5 days per week. At the time of the study the child was 5;6. In accordance with UG the parameters for each language had to be set and their resetting overcome. This occurrence cannot be clarified through UG theory. The child meets the criteria, which would in general exclude her from the pool of participants struggling with UG parameters. When approached as a case of crosslinguistic influence, the above example can be understood as an incidence brought on by transfer of L1 knowledge to the knowledge and use of L2.

One of the children (Child #8, 6;2) was fluent in both Polish and English and comfortable speaking in each of them. Her first exposure to English, even though from birth, was limited to 2 hours per day. She did not make mistakes in English pro-drop application; moreover, her total percentage of pro-drop in Polish was the highest in the group and non-pro-drop in Polish the third lowest. Her data was uncharacteristic in that there were no mistakes pointing to parametric resetting or even to any correlation of pro-drop and language transfer. Some mistakes she made in English and in Polish could be attributed to an ongoing language acquisition process. This case would suggest that in terms of grammar she is nearly equally proficient in both L1 and L2 and that UG theory is valid here. However, the child made transfer errors in English prepositions which indicated interference from L1 to L2 (see Chapter 8).

Lastly, an analysis of ungrammatical pro-drop uses in English (Table 7.26.) and then in Section 3 revealed that only one child made pro-drop errors which can be attributed to his young age (under five) and to an incomplete process of language acquisition. The remaining clauses with errors, when compared against similar clauses with Polish, are indeed explainable by L1 interference.

A closer evaluation of Hypotheses 1 and 3 and a detailed discussion of their support for the findings reveals that, despite its strength in explaining some of the observations, Hypothesis 3 (UG) cannot be used to account for the entire pro-drop feature related phenomena observed in the speech of the participants. More accurately, the above discussion indicates that the theory of language transfer introduced in Hypothesis 1 offers a more plausible and comprehensive explanation for the present study.

In their work on the factor of age in language acquisition, Singleton and Ryan (2004) underscore the fact that while there exists an extensive body of research devoted to child language acquisition process in the first years of a child's life, still not much is known about language development past the five-year mark. The authors add further that children's proficiency increases with age, thereby making their individual differences more prominent.

The main analysis of the data considered all the study participants as a group, and all of the identified trends and patterns attempted to view the children as a group or, depending on their age, as subgroups. However, lack of uniformity within the group in terms of the children's age, exposure to either of the languages, or even the type of language exposure, made the examination process more challenging. The youngest participants seemed to meet the developmental milestones (i.e. more null subjects in English, shorter utterances). In terms of the older participants (over the age of five), there are also different variables at play that interact, such as age and amount of exposure. Therefore, studies on child bilingualism must approach variables with caution and never discount any one variable, which does not point to any trends, without first looking at it in relation to other variables.

What is more, the individual histories and developmental differences certainly should not be overlooked while examining child bilingualism. In order to understand the above trends better, it is important to look at the individuals who participated in the study separately.

Additionally, language transfer as an explanation for the study's findings, as much as it might present itself in the trends of the group, is an individual matter, and just like language acquisition it is specific to humans but can also be unique for each specific speaker.

One more variable addressed in the participants' speech is the level of their parents' education. Analysis of pro-drop in the children's Polish based on this variable suggested that it is possible that parents' education might have some influence over the ratio of pro-drop in one's speech. In the current study, the children of the mothers with graduate degrees exhibited the lowest percentages of non-pro-drop in third-person singular and plural pronouns, while the highest percentages were among the children of parents with secondary education.

There are no known studies on pro-drop rate among the adult population of native speakers of Polish whether living in Poland or abroad. It is not known if the level of education or dialects can be factors in decrease or increase of pronominal subject omission. This study points to a need for further research on Polish null subject, one based on the variables of education, possibly age, and dialect. The main value of this variable in the current study (parental education level) is that it underscores the importance of variables and their interaction. Education level and age was the only information obtained about the participants' parents. Their level of fluency in English or even dialect of Polish are not known. While it cannot be stated with full certainty that the patterns of pro-drop feature use in the parents' speech had direct influence on pro-drop and non-pro-drop frequency in their children's speech, the results are certainly intriguing and offer another possible research topic, albeit one that is broader in scope and in its participant selection.

Chapter 8 is devoted to other findings observed in the data such as grammatical issues and other instances of transfer. Additionally, it addresses the code switching phenomenon in the children's speech, as this ties in with language transfer.

CHAPTER 8

CODE SWITCHING AND LANGUAGE TRANSFER

1. Introduction

Chapter 7 addressed only subject pronoun omission and production in Polish and English noted in the transcripts of the participants' speech. This chapter focuses on other language changes observed in the study related to language transfer, namely the phenomenon of code switching.

In terms of code switching, I treat any explicit changes at the lexical level, that is, incorporation of L2 lexical items into L1 discourse and vice versa, as its instances. As previously stated in Chapter 3, the terms code switching and code mixing are used here interchangeably. I present a table with numerical data and percentage occurrences of code mixing. I discuss any observable trends and attempt to provide possible reasons for the linguistic phenomenon in question. A section devoted to other instances of language transfer follows. There, I look at examples of possible lexical, grammatical, and syntactical crosslinguistic influence. Lastly, I discuss language transfer and code switching in order to observe whether the two phenomena relate to each other and if so, how.

2. Code Switching

For the purpose of this analysis, code switching was recognized as each instance when a participant chose to change the language of the ongoing conversation with the researcher (Polish to English or English to Polish), whether during a task or between tasks. The instances of code switches that were counted were inter-sentential, intra-sentential, and intra-clausal; nevertheless, they are analyzed together without division and attention to these specific types of switches.

2. 1. Code Switching – Numerical Data Presentation

This section begins with the presentation of the numerical data on code switching. Table 8.1 gives an overview of the instances of code switches noted in the speech samples of all the participants from Polish to English and from English to Polish. Table 8.2 presents the percentages of these occurrences derived from the numbers given in the first table. The percentages of code switches in each situation were calculated based on the total number of noted code mixes.

Data obtained from Child #3 and Child #10 are included in the tables below. However, they must be treated with caution, and the quality of the samples must be taken into consideration. Child #3 was the only participant who did not produce any clauses in Polish, although he did code-switch to Polish when speaking English. Child #10 produced the smallest speech sample, and his interview was conducted with his mother present. While ultimately the mother helped in obtaining some data, she also code-switched. This fact could have influenced the child's speech.

Child	Code Switches	Code Switches	Code Switches
Cillia	Polich English	English Polish	Total
	FOIISH-Elighsh	Eligiisii -Folisii	Total
1	19	0	19
2	1	0	1
3	19	5	24
4	2	9	11
5	21	1	22
6	2	12	14
7	7	0	7
8	1	0	1
9	43	3	46
10	29	10	39

Table 8.1 Code Switching – Numerical Data

Table 8.1 indicates that Child #9 and Child #10 switched from Polish to English most often, followed by Children #5, 1, and 3. Children #2, 8, 4, and 6 had the lowest numbers of code switches from their L1 to L2. Children #1, 2, 7, and 8 made no switches from English to Polish. Child #6 had the highest number of code switches from English to Polish, followed by Children #10 and #4.

Child	Code Switches	Code Switches
	Polish-English	English -Polish
1	100	0
2	100	0
3	79.17	20.83
4	18.18	81.82
5	95.45	4.54
6	14.28	85.71
7	100	0
8	100	0
9	93.48	6.52
10	74.36	25.64

 Table 8.2 Code Switching – Percentages

Table 8.2 shows that in terms of percentages Children #1, 2, 7, and 8 switched 100 percent of the time from Polish to English. Children #4 and #6 had the lowest percentages of switches from Polish to English but the highest from English to Polish. Children #3 and #10 had the second highest percentages of code mixing when speaking English.

A close look at the data in the tables above reveals that while all the children codeswitched from Polish to English, not all of them switched to Polish when speaking English. However, in order to detect any possible trends in the data, it is necessary to look at the variables of age and amount and type of exposure to each language. The following section looks at this information.

2. 2. Variables and Trends in Code Switching

Preliminary analysis of code switches in Table 8.1 and 8.2 is based on the number of code switches noted in Polish and in English combined. The ensuing examination looks at code switching by calculating its instances in each language against the total number of all utterances the children produced during their interviews in both languages (with and without code switches).

The variable of age is the first one considered in the data presentation (Table 8.3). The participants are listed from the oldest to the youngest. The oldest are the children over the age of seven. The middle group consists of participants between 5;6 and 7;0 years of age, and the youngest three participants are under the age of five. Generally, this division according to age is the point of reference for age groups in this chapter.
Table 8.3 Code Switching – Age Variable

Child	Age	Code Switches	Code Switches	Code
	0	Polish -English	English-Polish	Switches
				Total
1	8;6	2.59	0	2.59
2	8;4	0.62	0	0.62
5	7;4	31.82	1.51	33.33
3	6;9	13.19	3.47	16.67
4	6;3	0.92	4.15	5.07
8	6;2	0.21	0	0.21
6	5;6	0.64	3.83	4.47
9	5;0	11.50	0.80	12.30
7	4;7	2.40	0	2.40
10	4;6	30.85	10.64	41.49

The four children who code-switched only from Polish to English (Children # 1, 2, 7, and 8) did not belong to the same age group. Two of them were among the oldest, one was in the middle group, and one was among the youngest. Similarly, the data do not present any age-related trends in terms of the switches from English to Polish.

Since the age of the children who were frequent code-switchers does not shed any light on the matter of the observed phenomena by indicating trends, amount of exposure to each language is the next variable considered in the section to follow (Table 8.4)

Tables 8.4 and 8.5 show a possible correlation of the variable of exposure to each of the languages and code switching – total percentage of code switching in both languages and code switching in each respective language. The participants are listed according to the amount of contact with each language – from the highest to the lowest.

Table 8.4 Exposure to Polish and Code Switching

Child	Daily exposure to Polish total time (hrs) (interaction + media)	Daily exposure to Polish (active) - interaction	Daily exposure to Polish (passive) - media	Code Switches Total	Code Switches Polish- English
4	14.5	12	2.5	5.07	0.92
2	14	8 - 12	2	0.62	0.62
6	13	12	1	4.47	0.64
10	9	6 - 8	1	41.49	30.82
1	8.5	8.5	0	2.59	2.59
7	6.5	6	30 min	2.40	2.40
8	6.5	6	15 – 20 min	0.21	0.21
9	4	3 - 4	10 min	12.30	11.50
3	1	1	0	16.67	13.19
5	1	1	0	33.33	31.82

With the exception of Child #10, all the children in the study who were in contact with Polish for more than 6.5 hours daily had low percentages of total code switches, that is, below 6%. Children #9, 3, and 5, who had minimal contact with Polish – under 4 hours daily, code-switched over 12%, that is, twice as frequently as the other children (Table 8.4).

The data indicates also that the children with the highest exposure to Polish had the least instances of switching to English (Children #4, 2, and 6) and those with the least contact with their L1 tended to switch to their L2 most often.

Table 8.5 Exposure to English and Code Switching

Child	Daily exposure to English total time (hrs) (interaction + media)	Daily exposure to English (active) - interaction	Daily exposure to English (passive) - media	Code Switches Total	Code Switches English-Polish
9	15 <	10<	4 - 5	12.30	0.80
5	13.5 - 14.5	12 - 13	1.5	33.33	1.51
3	13 - 14	11 - 12	2	16.67	3.47
7	12.5	10	2.5	2.40	0
1	9.5 - 10.5	6.5	3 - 4	2.59	0
2	9.5	6.5	3	0.62	0
8	8 - 9	8	40 min	0.21	0
10	8	6	2	41.49	10.64
4	7	1.5	5.5	5.07	4.15
6	5	4.5	40 min	4.47	3.83

The correlation of amount of exposure to English and code switching does not appear to pattern the same way as exposure to Polish (Table 8.5). Here, the smallest percentage of code switches in total is noted among the children whose total contact with their L2 was greater than 8 but less than 12.5 hours daily (Children #7, 1, 2, and 8). With the exception of Child #8, who is in the middle group based on her age, the other three children belong to the older group. This could be an example of a potential interaction of the variables of age and exposure.

Children #10, 4, and 6 who had the least contact with English, which is below 8 hours daily, tended to switch to Polish more often than the rest of the group (Table 8.5). Their total percentages of code switch, however, were smaller than those of the children with over 13 hours of English daily. Again, this last statement is true barring the data from Child #10.

Due to the visible correlation between the time spent in contact with each language and the percentages of total code switches in the speech of these bilingual participants, it might be of value also to examine the link between code switching and active exposure to each language. Tables 8.6 and 8.7 display the number of active contact hours with each language and the rates of code switching between the two languages. The participants here are listed in decreasing order of the number of hours spent on interaction in Polish and then in English.

Child	Age	Daily	Code
		exposure	Switches
		to Polish	Polish-
		(active)	English
		- interaction	
4	6;3	12	0.92
6	5;6	12	0.64
2	8;4	8 - 12	0.62
1	8;6	8.5	2.59
10	4;6	6 - 8	30.82
8	6;2	6	0.21
7	4;7	6	2.40
9	5;0	3 - 4	11.50
5	7;4	1	31.82
3	6;9	1	13.19

Table 8.6 Active Exposure to Polish and Code Switching

As in the analysis of the data in Table 8.4, so also here (with the exception of Child #10) the children who interacted in Polish more frequently (Children #4, 6, 2, 1, 8, 6) were less likely to code switch to English (Table 8.6.).

Child	Age	Daily	Code Switches
		exposure	English-
		to English	Polish
		(active)	
		- interaction	
5	7;4	12 - 13	1.51
3	6;9	11 - 12	3.47
9	5;0	10<	0.80
7	4;7	10	0
8	6;2	8	0
1	8;6	6.5	0
2	8;4	6.5	0
10	4;6	6	10.64
6	5;6	4.5	3.83
4	6;3	1.5	4.15

Table 8.7 Active Exposure to English and Code Switching

The highest percentage of code switches to Polish is noted in the speech of the participants who had less than 6.5 hours of active contact with English daily (Table 8.7). The children who never code-switched from English to Polish (Children #7, 8, 1, and 2) had contact with English for more than 6 and not more than 10 hours daily and, except for one child, were all older participants.

As a result of the differences in the findings obtained from the analyses in the four tables above (Tables 8.4 - 8.7), formal exposure to each L1 and L2 is examined next. The participants are listed according to the type of formal exposure to language, that is school, kindergarten, daycare or none. Within each category the children are grouped from the oldest to the youngest.

Child	Age	Formal	Code Switches	Code Switches
		exposure to	Total	Polish-English
		Polish		_
1	8;6	school	2.59	2.59
2	8;4	school	0.62	0.62
5	7;4	school	33.33	31.82
3	6;9	daycare	16.67	13.19
8	6;2	daycare	0.21	0.21
6	5;6	daycare	4.47	0.64
4	6;3	n/a	5.07	0.92
9	5;0	n/a	12.30	11.50
7	4;7	n/a	2.40	2.40
10	4;6	n/a	41.49	30.85

Table 8.8 Code Switching and Formal Exposure to Polish

The percentages of code switching seen in the children who attended Polish schools are not different from those of the children who attended daycare, or had no contact with the language outside of their home environment (Table 8.8). As far as this analysis is concerned, there are no clear trends between formal exposure to Polish and the frequency of code switching to English.

Child	Age	Formal	Code Switches	Code Switches
	_	exposure	Total	English-Polish
		to English		
1	8;6	school	2.59	0
2	8;4	school	0.62	0
5	7;4	school	33.33	1.51
3	6;9	daycare	16.67	3.47
8	6;2	daycare	0.21	0
9	5;0	daycare	12.30	0.80
7	4;7	daycare	2.40	0
10	4;6	daycare	41.49	10.64
4	6;3	n/a	5.07	4.16
6	5;6	n/a	4.47	3.83

Table 8.9 Code Switching and Formal Exposure to English

According to the data in Table 8.9, the children who had formal exposure to English appear to have low percentages of switches to Polish (Children #1, 2, 5, 3, 8, 9, and 7) – that is, below 3.5%. The participants whose only interaction with L2 was informal code-switched to their L1 more than 3.5%.

One more variable considered in this study was the level of parental education. A separate analysis did not point to any direct links between that variable and code switching. For that reason, it is not presented here. Nonetheless, this analysis suggested that the presence of both parents affected the L1 of the participants. The children who lived with mothers and fathers code-switched less than the single parent's children; within the two-parent families, it was the mother's education that appeared to impact the code-switch L1 to L2 rates in her child's speech. Finally, the variable of exposure to Polish surfaced here as a deciding factor, which, coupled with the education level of the mother, had influence on the lower rate of code switching to L2.

One of the items on the questionnaire for the parents asked specifically whether they themselves switched languages when talking to their children. Table 6.5 in Chapter 6 provided information about the language habits of the parents with respect to their children. Some of that information is referred to here in Table 8.10 in an attempt to observe any possible links between parental language practices and the phenomenon of code switching. Additionally, the children's overall percentages of language switches are placed in the table.

Child	Language spoken w/ child	Code Switch use with child	Code Switches in children total percentage
1	Polish English	yes	2.59
2	Polish	no	0.62
3	Polish English	yes	16.67
4	Polish	no	5.07
5	Polish English	yes	33.33
6	Polish	yes	4.47
7	Polish	yes	2.40
8	Polish	yes	0.21
9	Polish English	yes	12.30
10	Polish	yes	41.49

Table 8.10 Parents – Linguistic Information

While the parents of Children #2, 4, 6, 7, 8, and 10 all reported speaking just Polish with their children, only the parents of Children #2 and 4 stated that they did not code-switch while speaking with their children. The data do not indicate a particular correlation between the percentages of code switching in the children's speech and their parents' use of language. Children #2 and #4 (whose parents spoke only Polish to them and did not switch to English) showed code switching rates comparable to those of the other children. Also, the fact that some parents spoke both languages to their children at home did not influence the youngsters' rates of language switches.

In view of the fact that this section deals with the language spoken at home, it is appropriate to mention also the language(s) of interaction between the participants and their

siblings. Four of the ten children in the group had siblings (Children #2, 6, 8, and 10). Child #10 had an older sibling (age 20), while the other three children's siblings were younger (1;5 – 3;5 years). Children #2 and #10 were reported to speak English with their sisters, while Children #6 and #8 interacted with their younger brothers in Polish. Interestingly enough, three children used the same language with their parents as with their siblings. Child #2 was the only one who did not use the same language to address both his parents and sibling, but used Polish to speak to his parents and English exclusively with his sister.

Given that the amount of exposure to each language arises as the dominant variable in code switching in these examinations, it might be of value to analyze code switch percentages in the speech of the young bilingual participants once again, this time looking at the dominance of exposure to a particular language. Table 8.11 presents this information.

Child	Daily	Daily	Time	Code	Code	Code
	exposure	exposure	difference	Switches	Switches	Switches
	to English	to Polish	in amount of	Total	English-	Polish-
	total time	total time	exposure		Polish	English
	(hrs)	(hrs)	_			-
	(interaction +	(interaction +				
	media)]	media)				
9	15 <	4	11<	12.30	0.80	11.50
5	13.5 - 14.5	1	12.5 - 13.5	33.33	1.51	31.82
3	13 - 14	1	12 – 13	16.67	3.47	13.19
7	12.5	6.5	6	2.40	0	2.40
1	9.5 - 10.5	8.5	1 – 2	2.59	0	2.59
2	9.5	14	4.5	0.62	0	0.62
8	8 - 9	6.5	1.5 – 2.5	0.21	0	0.21
10	8	9	1	41.49	10.64	30.82
4	7	14.5	7.5	5.07	4.15	0.92
6	5	13	8	4.47	3.83	0.64

Table 8.11 Code Switching and Differences in Language Exposure

The data seem to point to the fact that, depending on the differences between the number of hours spent in the English linguistic environment and in the Polish one, the participants can be divided into three groups. Children #3 and #10 are not considered in this particular examination.

The children in the first group had substantially more exposure to English than to Polish – over 11 hours. Group two consists of the children whose exposure to Polish was shorter by 1 - 6 hours, and the third group spent about 8 hours more in contact with Polish than with English.

The first group includes Children #9, 5 and 3. They were the most frequent code switchers. Their rates of code switches from English to Polish were low, but their rates of switching from Polish to English were the highest among the group.

Children #7, 1, 2, and 8, the second group, had the lowest rates of switches in general. They did not switch from English to Polish and had small percentages of switches from Polish to English.

Children #4 and #6 are in the third group. Their overall percentages of code switches fell in between the rates of group one (being lower) and group two (being higher). While they switched from English to Polish most often of all the participants, their rates of switches to English were comparable with the rates of children in the second group.

This last observation seems to indicate that, indeed, amount of exposure to each language is a factor in the percentages of code switching in the speech of the young bilinguals studied. To sum up, the above observations based on the calculations of the number of all instances of code switches compared to the total number of clauses produced in Polish and English together suggested these outcomes.

The participants who had contact with Polish for over 6.5 hours daily showed low percentages of code switches from Polish to English, whereas those who were exposed to Polish less than 4 hours daily had high percentages of language switches. Higher active contact with L1 was linked to fewer instances of language change from L1 to L2.

As for English, the children who were exposed to this language for 8 - 12.5 hours daily did not switch to L1. The highest percentages of code switches to Polish were noted in those with less than 8 hours of contact with their L2 English, while the participants with the highest number of contact hours with L2 were in the middle range of language changes. Active exposure to English patterned the same way as the total amount of contact with the said language.

Formal contact with Polish displayed no trend in code switching. However, the children who had contact with English outside of their home environment were likely to switch to Polish less often.

The role of parents in the occurrence and frequency of code switching revealed that possibly it is not only the level of parental education that affects the analyzed linguistic phenomenon of code switching, but also the presence of both parents and the amount of active contact with the language. Although the parents' code switching did not appear to influence the percentages of code switching in their children's speech. It is important to mention that the fact that they interacted with them in English might have encouraged the children to use their L2 at home more often.

In conclusion, based on the analyses performed in this section it can be said that the likelihood of code switching from Polish to English increases as the participants have less general contact with their L1 Polish. Although code switches from English to Polish are the highest when the total exposure to English is the lowest, the most total contact with English is not linked with the lowest percentages of code switches to Polish.

In general, formal exposure to either language does not impact code switching in any way different from those in the above noted conclusions.

While the examination of the group in search of possible trends leads to interesting observations, it is important to bear in mind that the study group is not uniform in terms of the age of the children and their exposure to formal and informal contact with each language. There certainly exists a probability of code switching being controlled better with age. As the children gain a better command of L2 and awareness of its dominancy in their environment, they will direct their switches toward L2 rather than to L1. However, the current study findings do not fully support such a proposition. What is more, the fact that the participants' language proficiency in their respective languages was not measured at any point has to be recognized. Accordingly, a careful look at each of the children's speech in isolation and specific examples of code switches might help in a better understanding of the individual tendencies for language change. It could also clarify the observed trends as well as possibly expound on some of their unexpected irregularities.

In accordance with the concluding statements of this section, the subsequent part of the chapter focuses on the children and their individual patterns of code switching.

2. 3. Code Switching: Qualitative Analysis

The present section presents first a brief description of each participant's code switching observed during the interview along with some examples from each child. The children are presented according to some of the trends observed in the preceding section. A commentary on other discovered common characteristics follows in the conclusion of the section.

Children #1, 2, 7 and 8 were the participants who code-switched only from Polish to English. Of the four, Child #1, also the oldest study participant, code-switched the most. Of the 19 instances of language change in her Polish part of the interview she used one onomatopoeia – seen in example (1), two passive participles – (2) and (3), one discourse marker (4), and 15 nouns (5) and (6).

(1)

(2)

(3)

CH1: ...bo tam parking nie był **arranged**. ...because parking was not arranged over there.

(4)

CH1: Ja lubię mieć moje urodziny bo bo, well, bo w tamtym... bo moje urodziny są dwudziestego czerwca. *I like to have my birthday because... because, well, because in the last... because my birthday is on June 20th.*

CH1: ...chce... do mamy jego iść i tak: "**Woof, woof**", tak tak trochę pokrzyczeć. ...he wants to go to his mom and so 'woof, woof' like this wants to shout a little.

CH1: ...ma ten kontener na głowie bo chyba tak... **stuck** jest, nie może wyjść. ...has this container on his had because he is probably stuck and cannot come out.

(5)

CH1: Ja kiedyś poszłam do szkoły na **soccer**. Once I went to school to play soccer.

(6)

CH1: ...bo wiesz jak sie **cartwheel** robi, tak sie rece uklada i tak idzie. ...because you know when you do a cartwheel, you put your hands like this and you walk like this.

Child #1 switched mostly at the lexical level, when she did not have a Polish

equivalent for the English word she wanted to use.

Child #2 code-switched on only one occasion (7).

(7)

R: Kiedy jest ostatni dzień szkoły? *When is the last day of school?* CH2: **Friday**.

Child #7 code-switched only from Polish to English on seven occasions. The switches

included lexical items and full sentences as well.

(8)

R: Co one będzie robił? What will he be doing? CH 7: On będzie **climbing**. *He will be climbing*.

(9)R: Mhm. Co tam się dzieje? What is happening there?CH7: I need to go up.

(10)R: Co to za zwierzątko jest?What kind of an animal is this?CH7: Reindeer.

The last child in this group was Child #8. She also switched codes only once, when

she was unable to name a particular toy in Polish.

(11)

CH8: Uhm... Jedno było napisane po angielsku, to nie moge powiedzieć po polsku. [...] Ja nigdy nie widziałam takiego coś.
Uhm... One was written in English, so I cannot say it in Polish. [...] I have never seen anything like that.
R: Powiedz po angielsku co to było.

Say in English what it was.

CH8: Uhm... Color explanation.

Although these four individuals exhibited switches in one direction only – from L1 to L2, they do not constitute a uniform group in terms of age, formal exposure to Polish, or the variable of parental education. Their one common characteristic was the relatively small difference between their exposure to L1 and L2.

Children #9 and #10 had the highest number of code-switches. Another interesting observation is that they both used Polish address forms for their family members as it is seen below in (16), (19) and (20).

Child #9 switched to English 43 times, of which 36 were lexical switches as in (12)

and seven involved the use of a simple phrase or a sentence in English as seen in (13) and

(14).

(12)
CH9: Musisz naciskać mały button tutaj. You have to press a little button.

(13)

CH9: ...jej **name is Barbie** i ma **best friend**. ...her name is Barbie and she has a best friend.

(14)

R: A jak piesek się nazywa? And what is the doggie's name?
CH9: I haven't choose imię dla tego pieska. I have not chosen a name for this doggie yet. She switched from English to Polish only three times – twice while addressing her grandfather (15), who interacted with her only in Polish. The third instance of switching took place when the child was talking about her grandmother (16) and used the Polish equivalent of the word grandmother – *babcia*.

(15)

CH9: Możesz mi dać tu tego. You can give this to me here.

(16)

R: Beautiful! Is this what Santa brought for you this year? CH9: No my **babcia** got it for me because my birthday is coming up.

The girl did not use Polish, however, when talking about her mother. On three occasions she said 'my mommy'.

Child #10 switched from Polish to English 29 times and ten from English to Polish. His code switches were mostly at the lexical and inter-sentential level. The child frequently went back and forth between the languages. He tended to reply in Polish to the '*yes* or *no*' type of questions asked in Polish. However, when the questions called for a more elaborate answer, the child often responded by saying 'I don't know' in either language (17), or attempted to answer in English only (18).

(17)R: Kto to jest Dora?*Who is Dora?*CH10: I don't know.

(18)M: A gdzie piesek szuka żabki?*And where is the boy looking for the frog?*CH10: In there.

The child's English-Polish switches also included the instances where the child addressed his parents. Regardless of the language he was speaking at the moment, the boy always addressed his mom and dad using the Polish words for 'mommy' *mamusiu* and 'dad' *tata* as it can be seen in (19) and (20).

(19)

CH10: I think, **mamusiu**, I think so. *I think, mommy, I think so.*

(20) CH10: No, **tata**! *No*, *dad*!

Children #3 and #5 had the second highest total numbers of code switching instances in the group, and the majority of the switches were from L1 to L2. Of all the children in the group they had the least contact with Polish and spent the most number of hours interacting in English. Both boys were raised by single mothers. Both of them also switched codes mostly at the sentence level during the interview, when they chose the language with which they were most comfortable (English), despite the language spoken by the researcher.

Child #3 tended to speak in English, even when addressed in Polish (21). There were some short replies in Polish noted, but the majority of his interactions, especially during the story elicitation task, were in English. He switched from Polish to English 17 times. On six occasions the child switched to Polish. The instances of English-Polish switches are particularly interesting, as the child only used one Polish conjunction *i* 'and' and did so in the English context (22) and (23). On one occasion only (24) the conjunction was followed by a Polish noun phrase *koniec bajki* 'end of the story'.

(21)
R: Jakie klasy lubisz? Which classes do you like?
CH3: My class.

(22)R: What are your favorite treats?CH3: Hmm... Lollypop.R: Lollypop? And what flavors?CH3: Strawberry, watermelon, i rice crispy.

(23)

R: I co jeszcze? Co lubisz robić? Co w szkole robicie? *And what else? What do you like to do? What do you do at school?*CH3: We read books i when we ask the teacher we can draw a picture then we go and draw a picture. I...

(24)

CH3: The boy was on his knees and he saw frogs **i koniec bajki**. ...and the end of the story.

Child #5 switched 21 times from Polish to English (25) and only once from English to Polish (26). His L1 - L2 switches took place during the preplanned psycholinguistic task of story elicitation. The researcher made efforts to obtain a sample of narration in Polish by asking questions in that language. Despite these efforts the boy continued to speak only in English. One instance of going from L2 to L1 was use of a diminutive noun in Polish.

(25)
R: Ile ma lat Pokemon? How old is Pokemon?
CH5: I think, nie wiem. ...I don't know.

(26) CH5: The boy was sleeping with his **piesek**.

...doggie

Children #4 and #6 had the least exposure to English in total and no formal contact with this language. They also had the highest exposure to Polish of all. Each of them lived in a family where both parents were present. Their command of Polish was better than that of English, and of the ten participants,

these two displayed a clear preference for their L1. While their switches to English were at

the lexical level, the change from English to Polish involved clauses and sentences.

Child #4 switched twice only from Polish to English as in (27 - 28) and nine times from English to Polish as in (29 - 30).

(27)

CH4: Graliśmy w **monsters**. *We played monsters*.

(28)

CH4: I dalej on mówi do żabki: **ribbit, ribbit**. *He then says to the frog: ribbit, ribbit.*

(29)

M: And what do you do with those games?

CH4: **No, grasz w nie**. *Well, you play them.*

(30)

CH4: Then something... jak się słoik nazywa po angielsku? What do you call a jar in English?

Child #6 switched to English twice and to Polish 12 times.

(31)

CH6: Ma 4 lata, ale chodzi do **Italian** szkoły. *She is four but she goes to Italian school.*

(32)

CH6: I potem **mermaidy** nie mogą oddychać.... And then the mermaids cannot breathe...

The switches to Polish happened during narration, when the child was unable to recall

an English word or could not give an explanation in her L2.

(33)

CH6: He is a boy and he was crying and then... **jak się nazywa po angielsku** *potknąć*?*what do you call in English* to trip?

The lexical switches of Children #4 and #6 from L1 to L2 as it appears, are characteristic of their linguistic situation. The words used in English are lexical items known to them from their English contexts and seem not to have equivalents in their Polish lexicons. Similarly, the participants had not yet established English lexical equivalents of the Polish words less commonly used by children.

The next section addresses a few other common characteristics pertaining to code switching that were observed in the group.

2. 4. Code Switching and Some Common Characteristics Among the Participants

In examples (1) and (28) above it can be seen that Child #1 and Child #4 both used English onomatopoeias in their Polish narrations. This is an interesting finding given the fact that Child #4 was mostly exposed to Polish and did not have the same command of English as Child #1.

Another noteworthy observation regards the children's awareness of the two languages. Children #1, 3, 4, 6, and 8 made statements during their interviews which indicated that they not only perceived the distinctness of the linguistic systems, but they also were aware of the difficulties they present. These five children belong to the middle and oldest groups (over five years of age) and, therefore, age might have been a factor in their linguistic awareness.

During the conversation with the researcher Child #1 admitted that she found Polish vocabulary challenging (34).

(34)

R: Do you ever read books in Polish or just in English?
CH1: Sometimes I read in Polish, sometimes in English.
R: But which do you prefer?
CH1: English.
R: English...
CH1: 'Cause I can't really make Polish that ba... that good

CH1: 'Cause I can't really make Polish that ba... that good. 'Cause... 'cause in Polish books like my mom read me "Dzieci z Bullebryn". She read.... but there is kinda like hard words in it.

When asked about his language preference, Child #3 said English was easier for him.

(35)

R: And which school is easier? English or Polish school?

CH3: English!

R: English? It is easier? Why? Tell me.

CH3: Because English is much more easier. English I can speak much more better. Polish I can't speak that well.

Examples below show that Children #4, 6, and 8 had troubles expressing themselves

in Polish (36-37) and in English (38), but they were aware that their difficulties were caused

by lack of familiarity with either of the languages' lexicon.

(36)

CH4: Then he saw the... Nie wiem jak to się nazywa. *I don't know what it's called.*

(37)

CH6: Then under the water there was uhm.... Uh... was ... takie...**zapomniałam jak się nazywa... rzucać** ...*these... I forgot how you say* to throw.

(38)

CH8: Uhm... Jedno było napisane po angielsku, to nie moge powiedzieć po polsku.

One was written in English, and so I cannot say it in Polish.

While some of the participants of the study unquestionably shared some of the trends

in terms of code switching and the variables affecting it, it is apparent that some other common characteristics go beyond the groups divided along the age factor or amount of exposure to each language. The phenomenon of code switching is as much a trait of an individual as it can be a pattern among a group of individuals.

The ensuing section addresses instances of language transfer other than those concerning pro-drop feature.

3. Other Instances of Transfer

3.1. Syntax

Syntax errors are understood here as diversions from the syntactic structure of a given language, that is departure from the SVO order in English, and in Polish, stranding of the reflexive participle, or incorrect placement of a preposition or adverb. This part of the chapter is devoted to syntactic errors based on the structures of the two languages that were caused by crosslinguistic influence.

Of the ten participants, Children #3, 4, 6, 7, and 9 exhibited changes to their syntactic structures. Children #3, 4, 5, and 6 showed changes in their English clauses, while Children #7 and #9 did so in their Polish language utterances.

The following examples illustrate the syntax errors in English:

 (1) CH3: ...at my grandma [...] was big snowball
 (2) CH3: But you need lots of controls to have...
 (3) CH4: And I and my mom, we can do from paper airplanes.
 (4) CH5: That boy was on a walk. (5)
(5)
(6)
(6)
(7)
(7)

CH6: Then put his head where was the frog and a boy.

(8)

CH6: And then she looked and he jumped in water and come Atrida and Bibble.

In example (1) the English clause appears to have a Polish syntactic construction where the main noun of the noun phrase is placed at the end of the phrase. The preposition at the beginning of the phrase is appropriate in Polish but not in English, which further supports the supposition of language transfer.

In example (1) the possession on the noun 'grandmother' is missing, and the preparatory subject 'there' before the verb is missing. Polish does not require a preparatory subject in this instance.

In example (2) the verbal phrase is broken up by insertion of the direct object. The infinitive is placed in the sentence final position. Again, this structure is allowed in Polish but not in English.

A similar situation is seen in (3). The adverbial phrase 'from paper' should be placed after the object of the sentence 'airplanes'. In Polish, however, both placements of the said phrase are considered correct.

In (4) the child's use of the verb *to be* and the preposition *on* in the sentence renders it incorrect in English. The sentence translates word-for-word into Polish and suggests transfer of sentence structure known as *calque*.

In examples (5) - (8) each of the inaccuracies is a result of Polish word order transfer, as the English SVO order of a statement was changed according to the word order of corresponding sentences in Polish. The expected SVO order was changed to OVS in (5), to SOV in (6) and (7), and to VS in (8).

Changes in Polish syntax which can be attributed to bilingualism and, more specifically, to the knowledge of English, mainly involved stranding an adverb of place.

(9)

CH9: Ja mam wszystko ładny **tu**. *I have everything nice here*.

(10)

CH7: On będzie climbing. I zosta... on zostawił swoje narzędzia **tam**. *He will be climbing. And he left... he left his tools there.*

While in Polish this type of structure with an adverb of place in sentence final position is not viewed as ungrammatical, the preference is not to strand it in a statement unless it is done for emphatic purposes. In English a similar structure can have either neutral or emphatic meaning and the distinction is made based on the intonation. Since there was no emphasis used in the utterances cited, it is possible they were examples of transfer.

Children #4 and #6 exhibited higher fluency in Polish than in English, while in the case of Children #7 and #9 English stood out as the dominant language. This fact can be one of the indicators of language transfer. The children more fluent in L1 Polish transferred its structures to L2 English, and vice versa.

Child #3 did not produce any full clauses in Polish. Furthermore, he is the only one in this group of the participants who had undergone speech therapy. Therefore, the results obtained from his speech samples are analyzed with caution. A more detailed description of his speech and that of the other children based on their individual differences is provided in section 7 of this chapter.

3. 2. Lexical/Semantic

Prepositions

This section of the chapter includes lexical and/or semantic instances of language changes noted in the participants' speech which can be attributed to language transfer. Examples (1) - (9) are preposition transfers. In examples (1) and (2) the children transferred the meaning of English prepositions *after* 'po' and *to* 'do' into Polish and used their Polish equivalents, which caused loss of the sense in these utterances.

(1)

CH1: Ona lata **po** chłopczyka. She is flying after the little boy.

(2)CH9: On poszedł do pole. *He went to the field.*

Examples (3) - (9) are calques from Polish. Both participants transferred the meaning of prepositions that would be used in Polish in a similar context ('na' *on* and 'w' *in*) while producing their English equivalents, which in these particular clauses in English are not appropriate.

(3) CH6: ...sitting **on** a chair... sitting *in* a chair

(4) CH6: ...**in** night... *at* night (5) CH6: ...mad **on** a dog... mad *at* a dog

(6)

CH6: ...looking up **on** his friend... looking up *at* his friend

(7)

CH6: ...change **in** frog... change *into* a frog

(8)

CH8: I was the only one sitting **on** a chair... sitting *in* a chair

(9)

CH8: I was watching it **on** a school performance... watching it *at* a school performance

In example (10) below the child transferred the meaning of an English preposition *like* denoting similarity. The construction in (10) requires in Polish a subordinating construction $\dot{z}e$ 'that', not a conjunction of comparison *jak* 'like, as'. The child used the English construction and simply translated it into Polish. Thus, it is an example of language transfer from English. He used a Polish lexical equivalent of the word, but the meaning of the English word is not expressed, and the Polish sentence, although it can be understood, is rather awkward.

(10)

CH2: ...a później wygląda **jak** ma sarnę jakąś. ...and then later it looks like he has some kind of a doe.

Pronouns

The three examples below (11) - (13) are considered transfers from English into Polish. The children used first and third singular possessive pronouns in the Polish clauses, where a native speaker would have normally used the possessive pronoun *swój* '(of) my own'. This type of a pronoun is used in clauses where the preceding subject is also the possessor, and it does not have an exact equivalent in English. In the case of (13) the use of any possessive pronoun is redundant; in Polish it is understood that one receives gifts for one's birthday only.

(11)

CH1: I pies biega, chce do **jego**... do mamy jego iść. And the dog is running, wants to go to his mom.

(12)

CH7: Handy Manny coś robi. Handy Manny is doing something.
R: Co robi? What is he doing?
CH7: Musi jego tools brać. He has to take his tools

(13)

CH4: To jest taki samochód co dostałem na **moje** urodziny. *This is this car I got for my birthday.*

Verbs

Other instances of crosslinguistic influence from English to Polish are presented in

examples (14) - (17) below. Each of them entails a semantic transfer in verb use.

(14)

CH2: **Spodziewa się** co ta żaba będzie robić. *He is expecting what this frog will be doing.*

(15)

CH1: **Robię** pięć czy cztery lata... *I am doing it five or four years.*

(16)

CH2: Ja **idę** do angielskiej szkoły *I go to English school.*

(17)

CH1: ...i chłopak tam **patrzy zobaczyć** czy tam żabka... ... and the boy is looking there to see whether the frog... Example (14) is a word choice mistake in Polish. In an English sentence, the verb that would be used is 'to expect'. The verb *spodziewać się* means 'to expect' but does not have the connotation of waiting for or awaiting something that the English one does. The participant again transferred the meaning from an English word to a Polish word with somewhat similar meaning.

In the clause in (15) the verb *robić* 'to do' is used in the context where a native speaker of Polish would have used a more specific verb referring specifically to the activity in the topic, that is skiing. The participant draws on her knowledge of English, where the said verb is frequently used in reference to many activities one has been and/or is engaged in, rather than a precise verb.

Examples (14) and (15) could also be considered conceptual transfer. The children transfer the concept designated by an English word to Polish and find a lexical equivalent in place of a conceptual one in their L1.

The verb $i\dot{s}\dot{c}$ in (16) is a direct translation of the English verb 'to go' used in the context of talking about frequenting a school or class. The sentence, however, based on its context, requires a verb denoting multidirectionality, or repeated action – *chodzić*.

The last example (17) has the *finite verb* + *infinitive* construction, which is allowed in the Polish language, however, only with modal verbs (*chcieć* 'to want', *mieć* 'to have', *móc* 'to be able to', *musieć* 'to have to, must', *potrafić* 'to be capable of', and with the verbal adjective *powinieniem* 'ought to') and impersonal verbs (*trzeba* 'one should', *potrzeba* 'one needs', *należy* 'one should', *można* 'one can', *wolno* 'one is allowed to', *dać się* 'to be possible', *warto* 'it is worthwhile', *szkoda* 'it is pointless'). The above structure is grammatically incorrect in Polish as it is missing a mandatory subordinating conjunction $\dot{z}e$ 'that' or $\dot{z}eby$ 'in order to'; it is a clear example of transfer from English where this type of a construction does not require a conjunction. This example can be considered also a syntactic structure transfer.

All of the examples cited above represent instances of language transfer. What is more, the clauses illustrate also bidirectionality of crosslinguistic influence. It is not only L1 which affects the bilinguals' L2, but also L2 which has an impact on the produced L1 forms.

4. Discussion

Linguistic phenomena of code switching and language transfer are both observed and studied in bilingual individuals. While bilingualism is certainly the common ground the two share, other similarities can be also noted between them. Yet, SLA scholars claim that the two are in fact separate linguistic occurrences.

Code switching and language transfer are both contingent upon a speaker's knowledge of two languages. Likewise, they each entail embedding elements or aspects of one language in the other, and what is more, this practice can operate in both ways in code switching and in transfer (L1 \rightarrow L2 and L2 \rightarrow L1). Finally, it appears that their occurrence depends on activation of both languages.

As it was formerly stated in Chapter 3, the main difference between the phenomena in question is their transparency. Whereas transfer cannot always be easily detected, code switching is overt. Another distinction between them can be made with regard to different processing levels and constraints. Following the findings of the recent studies, transfer appears to be rooted in conceptual phenomena, while code switching is rooted in lexical access phenomena (e.g., Marian, 2009). According to Grosjean (1998), for code switching to take place, both languages must be activated; occurrence of transfer depends on activation of language mode (state of activation of the two languages and language processing mechanisms of a bilingual person). Language mode depends on the situation and language of interlocutors, as well as on the topic and purpose of the interaction. Furthermore, at different times and situations bilinguals can be at a different place along the continuum. They can be in a monolingual mode where only one of the languages is activated or in a bilingual mode where both languages are active. However, the main language of conversation, and of processing, is more active than the other. It is in this bilingual mode that code switching can take place. Transfer, the author states, can only be properly identified when the speaker is in a monolingual mode.

The focal point of this study is language transfer. Since code switching also involves language contact, it seems appropriate to consider it, as it may offer more comprehensive description of the participants' bilingualism and further assist in recognizing crosslinguistic influences manifested in their speech.

In the present study, transfer and code switching instances were approached with the analyses based on the same variables. In both, amount of exposure to each language appeared to be the main factor accounting for the observed changes. The amount of contact the children had with each language influenced their performance in both languages; specifically, more contact with English affected their Polish speech (resulted in more transfer and code switches) and vice versa.

In the participants' speech transfer was observed in syntactic and grammatical structures and in the lexical sphere both in forward (L1 \rightarrow L2) and reverse (L2 \rightarrow L1) directions. Code switches were largely lexical in nature among some of the older children (above five years of age). The participants on the whole were found to switch languages for communicative purposes (as opposed to sociolinguistic as it occurs in adult bilinguals), that is, in order to avoid breakdown in communication.

As it was previously mentioned in Chapter 3, transfer is seen as rooted in representational/conceptual phenomena and code switching in lexical (Marian, 2009). It has been reported also that as far as grammatical categories are concerned, nouns are more frequently subject to code switching, while transfer can happen on both nouns and verbs. Furthermore, closed class words (prepositions, determines, modifiers, and complementizers) are more likely to be transferred than used in code switching.

Among the categories of words in code switches in the present study were nouns, participles, onomatopoeias, and even conjunctions. For example, in the instances when the children did not know a particular verb in L2, they tended to switch to L1 and in L1 ask for the unknown word. Their switches involved not just a specific word use but also a complete switch to the other code. Transfer, on the other hand, was observed in syntactic structures (pro-drop and word order) and in the semantic/lexical sphere (pronouns, prepositions, verbs). As far as classification of the two phenomena in terms of the categories and structures they affect is concerned, these findings support Marian's (2009) conclusions about transfer and code switching. The participants did not exhibit patterns different from those shown in the already existing research. It is important to note, however, that the present study was based

on data obtained from young bilingual children, not adults, and additional observations, such as code switches on onomatopoeias and participles could be attributed to their early acquisition age of two languages and proficiency in each of them. In addition, code switches in conjunctions were noted, but only in one child's speech. This particular participant did not produce any clauses in Polish, and the data from his interviews were treated with caution.

An extensive review of studies on code switching in bilingual children presented in section 3.2. of Chapter 3 reveals that there still exists much ambiguity and disagreement about the causes of the phenomenon in question in the young populations of bilinguals. Some scholars consider code switching to be proof of a single or unitary linguistic system (e.g., Volterra & Taeschner, 1978). Others state that children are not considered bilingual until they possess awareness of the two languages, and instances of mixing cannot be identified as code switching or transfer (e.g., Redlinger & Park, 1980). Still others state that code switching in bilingual children is not as sophisticated as that of adult bilinguals and that it is not constrained by grammatical and sociolinguistic rules (Müller, 1998). While the very first observations of code mixing in bilingual children's speech were considered to be proof of harmful effects of bilingualism, these views have since been questioned by scholars who regard code mixing as a natural phenomenon in a bilingual's speech and an ability to use languages resourcefully so as to avoid communication lapses (Genesee, 2001a; Genesee and Nicolais, 2007). In support of code mixing in bilingual children Genesee (1989) states that children differentiate languages at the age of about three when their two language systems become separated. The fact that children who grow up speaking two languages are able to use the two languages differently and appropriately with familiar and unfamiliar interlocutors (Genesee (2001a) and tend not to mix languages when speaking with monolinguals (De Houwer, 1999; Genesee and Nicoladis, 2007) further supports the undisruptive role of early bilingualism. Additionally, code mixing in children can be seen as fulfilling the same role as overextension among monolingual children, with the exception that two sources are available (Genesee, 2001b). In child language acquisition, a child's use of a word in a broader context than it is permissible in adult language is referred to as overextension. To illustrate, children commonly call all men 'daddy' (Berko Gleason, 2005).

As for the constraints of code mixing, young bilingual speakers observe the same constraints as are observed by the bilingual adult population (Genesee, 2001a). Paradis *et al.* (2000) found that bilingual children as young as 2;0 - 3;6 demonstrate patterns of code switching similar to those of adults. In the present study, all the participants were older than the children in Paradis's study. The older children (over the age of five) were aware of the separateness of the two languages and their systems, while the younger ones (ages 4;6 - 5;0), it seemed, simply switched between languages depending on how comfortable they were expressing themselves.

Based on the findings of the previous scholarship, it can be suggested that the participants' code switching patterns were not deviant from those observed in adult bilingual speakers and could be explained by looking at their exposure to L1 and L2. Code switches noted in the current study data point to the fact that the participants switched from $L1 \rightarrow L2$ and from $L2 \rightarrow L1$ whenever they lacked a particular lexical item in the language in which the conversation was taking place, or when they appeared to have difficulty expressing themselves in that language. Often these instances involved code switching contingent upon

the topic of interview. If the topic involved experiences from their lives, which took place in the L2 environment, the children switched to English. This finding further supports Marian's (2009) observation stating that bilinguals tend to switch to a non-target language if their experience with a particular topic is greater in L2.

Marian (2009) further proposes that transfer and code switching overlap at the lexicon/lemma/word level. Moreover, in addition to this overlap, it is likely that transfer originates from the conceptual representation differences between languages, whereas it is more probable that code switching is a result of control mechanisms during lexical selection.

Transfer is a covert, subconscious process. The present study findings reveal that instances of crosslinguistic influence indeed took place at the representational level. The children's speech exhibited transfer in syntactic structures at the semantic/lexical level in both languages Polish and English. The former involved pronominal subject production and omission – two features, the application of which differs in L1 and L2. Additionally, at the syntactic level some transfer in word order was noted. In terms of semantic/lexical transfer, the participants transferred the meaning of words from L1 \rightarrow L2 and from L2 \rightarrow L1. The semantic representations for the transferred items are different in both languages and involve small words such as prepositions, pronouns, and verbs. Since they involve distinction at the conceptual level, they are subject to transfer.

Genesee (2003) considers language transfer in bilingual children's speech to be a form of interdependence – a delaying factor in the acquisition of language features that differ and an accelerating factor in those that are similar. The two languages in the study are not typologically related, yet they exhibit certain similarities. The fixed word order in English SVO overlaps with basic word order in Polish, which is also SVO. Additionally, overt pronominal subjects are mandatory in English but not in Polish. Nonetheless, non-pro-drop in Polish does not render a clause ungrammatical. These similarities, or rather overlaps, especially with respect to pro-drop feature are seen as factors in transfer.

According to *bilingual bootstrapping hypothesis*, proposed by Gawlitzek-Maiwald and Tracy (1996), when two languages develop at a different pace, the dominant language provides support for the development of the weaker one. Since language dominance was not tested in this study, it is difficult to state with full certainty which of the two languages – Polish or English, was the better developed one in the case of each child. Most of them were competent in L1 and in L2. Moreover, the data points to the fact that the majority of the participants exhibited forward and reverse transfer in their speech. As Meisel (2001) purports, while bootstrapping supports the issue of crosslinguistic interference, it does not support the fact that bilingual children develop grammatical competence in each language and that it happens separately.

In their study on bilingual first language acquisition, Genesee and Nicoladis (2007) noted that code switching is a natural occurrence in bilingual children's speech and young bilingual speakers tend to mix content words from their less proficient language with inflectional morphemes from their dominant language. While a few examples of mixing of such type were noted, in general the data in this study are insufficient to support the authors' observation.

As far as code switching and input are concerned, Genesee (1989) notes, the role of parental input cannot be neglected. Children whose parents code switch exhibit higher rates

of language mixing than those children whose parents strive to apply the 'one-parent-onelanguage' rule in their families.

The parents of eight of the participants reported code switching in interactions with their children. The percentages of code switches in the children's speech, however, did not indicate correlation between the children's and the adults' language mixing.

The topic of language mode activation, proposed by Grosjean (1998) was broached at the beginning of this discussion. The author posits that code switching takes place at the time when an individual is in a bilingual mode, whereas transfer can only be recognized when a speaker is in a monolingual mode. That means the participants of the present study would have had to be in their monolingual mode when the instances of language transfer occurred. Since language activation was not assessed in the present study it is difficult either to support or disprove Grosjean's claim. However, based on the findings – code switches and transfer instances alike, it would seem that the participants were not in a fully monolingual mode of the language activation continuum.

Furthermore, it is arguable that crosslinguistic influence occurs only in monolingual mode. Transfer is considered a subconscious language change, operating at the level of such language subsystems as phonology, morphology, lexicon, semantics, syntax, and pragmatics. Firstly, it would seem that activation of both languages is necessary for any overt or covert linguistic processes to take place. Secondly, according to Odlin (1989), transfer is triggered by influence resulting from the similarities and differences between two languages at the conceptual level. Unless both languages are activated, even to a small degree, a speaker cannot sense these differences or similarities. For example, Child #1 who did not code switch
from English to Polish made grammatical errors in pro-drop application in English, which were attributed to transfer from Polish. If she had been in a monolingual mode, transfer would not have occurred. Presence of code switches in the participants' speech underscores the fact that both languages are active in their minds. A child's ability to stay in one code or preference for a code suggests dominance of that particular code over the other or a better cognitive control in language activation. The dominant language will then interfere with the other language, resulting in an unintentional change through language transfer.

Again, these are some suggestions for reconsidering language mode activation, and are not meant to indicate that Grosjean's assertions are flawed. Cook (1992) presents some evidence pointing to the fact that in the mind of a bilingual, two language systems are merged. While this view has been criticized by Grosjean (1998), perhaps it should be considered alongside the language mode theory. If indeed both of the language systems coexist in the minds of bilinguals, there is a possibility that for first language bilinguals a truly monolingual mode in terms of language activation and deactivation is not feasible. Conceivably, the mode could be used in reference to specific situations bilinguals find themselves in, rather than to a linguistic mind-set, where more effort is placed on communicating with monolinguals in a monolingual setting in only one of the known languages.

A bilingual mind is a highly interactive, multilevel, cognitive system. The cognitive processes, which take place during speech in either of the languages, depend on the structure of each language, language proficiency, exposure, and also language activation mode. Transfer and code switching result from the said processes, and despite their overlap at the lexical level, they take place at different levels of cognitive processing. Code switching happens during lexical selection and is subject to control mechanisms. Transfer results from ambiguity between two languages at the conceptual level. While they share some features, the two phenomena are distinct. What is more, they are dependent on the individual and are highly variable between individuals. Language mode most definitely is at play in these processes; however, it has not yet been established to what extent language activation really affects each of them. Notwithstanding their differences, language transfer and code switching do share some aspects, and that is why it is sensible to look at both phenomena together.

Chapter 9 describes the developmental issues of the bilingual participants as well as their individual differences.

CHAPTER 9

BILINGUALISM AND LANGUAGE DEVELOPMENT

1. Introduction

Chapter 8 was devoted to the phenomena of code switching and language transfer in the collected data. The present chapter addresses developmental issues of the bilingual participants as well as their individual differences.

First, I present grammatical issues observed in the participants' speech, occurrence of which was not attributed to language transfer. By grammar issues I understand here any grammatical errors and inaccuracies noted in the speech, such as for example malformation of past tense forms, wrong preposition use, wrong choice of aspect, inappropriate case or gender use, etc. I discuss trends characteristic of the group as well as the deviations that could be perceived as developmental and could also be considered part of the process of first language acquisition. Subsequently, I summarize any further findings of the study other than those discussed in previous sections. Next, I present individual differences among the participants. Discussion of the findings follows. Finally, the very last part of the chapter consists of a conclusion.

2. Grammar Errors

Tables below (Table 9.1 and 9.2) present numerical data on the types of particular grammatical errors observed in the children's speech.

Table 9.1 Grammatical Errors in Polish

	Error type VERBS				Error type NOUNS			Other
Child	tense	aspect	conjugation	missing verb/ auxiliary	declension	gender	number	preposition
1		2	8		20	17	5	6
2			1		5	5		
3	2							
4		1				2		
5					3			1
6			4					
7		1	1	2	1			
8		1			2			1
9			3		17	13	1	2
10	1				2			

Table 9.2 Grammatical Errors in English

	Error type	•			Error	Other			
	VERBS				type				
				-	NOUNS				
Child	tense	conjugation	participle	missing	number	preposition	comparatives	article	
				verb/			adj./adv.		
				auxiliary					
1						1			
2	1	2							
3		8					2		
4	10	3	1	2	2			2	
5									
6	120	6		12	2	2		5	
7		2							
8		2			1	1	1		
9			1				3		
10	1								

The most commonly occurring errors in the participants' Polish speech samples were noted in verb conjugation, noun declension and grammatical gender. In English, the children

exhibited the highest number of mistakes in verbal tense and conjugation. Examples of the specific errors are discussed in the following subsections.

In the next section the above problems are addressed not as grammatical errors only, but rather, as inaccuracies resulting from an ongoing language acquisition process or language development. They are discussed according to grammatical categories of parts of speech. Since the main study was based on two languages, the said errors are addressed within the confines of the acquisition process as identified for each language, Polish and English.

3. Language Acquisition Errors

3. 1. Acquisition of Polish

3.1.1. Verbs

Aspect

According to Smoczyńska (1985), tense and aspect in the speech of Polish children emerge simultaneously and form in the initial period of tensed utterances. From the beginning of this stage, children use imperfective activity verbs in the past. Children between 1;6 and 1;9 are typically said to use past-tense inflections and perfective verb forms. Once the stage is over, no errors are found in tense use. While aspectual errors still occur, they are considered insignificant in comparison to the total frequency of the verbs. Polish children are able to distinguish aspect, as they possess the comprehension of the aspectual system. However, their production of aspect is not always flawless. They invent aspectual contrasts by using prefixation and suffixation. Cited below are the mistakes produced by three participants of the study (Child #1 -

8;6; Child #7 – 4;7; Child #8 – 6;2).

(1)

CH1: ...następny tydzień nie musimy książki ***wziąć** (should be *brać*) ...*because next week we do not have to take the books*.

(2)

CH8: To wtedy musimy *powiedzieć (should be mówić) całą resztę dnia. *Then we have to talk for the rest of the day.*(3)
CH7: Handy Manny coś robi. *Handy Manny is doing something.*R: Co robi? *What is he doing?*CH7: Musi jego tools *brać. (should be wziąć) *He has to take his tools.*

In (1) and (2) perfective aspect of the verbs is used in place of imperfective. Contrariwise, in (3) the context requires the use of the perfective verb.

Since each of these participants was older than four, it could be said that their errors fall outside of the language acquisition category. As the mistakes are based on supletive aspectual pairs, that is, each verb has a different stem, there is a possibility of wrong lexical choice being made by the children. Furthermore, since no other mistakes of the kind were noted in their speech, these errors could be classified as "mistakes, i.e. sporadic occurrences of erroneous forms after the given rule has been learned, attested by prevailing number of correct uses" (Smoczyńska, 1985, p. 620).

Conjugation

The errors in examples (4) - (8) could be a result of confusion due to similarity of aspectual pair verbs. However, as Smoczyńska (1985) notes, children tend to build all verb

forms from the stem they acquired first. Erroneous stem choice is the most frequent mistake observed in children 2 - 4 years of age; nonetheless, the most difficult ones can remain until the age of 6;0 and even later. The following examples could be representative of this situation.

(4)

CH1: on tak tak ***skaka**... (should be *skacze* from *skakać*) *he jumps like this, like this...*

(5)

(6)

CH2: Ten pies na te... uhm... ***skaka** na ten ul (should be *skacze* from *skakać*) *This dog on the... uhm... jumps on this beehive.*

(7)

CH4: Tylko tego samochoda ***popychniesz**... (should be *popchniesz* from *popchnąć*) *You only push this car...*

(8)

CH9: I bumble bee ***zleca** żeby jego sting. (should be *zlatuje* from *zlatywać*) And the bumble bee flies down to sting him.

As for the conjugation inaccuracies in (9) - (12), with the exception of (11) they

entail use of a third-person singular present tense verb. According to the process of

acquisition of the Polish language, these forms emerge in the earliest stages of the two-word

phase, before other verb forms.

(9)

CH6: I potem on ***pęknął.** (should be *pękł* from *pęknąć*). *And then he broke.*

CH1: on ***skaknął** z okna.... (should be *skoczył* from *skoczyć*) *he jumped from the window*

(10)
R: I co piesek zrobił?
'And what did the dog do?'
CH7: *Weszedł do środka. (should be *wszedł* from *wchodzić*). *He went inside*.

(11)

CH1: ...bo jak jeszcze nie ***umie** (should be *umiem* from *umieć*) ...because if I still do not know how to do it

(12)

Again, these mistakes were produced by the children who were older then five, who should have mastered the proper forms by the age of two. As in the above section, these could represent mistakes – sporadic instances of erroneous forms. It should be noted here that verbal forms in (9) and (10) are observed in some Polish dialects.

In (12) Child #9 produced two coordinate phrases each with a verb in third-person singular. The first one is conjugated correctly; the second is not. There is a possibility that the flawed conjugation of the latter was caused by the child's overgeneralization of the conjugation pattern in the given sentence.

Infinitive forms of the verbs are acquired along with the third-person singular and infinitive forms, that is, prior to emergence of other finite verb forms closer to the end of the second year of age. In the examples below, the two children provide replies with infinitives, as opposed to conjugated verbs.

(13)

R: Tak? A oglądasz w telewizji czy czytasz? *Really? And do you watch it on TV or read it?*CH3: *Oglądać. *To watch.*

CH9: On... on <u>idzie</u> i on ***widzie** reindeer...(should be *widzi* from *widzieć*) And he... he is walking and he sees a reindeer...

(14)
R: I co będziesz robić w Święta?
'And what will you be doing over the holidays?'
CH3: Mhm. Bawić.
'To play'

(15)

M: Przyszedł co zrobić z pieskiem? What did he come to do with the doggie?
CH10: Wziąć. To take.

(16)

M: I one się zdenerwowały i teraz chcą go ugryźć. *And they got mad and now they want to bite him.*CH10: Oh, oh! Dlaczego [missing verb] jego *ugryźć? *Oh, oh! Why* [missing verb] *to bite him?*

While in (14) and (15) the infinitive verb could have been used in an answer to the question, which theoretically already contained an auxiliary verb, the question in (13) did not present that option. The child was expected to provide an answer in the form of a conjugated verb in first-person singular of present tense. In (16) the boy seemed to omit the auxiliary verb. However, since he did not produce many full sentences in Polish, it is difficult to understand the source of this mistake.

What is interesting in the above examples is the fact that the two boys were not close age-wise (Child #3 - 6;9 Child #10 - 4;6) yet they produced the same replies in Polish, limiting them to infinitival verb forms only.

Based on the samples of speech the two children provided, it can be seen that only Child #10 acquired some other forms of the verbal system. He produced them mainly in his spontaneous speech. Throughout the preplanned task of narration elicitation, the child limited his replies to infinitives in Polish and English and a few finite verbs. Child #3 never produced a full clause in Polish, and the only instances of his verb use were their infinitives.

3.1.2. Nouns

Declension

Acquisition of case endings is part of morphological development. For Polish children it begins usually in the third month of the two-word stage (stage from 18-24 months). Contrast between accusative and genitive is acquired prior to nominative case. Vocative appears either simultaneously or shortly after. The next stage of declensional acquisition involves nominative and accusative plural, then instrumental singular, locative singular, and dative, often combined with genitive. These are the expected declension acquisition stages for a two-year-old. At this point, most of the specific case endings are used correctly, as the process is related to early emergence and mastery of the grammatical gender system. Overgeneralization of declensional endings is rare for regular patterns and more frequent for irregular ones; the latter are attributed to the competition of irregular and regular endings.

Declension of nouns in Polish is the most obvious of the grammatical issues in the speech of the participants. It was observed in the samples of speech from Children #1, 2, 5, 7, 8, 9, and 10. The two children who had the highest number of declension errors were Children #1 and #9.

Child #1 was either unable to use them, or used inappropriate ones. Prepositional case seemed to be the most challenging one, and instead, the child used either nominative or accusative case forms as in (17). Also, she failed to use genitive with negation (18).

(17)

CH1: ...bo jak zrobię na ***podłogę** [acc.]... (should be *podłodze* [prep.]) ...because if I do it on the floor...

(18) CH1: No i ja *to [acc.] nie mogę umieć. (should be *tego* [gen.]) And so I cannot be able to do it.

Child #9 had the second highest number of grammatical case errors. In seven instances she did not decline the nouns, using instead nominative case once in place of prepositional, five times in place of genitive, and once in place of accusative of a masculine animate noun as in (19). The remaining ten errors consisted of using genitive case instead of the accusative or nominative (three times) as in (20) and instead of prepositional (once), and accusative in place of genitive (twice).

(19)

(20)

Example (21) illustrates overextension of the genitive virile nouns ending $-\delta w$. The proper ending in the example above is $-\phi$ zero ending (for genitive of nonvirile nouns). This ending, as studies show (Szuman, 1955, as cited in Smoczyńska, 1985, p. 614, 627), is typically used in the context for genitive plural by children around two years of age but was also observed in children up to 4;6 years of age. Child #9, who was 5;0 at the time of the study, did not seem to have acquired the other case ending.

(21)

CH9: I zobacz, ja mam *taki piesek [nom.] (should be *takiego pieska* [acc.]) *And look, I have this doggie.*

CH9: Tylko jak było ***tego** [gen.] klucze co ma serduszko... (should be *te* [nom.]) *Only when there was this key that has a heart...*

CH9: Ja mam jeszcze dużo ***bajeczków** [gen.]. (should be *bajeczek* [gen.]) *I still have many fairytales*.

Child #2 failed to apply appropriate grammatical cases in five clauses. In place of instrumental, prepositional, and even accusative case, the child's default in these clauses was nominative case as in (22) and (23).

(22)

CH2: ... ten chłopak szukał ***on** [nom.] tutaj w środku drzewa. (should be *go* [gen.]) ... *this boy was looking for him inside the tree.*

(23)

Child #5 made three case errors. In one of them (24), the word follows a preposition, which governs accusative case when used with verbs of motion. Instead, the boy produced the noun in nominative case.

(24) CH5:na ***woda** [nom.] (should be *na wodę* [acc.]) ...*on the water*

In (25) the child used the diminutive form of a masculine singular noun *piesek* 'doggie' in the accusative case instead of the nominative form. The demonstrative pronoun proceeding it, however, had the right case and gender. The child used the two forms of the noun (*piesek* and *pieska*) interchangeably in his speech, treating them possibly as variants of one word.

(25)

CH5: ... ten ***pieska** [masc. sg. acc.] (should be *ten piesek* [masc. sg. Nom.]) ... *this doggie*

In example (26) Child #7 made an error in the prepositional phrase where he used nominative/accusative case of the noun, in place of prepositional case.

CH2: ...i... ten pies z tym ***chłopiec** [nom.] (should be *chłopcem* [inst.]) ...and... this dog with this boy...

(26)
R: Gdzie jest chłopiec? Where is the boy?
CH7: Na *drzewo [nom./acc.]. (should be na drzewie [prep.]) On the tree.

Finally, Child #8 failed to apply genitive case in the sentences in which negation requires its use (27 and 28). Instead, she produced the nominative/accusative form of the noun. On the other hand, she correctly declined the demonstrative pronoun preceding the indefinite pronoun in (28).

(27)

(28)

In each of the above examples, the mistakes involve the use of the grammatical case appropriate to the context of the clause. The children who made these mistakes were older than five. According to the process of acquisition of the Polish language, these participants should have acquired the entire grammatical case system. Errors (19) and (22) – (25) entail use of nominative and accusative cases in place of oblique cases. The children began the acquisition of their L2 anywhere between birth and the third year of their lives. It is then conceivable that acquisition of the Polish case system was not completed, and therefore, resulted in the above errors. It is also possible that in some instances such as (28) the child acquired other cases, but the amount of contact with L1 combined with acquisition of L2 did not allow for sufficient exposure to input as well as adequate output for these case forms resulting in inconsistency in case application.

CH8: Nie pamiętam ***wszystko** [nom./acc.]. (should be *wszystkiego* [gen.]) *I don't remember everything.*

CH8: Ja nigdy nie widziałam <u>takiego [gen.]</u> ***coś** [nom./acc.]. (should be *czegoś* [gen.]) *I have never seen anything like this.*

Cited below are two identical questions Child #10 asked his mother while he was

playing with the stickers provided by the researcher.

(29)
CH10: Chcesz *Dora [nom. sg.]. Do you want Dora?
M: Tak, poproszę. Yes, please.
CH10: To jest tu Dora. This is Dora here.
M: No dobrze. Good.
CH10: You can have this one, and I have this one.
M: Ale ja nie rozumiem teraz. Musisz do mnie mówić po polsku. But I don't understand now. You have to speak to me in Polish.
(30)
CH10: Chcesz Dorę [acc. sg.].

CHT0: Chcesz Dorę [acc. sg. Do you want Dora?
M: Tak, chcę Dorę. Yes, I want Dora.

The first time the child asked the question, he did not decline the proper noun 'Dora' (29). He did so, however, the second time in (30). It is difficult to say, based on the isolated examples, to what extent this child was familiar and comfortable with the case system in Polish. Nevertheless, since his attention was drawn to the fact that he should be communicating in Polish, perhaps that is what prompted him to be more aware of the language change and thus decline the noun in the second question.

Another interesting clause the child produced (31) can be connected possibly to the above issue of the grammatical case system in (29) and (30). The mother asked the question in Polish; the boy replied in English but used the noun in the genitive construction.

(31)M: I co myślisz on tam szuka? And what do you think he is looking for in there?CH10: *Of the frog.

In the Polish language the verb *szukać* 'to seek, to look for' takes a noun in genitive case. The mother herself made a mistake using accusative case. It is not entirely clear what prompted the boy to answer the question in this manner.

Child #3 did not produce full clauses in Polish and his speech sample was not taken into consideration here.

The most problematic two cases for the participants appeared to be prepositional and genitive. The participants often opted for non-oblique cases. While frequency of the case errors based on these data cannot be linked either to formal exposure to English nor to lack of formal exposure to Polish (Children #1 and #2 attended both English school and a Polish language school, while Child #9 attended only English language daycare), it is a remarkable fact that Children #4 and #6 who had the least exposure to English and most exposure to Polish made no grammatical case errors.

Gender

Acquisition of grammatical gender in Polish, Smoczyńska (1985) states, takes place very early on. For many children this aspect of the language is acquired before the age of two. Inappropriate gender agreements, she further adds, are limited "to a short period of time when adjectives, past-tense forms, or pronouns begin to appear, and it should be attributed to the lack of knowledge of possible differentiation of these forms rather than of that concerning noun gender" (p. 645). Gender represents the second area most prone to grammatical errors in the present study. Polish has three grammatical gender categories in the singular – masculine, feminine, and neuter, and two in the plural – virile (also referred to as masculine persons) and nonvirile (non-masculine persons). Not only adjectives but also verbs in the past tense have to agree with the number and gender of the nouns.

Children #1 and #9 who made the most errors in grammatical case application were also the two participants who made the most mistakes in terms of grammatical gender. Children #2 and #4 were the other two participants who made gender errors. It appears that gender and case are interacting entities in language acquisition. Therefore, it is difficult for the young speakers to differentiate between them.

(32)

CH1: On poszedł sobie na soccer bo miał... na chłopcy i <u>one</u> **wygrały**. (should be *oni wygrali* [virile]) *He went to play soccer because he had... to the boys and they won*.

(33)

CH9: **Poszły** i cicho **były** żeby **myślały**, że <u>żabka</u> jest w tym a **zobaczyły** jej nie ma. *They went and were quiet so that they think that the frog is in there but they saw it wasn't.*

(34)

CH9: Ja mam wszystko ***ładny** [adj.masc.sg.] tu. (should be *ładne* [nonvirile]) *I have everything nice here.*

(35)

CH9: To jest m... ***moje** [adj. neut sg./ nonvirile] kitchen. *This is my kitchen.*

(36)

CH9: Są moje... ***moje** (neut. sg. nom./ nonvirile, nom.) **lipstick** i tu wszystko. *Here are my lipstick and my everything.*

(37)

CH9: ...w mamy pokoju jest inny *takie (neut. sg. nom./ nonvirile, nom.) forest. In mom's room there is this other forest. In (32) and (33) nonvirile plural past tense verb forms were applied in place of virile forms. Virile and nonvirile gender distinction in plural is germane to the agreement in past tense verb forms, but according to studies on Polish language acquisition, errors in these forms emerge after three to four years of age and, as Mystkowska (1970) (as cited in Smoczyńska, 1985, p. 664) reports, can be typical even for six-year-old children.

Child #1 made mistakes in third-person plural, not in first. It is possible that she continued to make this mistake past the sixth year or that she was never corrected and therefore the form fossilized. As mentioned above, dialectal variations could be at play here as well, seeing as the application of the nonvirile third-person plural verb ending with virile plural nouns is also a dialectal feature.

Lack of information about the quality of Polish language input that these children receive at home (Children #1 and #9) makes it difficult, if not impossible, to attribute some of the mistakes (such as in (32) and (33)) either to dialectal variants of the language, or to possible idiolectal permutations of their parents' language or, finally, to the acquisitional process.

Child #9 seems to fall within the age brackets when these errors are expected to occur only as far as example (33) is concerned. Examples (34) - (37) indicate that perhaps the child did not fully acquire grammatical gender and the system of agreement. Child #9 used possessive and demonstrative pronouns, as well as adjectives, which often did not agree in gender and number with Polish nouns they modified, as seen in (34). She also used these modifiers with English nouns without any attempt of agreement even in the number of the word or its final sound (for the most part Polish masculine nouns end in a consonant,

feminine in -a, neuter in -o or -e). The examples of these constructions are cited in (35) – (37). Based on noun phonology alone the pronouns in (35) – (37) should have been in masculine forms and in nominative case (*mój kitchen, mój lipstick, taki forest*). Polish equivalents of the English words and their grammatical gender in Polish are as follows: 'kitchen' – *kuchnia* (fem. sg. nom.), 'lipstick' – *szminka* (fem. sg. nom.), and 'forest' – *las* (masc. sg. nom.). There is no possibility that the child, treating the English words as Polish equivalents, assigned the gender according to the Polish system. Had the gender been applied properly, it would have resulted in the following clauses: *moja* (fem. sg. nom.) *kitchen, moja* (fem. sg. nom.) *lipstick*, and *taki* (masc. sg. nom.) *las*.

Children #2 and #4 did acquire the gender system. In each of the examples below (38) – (40), the need of agreement between the noun and the demonstrative pronoun is recognized. What manifests itself as a problem here, though, is erroneous recognition of grammatical gender of the noun.

(38)

(39)

(40)

During the story elicitation task, Children #1, 2, and 9 alternated between using the correct gender for the noun denoting a frog – $\dot{z}abka$ (feminine noun, singular diminutive form

CH2: Ten pies tak skoczył, że tam widzi ***tą ulę** (fem.). (should be *ten ul* [masc.]) *This dog jumped so that he sees this hive there*.

CH4: Sowa zobaczyła tego chłopca w ***tym dziurze** (masc.). (should be *tej dziurze* [fem.]) *The owl saw the boy in this hole.*

CH4: Tylko jeszcze mam ***takiego katapulta** (masc.). (should be *taką katapultę* [fem.]) *But I have this catapult.*

of $\dot{z}aba$) and the incorrect, masculine version $-\dot{z}abek$ as seen in (41) and (42) or $\dot{z}aba$ (43) -

treated as an animate masculine singular noun with a feminine -a ending.

(41)

CH1: "*Żabku (masc. sg. voc.), gdzie jesteś?" (should be Żabko [fem. sing. voc.]) Frog, where are you?

(42)

CH9: Jak obudził się to nie było ***żabka** (masc. sg. gen.). (should be *żabki* [fem. sg. gen.]) *When he woke up the frog was not there.*

(43)

CH2: On patrzy na ***tego żabę** (masc.sg. gen.) co jest w butelce. (should be *tę* or *tą żabę* [fem. sg. gen.]) He is looking at this frog that is in the bottle.

Child #9 used the correct form and gender of the noun as in example (33) above and an incorrect one as in (42). The latter can be also seen as a declension error, where the child produced the noun *żabka* 'froggie' in its nominative form in place of the genitive one. Child #1 also made an error in applying gender to the plural form of the noun (44). She used the right case (that is genitive) in describing the family of frogs but declined the noun as if it were virile noun, not nonvirile. Correct pluralization of nouns in Polish is contingent upon the noun gender and animacy. The same type of error was seen in example (21), when the child overextended the genitive virile noun ending $-\delta w$ to nonvirile nouns in genitive case. Here however, the child confused the gender of the noun already in its singular form as seen in (41) above.

(44)

CH1: ...i było więcej ***żabków**, takie rodziny ***żabków**. (should be *żabek*) ... and there were more frogs, these families of frogs. Similar to the situations with case system acquisition, so also here, the participants appear to be outside of the age bracket within which grammatical gender mistakes are expected.

3. 2. Acquisition of English

According to Brown (1973), the major period of syntactic growth in children can be divided into five stages based on the number of morphemes in a child's utterance, or on mean length of utterance (hereafter MLU). Stage 1 begins at MLU between 1.0 - 2.0 (age 1 - 2;2). Then each next stage is marked by an increment of 0.5. And so Stage II extends from MLU of 2.0 - 2.5 (2;3 - 2;6), Stage III from 2.5 - 3.0 (age 2;5 - 2;10), Stage IV from 3.0 - 3.5 (age 2;11 - 3;3), and Stage V from 3.5 - 4.0 (age 3;6 - 3;8). Beyond 4.0 the MLU loses its value as an index of language development, since it no longer reflects the child's knowledge of language.

Morphological development in English as L1 begins in Stage II. It is a gradual and long process that continues up through Stage V and even past it, since for some children acquisition of certain grammatical forms is not fully solidified even when they begin school.

Brown compiled a table with fourteen grammatical morphemes and organized them in the order of acquisition. The arrangement of the said morphemes was as follows: present progressive
 2/3. prepositions
 plural
 irregular past tense
 possessive
 copula uncontractible
 articles
 regular past tense
 third-person present tense
 third-person present tense irregular
 auxiliary uncontractible
 copula contractible
 auxiliary contractible

The last two morphemes, Brown observed, were not fully acquired in Stage V (MLU 3.75 – 4.50 morphemes; children's ages 3;6 to 3;8). The proposed system of morpheme acquisition is used in the subsequent part of the chapter to discuss grammatical errors in the speech of the study participants.

3.2.1. Verbs

Conjugation

Errors in examples (1) - (4) are instances of incorrect formation of past tense verb forms. In keeping with the five-stage system proposed by Brown, acquisition of irregular past tense forms takes place early on, and it is expected that children apply it properly by the time they pass Stage V. During Stage V, however, many children make mistake in applying the regular past tense morpheme *-ed* to irregular verbs. These overregularization errors, albeit infrequently, continue to appear even in middle childhood.

Children #3, 7, and 8 made mistakes when creating past tense forms of the verbs. The children seemed to be aware of the need to use past tense but they provided wrong forms of the verbs.

 (1) CH3: ...then the owl *camed and then the boy *felled.
 (2) CH8: ...my brother *hided it again.
 (3) CH8: He *tieded it.

(4)

CH7: When... when you *comeded... when you go away we're gonna pack my toys.

The children who made the above mistakes were each past Stage V in terms of their acquisition process. It is then possible to accept these inaccuracies in the speech of the participants and consider them acquisitional errors.

Tense

Regular past tense forms emerge later than the irregular forms. Children #3, 4, 6, 7, and 10 exhibited problems with appropriate grammatical tense use. The main problem with the clauses was noted during the preplanned psycholinguistic task of story elicitation. The children failed to use simple past tense and instead appeared to use the verbs in simple present tense, however, often without the present tense marker on them (indicating third-person singular subject). Given the other instances of past tense application in the speech of Child #3, example (5) can be a simple sporadic occurrence.

(5) CH3: the boy **hold** the dog

Child #4 (6;3) did not begin to learn English until he was 4. Child #6 (5;6), although she was exposed to English from birth, had a weaker command of that language than of her L1 Polish. Despite noted errors, both of them were able to produce grammatically correct forms of past tense verbs. In their case, ungrammaticality in (6) – (11) was related to the ongoing process of acquisition, rather than to incomplete acquisition.
(6)
(7)
(7)
(7)
(7)
(7)
(6)
(7)
(7)
(7)
(7)
(7)
(7)
(7)
(7)
(7)
(7)
(7)
(7)
(7)
(7)
(7)
(7)
(7)
(7)
(7)
(7)
(7)
(7)
(7)
(7)
(6)
(6)
(6)
(7)
(7)
(7)
(7)
(7)
(7)
(8)
(9)
(14: ...then the dog and the boy was calling the frog and they *see nothing
(9)
(9)
(14: ...then the dog *go on the tree and *get some honey
(10)
(16)
(16)
(17)
(18)
(19)
(11)
(11)
(11)
(11)
(11)
(12)
(11)
(12)
(13)
(14)
(14)
(15)
(15)
(16)
(17)
(18)
(19)
(19)
(11)
(11)
(11)
(11)
(11)
(11)
(12)
(11)
(12)
(12)
(13)
(14)
(15)
(15)
(16)
(17)
(17)
(18)
(19)
(19)
(11)
(11)
(11)
(11)
(11)
(12)
(12)
(13)
(14)
(15)
(15)
(15)
(16)
(17)
(17)
(18)
(18)
(19)
(19)
(11)
(11)
(11)
(11)
(11)
(11)
(12)
(11)
(12)
(12)
(13)
(14)
(15)
(15)
(16)
(16)
(17)
(18)
(18)</li

In the same way, the mistakes in (12) and (13) illustrate the continuing language

acquisition process.

(12)CH6: He *have change and then he *fly...

(13)

CH9: I haven't ***choose** imie dla tego pieska. *I have not chosen a name for this doggie.*

Participles/Passives

Attainment of passives begins by early Stage IV but acquisition is not complete until later years. Since Child #4 began acquisition of English later than the other participants, a mistake such as in (14) is not unexpected.

(14) CH4: The jar is ***broked**.

Auxiliary Verbs

Children acquire uncontractible auxiliaries in Stage V and even past it. As in the previous subsections presenting grammatical errors related to verbs, similarly here in (15) and (16), given the age of the participants and their history of contact with English, the cited examples of inaccuracies can be attributed to an ongoing process of language acquisition.

(15)

CH7: We [missing aux.] *using pink.

(16)

CH6: And they're sitting and have a string and **[missing aux.]** *holding and he **[missing aux.]** *saying...

In (17) the child began the sentence in Polish and then switched to English. It is difficult to discern whether the child omitted the auxiliary verb because he knew there would be no need for one in Polish, or whether he failed to apply it in English as he did in the clause in (15).

(17)

CH7: ...bo piesek [missing aux.] *licking.. because the doggie is licking.

Emergence of auxiliary takes place around the age of four, while application of negation in full expressions begins in Stage III. Child #7 (4;7) and Child #10 (4;6) were the youngest participants in the group. Mistakes observed in their speech such as (18) and (19) were acquisitional errors. Both of them also produced correct phrases with negation and Child #7 applied contracted auxiliary with negation accurately in more than one of his sentences.

(18)
CH7: Ah... we *didn't went to school
(19)
CH10: Why he *fall down?

Finite Verbs and Infinitive Compliments

In (20) and (21) the children both used the *-ing* verb forms in place of the infinitive verbs in the *finite verb* + *the infinitive complement* construction. Child #6 also failed to apply past tense to the base verbs (19). (20) CH6: ...he *start to ***dancing** and he *start to ***singing** too. (21) CH8: I'm not allowed to ***watching** it.

While Child #6 made tense errors in English and she was going through the process of L2 acquisition at the time of the study, for Child #8 the ungrammatical clause in (20) was an isolated incident.

3. 2. 2. Nouns

Errors pertaining to nouns were noted only in the speech of the two children whose dominant language at the time of the study interviews was Polish. Child #4 and Child #6 had the least amount of exposure to English of all the other participants. Grammatical issues presented in the following subsections illustrate the fact that each of the children was actively learning English and actively undergoing the process of morphological development.

Number and Articles

Plural forms of nouns are acquired in the early stages of language acquisition, and articles appear only in the middle of the acquisition process.

(22)

CH4: And I was eating those candy in one day.

(23)

CH4: Ironman transforms to **a** airplane.

(24)

CH6: Somebody is giving **a candy** to bags.

(25)

CH6: First Alena wishes she have **a wings**.

(26)

CH6: **The boy** have a frog in night and then he go to sleep and other day the frog that was there was missing and he was looking in his shoe and the dog then put his head in there where was the frog and **a boy** open his window... [refers to the same boy]

Whereas Child #4 made few errors involving plural nouns and articles, Child #6

clearly struggled with the article system.

Compound Nouns

While Child #6 did not make any lexical mistakes which could be attributed to substitution due to confusion of meaning, she erroneously created compound nouns in English. In (27) the first instance of the compound noun was correct, while the second one, involving exactly the same word, was not. This mistake, as well as the one in (28) involved placing the main noun in the compound before the modifying noun.

(27)

CH6: There was bee-home and he was pulling the tree and the *home-bee was moving...

(28)

CH6: ...and the ***dog-puppy** run...

Possession

Child #6 produced two clauses which required the possessive marker and failed to do so in both.

(29)

CH6: ...and then they find a deer and they hid on *deer head.

Determiners and Comparative Forms of Adjectives and Adverbs

Johnston (1985) purports that "some aspects of language acquisition do seem to be guided and constrained by the availability of conceptual and factual knowledge" (p. 985). She argues that comparative terms are among such aspects. In the clauses below it can be seen that the two children possess the concept of comparison but appear to be still confused as to the proper forms of the determiners.

(30)

CH3: Because English is **much more easier**. English I can speak **much more better**, Polish I can't speak that well.

(31)

CH8: It was more louder.

(32)

CH9: Too much dolls, too much dolls...

3. 3. Phonology

The last type of acquisitional error pertains to phonology. Four children exhibited some incorrectness in terms of their pronunciation.

Children #3 and #5 produced voiced labio-velar approximant /w/ in place of alveolar

trill /r/ in word-initial and word-internal positions. In word final positions the alveolar trill

was silent. The boys made these substitutions throughout their speech.

(1)

CH3: We wead books i... when we ask the teacher we can dwaw a picture then we go and draw a picture.

(2)

CH5: The fwoggie is tipping out, yes?

(3)

CH5: Uhm... witing and weading wesponse.

When speaking Polish, Child #5 produced alveolar lateral approximant 1/l/ in place of

alveolar trill /r/.

(4) CH5: To jest niedoble.

The boys made these substitutions throughout their speech.

Similarly, Child #9 produced alveolar lateral approximant 1 /l/ in place of alveolar trill

r/ but she did so in Polish and English as can be seen in examples (5) - (7).

(5)

CH9: Tak, bo ja jeszcze nie wyblałam. (*wybrałam*). *Yes, because I have not chosen yet.*

(6)

CH9: A to jest Balbie. (Barbie) And this is Barbie.

(7)CH9: To są my favolite. (*favorite*) *These are my favorite*.

Moreover, in her Polish speech Child #9 pronounced voiceless dental fricative s /s/ instead of voiceless postalveolar fricative sz / \int / as in (8) and voiced dental fricative z /z/ in

place of voiced alveolar fricative $\dot{z}/3/(9)$.

(8)

CH9: Ja mam w**s**ystko ładny tu. *I have everything nice here.*

(9)

CH9: Ja mam duze lalki zeby bawić się. *I have many dolls to play with.*

Lastly, Child #1 also made similar phonological errors as Child #9 and only in Polish.

She produced voiced dental fricatives z /z/ instead of voiced alveolar fricatives ż /ʒ/ (10),

voiceless dental affricate c /ts/ instead of voiceless alveolar affricate cz /tf/ (11), and

voiceless dental fricative s /s/ instead of voiceless alveolar dental sz / \int / (12). Of these, the last

was the least frequently produced.

(10)CH1: Zabka uciekła.*Froggie ran away.*

(11)

CH1: Bo **c**asami mamy dwadziscia stron. Because sometimes we have twenty pages.

(12)

CH1: Czy ty wies co to jest takie cartwheel? Do you know what a cartwheel is? What appeared interesting about this child's speech was her intonation in both languages. It was marked by high rising intonation, characteristic of questions.

Summary

Close examination of grammatical errors in the speech of these young participants revealed that in Polish the grammatical case system and gender presented the most difficulties for the children. Although grammatical tense only appeared to be a problem in English, conjugation was challenging in both languages.

The majority of the grammatical errors in the English sample came from the children who had the least exposure to English. The remaining errors resulted from the ongoing process of language acquisition. Rather, errors in Polish, such as aspect, declension, and grammatical gender fall outside of the language acquisition category. These mistakes and errors were analyzed according to the expected process of language acquisition. Nonetheless, it is important to bear in mind the fact that the sources of reference used throughout this analysis were based on studies of monolingual Polish and English children. In other words, the participants' bilingualism may have been a factor in their production of grammatically incorrect clauses in both languages. For that reason, it cannot be neglected irrespective of how typical or atypical the errors in their language.

4. Other Findings and Issues

This part of the chapter is devoted to language errors and changes that were not perceived as related to language transfer, code switching, or development errors. Some of these errors appeared in the speech of more than one child; therefore, they are presented in categories. The remaining single occurrences of inaccuracies are discussed as they were identified in each child's speech in the chronological order of the interviews (Child #1 - Child #10).

4.1. Lexical Choices

The following section pertains to word choices. Included here are word-choice mistakes noted in speech samples from three children.

Polish, unlike English, distinguishes between two kinds of 'knowing'. When talking about a person or a fact, verb *znać* is used. The verb *wiedzieć* refers to knowing all sorts of things, but it is used only before a subordinate clause or in a simple clause without a direct object. Children #2, 7, and 9 each made that mistake in choosing the wrong verb in examples (1) - (3).

(1) CH2: Ja **wiem** jeden kolega

I know one friend.

(2) CH7: Ja **wiem** tą bajkę. *I know this story*.

(3) CH9: Nie **wiem** jego imię. *I don't know his name.*

Apart from the above verb, no other word was observed in the category of erroneous word choices to appear in the speech of more than one child. Below are the specific examples extracted from the transcripts of the children's speech.

Child #1 substituted the word *poszczekać* 'to bark for a while' for the word *pokrzyczeć* 'to shout for a while' (4). These words have a somewhat close meaning and can explain the confusion.

(4)

CH1: ... chce do jego... do mamy jego iść i tak: "Woff, woff", tak tak trochę **pokrzyczeć**. ...*he wants to his mom... to his mom go and to shout a little 'woff, woff*".

Child #4 made two lexical mistakes. In the first one he provided the wrong form of a verbal noun. In place of *pisanie* 'writing' the child said **piszęcie* (5). While the ending of the word is certainly a suffix used in Polish verbal noun production, the child used first-person singular present tense form (*piszę*) of the verb *pisać* 'to write', which is not used in verbal noun production. The child's second lexical mistake (6) consisted of using an inappropriate word for the context: *poskarżył* 'told on, complained about' instead of *ukarał* 'punished'.

(5)

R: I czego się uczysz w szkole? *And what do you learn at school?* CH4: ***Piszęcie** literek... *Writing letters of the alphabet.*

(6) CH4: ...chłopiec wy... wyszedł na dwór i go ***poskarżył**. ...*the boys came outside and told on him*.

In one of his English clauses (7), Child #5 used an adjective *electric* in place of the verb *to electrocute*.

(7)
R: I co on może robić? And what can he do?
CH5: *Electric people.

Child #7 used the reflexive particle *się* with the verb *zobaczyć*. The particle changes the meaning of the verb *zobaczyć* - the perfective aspect of the verb 'to see' – to *zobaczyć się* – 'to see each other' (8).

(8)
R: A po co idą do góry? And why are they going up?
CH7: Żeby się zobaczyć co tam jest. To see each other what's there

Some other types of word errors noted in the speech of Child #9 consisted of mistakenly using the long form of the third person singular masculine pronoun in accusative case *jego* 'him' in place of its short form go (9). The second example illustrates confusion between the adjective *duże* 'big' and the determiner *dużo* 'many, much' (10). Lastly, the child confused two similar verbs *położyć* 'to lay down' and *podłożyć* 'to put under' (11).

(9)

CH9: Zleca, żeby **jego** sting. *It is flying down to sting him.*

(10)

CH9: Ja mam **duże lalki** żeby bawić się. *I have many dolls so that I can play.*

(11)

CH9: Dziadek mi **podłożył**. *Grandpa put it under for me*.

The examples of errors made by the children can be attributed to their limited familiarity with more complex vocabulary in both Polish and English.

4.2. Preposition Use

Most of the mistakes related to preposition use were caused by crosslinguistic influence and were discussed in Section 2 of this chapter. However, there were also other instances of preposition use in some of the children's speech, which cannot be linked to language transfer.

In example (12) Child #1 produced a preposition, which should have preceded the noun glowe – object of the prepositional phrase.

(12)

CH1: ...zwalił głowę ***na** tylko tak *He fell on his head only like this.*

Child #6 used a wrong preposition in her English sentence in (13). In both languages

this should have been the preposition 'in'.

(13)

CH6: Halloween means everybody dress or the princess or the Batman or Spiderman or dinosaur...just dressing **on** something ...

On the other hand, in (14) her other mistake consists of a superfluous preposition.

(14)

CH6: ...come back to under the water...

Child #8 made an error in her sentence (15) by choosing the wrong preposition.

(15)

CH8: I got a hole **on** it.

This mistake cannot be caused by language transfer, since in Polish and English the right preposition to use would be w 'in'.

In fact, the instances of erroneous preposition use cannot be ascribed to language transfer in either of the cases above. They can be just isolated incidents where the children misspoke.

4. 3. English Nouns and Polish Nominal Morphology

Declension of English Nouns

Two children who struggled with the grammatical case system in Polish, Child #5 and Child #9 appeared to have applied it appropriately once to an English noun. Child #5 declined an English noun after a Polish preposition *na* 'on', which in the context of a location requires prepositional case (16). The case and its ending based on the word-final consonant of the noun were properly declined according to the rules of Polish grammar.

(16)
R: Gdzie żabkę znaleźli?
Where did they find the froggie?
CH5: Na logu. [masc. sg. prep.] On the log.

In one of her Polish clauses with lexical code switches, Child #9 used an English

noun and applied the right case (genitive) and its correct ending (17).

(17)

CH9: Ale nie możesz otworzyć bo nie ma tego keya [masc. gen. sg.] co ma serduszko. Tylko jak było tego klucze co ma serduszko...
'But you cannot open because there is no key that has a heart on it. Only if there was this key that has a heart...'

Suffixation of English Nouns

Child #6 and Child #9 also used English nouns with Polish suffixes. In (18) Child #6

was retelling one of her favorite stories in English, when she code-switched to Polish but

used an English noun in the Polish sentence and added a Polish plural noun suffix -y.

(18)

CH6: ...i potem <u>mermaidy</u> nie mogą oddychać pod wodą. ... and then the mermaids cannot breather under water. During the Polish part of the interview, Child #9 was showing the researcher her toys when she used the phrase in (19).

(19)CH9: Moje elefan**ciki**. *My little elephants.*

Example (19) represents the use of an English noun with Polish diminutive suffix *-iki*. Alternation of the stem consonant in the English word due to the suffixation process was correct, as was pluralization of the English noun in (18).

The preceding presentation of grammatical errors offers some interesting observations regarding the bilingual speech of the participants. While considered simultaneous bilinguals, these children appear to be more proficient in English. Some of the noted inaccuracies can be attributed to the ongoing process of language acquisition. Their Polish, in contrast, shows signs of possible incomplete acquisition. Montrul (2008) argues that incompleteness of acquisition is possible in early bilingual grammars, both in L1 and in L2. In addition, she purports that fossilization is also possible in the speech of immigrant children, when the family language input diminishes with increased exposure to and use of L2. In order to discriminate between attrition, incomplete acquisition, and even fossilization in the Polish language of these young participants, more data would need to be obtained. A study aiming to recognize the particular linguistic phenomena would require samples of speech with focus on morphological development of each child.

Lastly, Singleton and Ryan (2004) contend that beyond the age of four the acquisition process is to a large degree influenced by individual differences. While this is undoubtedly true, it is equally true that in the case of bilinguals knowledge of two languages appears to
have impact on acquisition of each of the respective languages. The children interviewed in this study lack uniformity as a group in terms of their age and language exposure. These factors alone suggest much room for variation in terms of findings.

The next part of the chapter presents short observations of individual characteristics of the children.

5. Individual Characteristics of the Participants

The following part of the chapter is devoted to the discussion of the participants' individual personality traits as they were noted by the researcher during the interviews. Furthermore, this section views the opinions of the parents on their children's language changes and compares it against the findings of the study.

Child #1 was very outgoing and liked to talk. She enjoyed sharing stories from her life; therefore, it was not difficult to obtain speech samples from her. With the exception of the lexical switches she made from Polish to English, she did not code switch during the tasks and also stayed on task.

Child #2 was a quiet boy. He did not volunteer much information about himself during spontaneous conversation and appeared rather shy. Overall, the child was more comfortable and conversant during the portion of the interview conducted in English.

Both children fulfilled each of the tasks and provided them in English and Polish, although clearly English was their stronger language.

Child #3 exhibited fluency in English, and with the exception of a few Polish words, spoke English throughout the entire interview. Even when addressed in Polish, the child

replied for the most part in English. His preference for L2, coupled with demonstrated difficulty speaking his L1, prevented the researcher from obtaining a sample of speech in Polish. The boy was the only child in this group who had undergone speech therapy. The specific nature of the problem was not revealed to the researcher. At the time of the study, the child was not attending any therapy.

Similarly, Children #5, 7 and 9 preferred to use English and had greater fluency in that language. While it was possible to obtain speech samples in Polish from them, they only performed the preplanned psycholinguistic task in one language (Child #5 and #7 in English and Child #9 in Polish).

Child #5 was very energetic and had difficulty focusing on the task. His ability to speak Polish and even comprehension of the language were limited. Obtaining a language sample was additionally difficult because of his unrestrained and somewhat compulsive behavior and erratic vocalization.

Child #7 was the second youngest participant in the group. He preferred to interact in English but had a very good understanding of the Polish language. Child #9 was a notorious and delightful code switcher. She was also very loquacious. Children #7 and #9 each took the interview as yet another opportunity to play. The researches became a part of their playground.

Child #8 was fluent in both and comfortable speaking both languages. However, when asked about the aspects of reality she had experienced within the context of the English language, she tended to shy away from Polish. The child was outgoing and energetic and gracefully cooperated with the researcher.

Child #10, the youngest of the participants, was shy. His speech sample was the smallest and did not offer much material for analysis. The child exhibited preference to use English and even when instructed by his mother to use Polish he would quickly switch back to English.

Polish was the dominant language for Child #4 and Child #6. Both of the children were outgoing and stayed on task. Although they performed each of the tasks in two languages, they were the two participants in the group who had a better command of Polish than English.

The table below shows some of the data presented in Chapter 6 (Table 6.5). The parents were asked to provide an estimation of their children's linguistic development, as compared to that of monolingual children, and to make a note of each area of the language where they noticed their children's mistakes. Symbols P, V, G, and Sx in the third column stand for the following areas: phonology (P), vocabulary (V), grammar (G), and syntax (Sx).

Child	Linguistic development as compared to monolingual children	Observed language changes	
1	do not know	Polish: P, V, G, Sx	
2	same	no	
3	do not know	Polish: P,V, G, Sx	English: P, V
4	better	Polish: P,V, G, Sx	
5	worse	Polish: P,V, G, Sx	
6	same?	Polish: Sx	English: V, Sx
7	same	Polish: Sx	English: G
8	same	Polish: Sx	English: G, Sx
9	same	no	
10	same	no	

Table 9.3 Parents -	Linguistic	Information
---------------------	------------	-------------

Six of the parents considered their children's development is Polish comparable to that of monolingual children. Only one thought it to be better and one worse; two were not able to make this judgment.

Three of the parents did not notice any changes in their children's language (Children #2, 9, and 10). However, the examination of their speech showed that Child #2 and Child #9 exhibited some vocabulary errors in Polish, and grammatical errors in both languages. As for Child #10, notwithstanding a small sample of his speech, some declension errors were found.

Children #1, 4, and 5 were reported to have problems with phonology, vocabulary, grammar, and syntax in Polish. This is true of Child #1 and Child #5; Child #4 did not exhibit any phonological changes in Polish. Furthermore, these three participants also made errors in English. Child #1 made preposition mistakes, Child #4 struggled with English verb tense, prepositions, and plural nouns. Child #5 demonstrated pronunciation changes in English.

The mother of Child #3 noticed changes in the child's Polish in each of the four aspects, and in pronunciation and vocabulary in English. Each of these was confirmed during the study. Additionally, the boy had problems with English grammar. The parents of Children #6, 7, and 8 noted their children's errors in Polish syntax, yet these were not seen in the obtained speech samples. Child #6 did show vocabulary and syntax errors in English as mentioned by his parents, but also exhibited grammar difficulties with Polish grammar. Furthermore, Child #7 had grammatical problems not only in English but also in Polish, whereas Child #8 made grammatical errors in each language.

On the whole, the parents were aware of their children's linguistic tendencies and weaker language areas. Some of the parents were accurate in naming the areas prone to errors in their children's speech, while others did not observe all of them even though they appeared in the study. Conversely, the researcher herself may not have encountered all of the mistakes, as the interviews were small samples of the language.

6. Discussion

Child bilingualism and studies devoted to it were presented and discussed in Chapter 4 of this dissertation. The studies broached such topics as age of acquisition, first language bilingualism, performance of bilingual children versus monolingual children, and code mixing. A few of these studies are referred to in this section in relation to the findings of the current study. The issue of age of exposure to L2 and its importance to research is addressed first.

The present study looks at bilingual children's language. While the group itself is not uniform in terms of age, there are some criteria set by scholars, which all of the participants meet. Genesee (1988) considers any children who acquired two languages prior to their fifth birthday bilingual first learners. Conversely, De Houwer (1995) regards acquisition of two languages before the age of two to be first language bilingualism. According to the milestones of the first language acquisition process, children are said to have acquired the basic structure of their language at the age of five. Furthermore, in line with UG theory, the parameters which govern the process of child language acquisition are also set by the age of five. Given these two accounts, Genesee's definition is more appropriate for the overall analysis of the data in this study. With the exception of one child, all of the study participants were born in an English speaking country. All of them were exposed to L1 Polish from birth. The age of first exposure to L2 English varied among the group. Some children were exposed to English from birth, while for some the first contact with their L2 did not take place until their first, second, or third year of age. The child who was born in Poland came into contact with English at the age of four. Despite the variation in age of first exposure to L2, all the participants meet Genesee's requirement of learning their second language before their fifth birthday. Thus, they are all first language bilinguals.

The issue of critical period hypothesis is important when analyzing first language acquisition. However, since the children in the study are considered simultaneous bilinguals, this theory should be acknowledged.

Johnson and Newport (1989) proposed a critical period hypothesis called the *maturational state hypothesis*. It states that humans have capacity for language acquisition in childhood and can acquire any language. This capacity, however, declines with age and maturation. Furthermore, the authors add, children who acquire the second language before the age of seven can reach native performance in that language. Again, the children in the study meet this criterion.

Despite the fact that it was looked at unfavorably in the past, child bilingualism has gained much interest in SLA studies and has been shown not to be detrimental to children's development. Many studies have looked at monolingual and bilingual children comparing their language acquisition processes. Their findings reveal the following. Firstly, bilingual and monolingual children reach important milestones within the same age span. Secondly, bilingual morphosyntactic development is similar to that of monolinguals mainly in their dominant language. The main difference between the two is that bilingual children have a smaller vocabulary in each of the languages than monolingual children have in their own language. This variation is a result of double input and is not a consequence of complete lexical overlap of the two lexicons (e.g., Genesee and Nicoladis, 2007).

The theory that children confuse languages has also been disproved. Meisel (2001) purports that children use different word order in both languages and undergo the same developmental stages as the respective monolinguals. Differentiation hypothesis, which the author proposed, states that children differentiate the two systems as soon as they have access to grammatical knowledge. What is more, bilingual children have a better metalinguistic awareness (Cook, 1992) than monolinguals, and they outperform monolingual children in cognitive tasks (Bialystok, 2001). These are some of the main observations pertaining to bilingual children.

The present study considered acquisition of Polish and English. Due to an absence of any studies on language development in bilingual Polish-English children, the analysis of language errors was conducted relying on milestones reported in corresponding studies on monolinguals. However, the fact that the participants did not fall into the category of monolingual children was considered and acknowledged. The observations show that for the most part grammatical errors in English are noted in the speech of the two participants who had had low exposure to this language. Any other observed errors can be attributed to an ongoing acquisition process. On the other hand, errors in Polish cannot be classified as such. They are due rather to an incomplete acquisition. Although no tests were conducted to ascertain the participants' proficiency and fluency in either of the languages or vocabulary size in the respective languages, the information and data collected during the interviews revealed that eight of the ten children appeared to be more proficient in English. This observation does not question the fact that they are considered simultaneous bilinguals. Based on their age of exposure to L2 this definition is correct. However, it underscores the importance of factors other than age playing a role in bilingualism; of these, individual differences are the foremost, as they affect developmental patterns (Cummins, 1991).

The topic of code switching in bilingual children has received much attention in SLA studies and was, in fact, used to support the theories that viewed bilingualism as detrimental to children's linguistic development (Genesee, 2001a). Recent studies show that code mixing is a natural phenomenon and a sign of linguistic resourcefulness (e.g., Genesee and Nicoladis, 2007), and it serves as a tool to extend communicative proficiency before the acquisition of the languages is complete (Genesee, 2001a). Discussion of code switching is provided in the previous chapter - Chapter 8.

While age is the main factor considered in child bilingualism studies, Paradis (2007) argues that variables such as language typology, psychological and social factors, personal characteristics, and language aptitude should also be taken into consideration. Furthermore, special attention should be devoted to input. Presence and importance of these variables to the current research are discussed below.

Typological differences between Polish and English are taken into consideration in the analysis of the data. The main aspects of each language, which serve as the basis for data examinations, are pro-drop feature and word order. Observations of errors and changes in the children's speech with respect to these two aspects are presented in Chapter 7 and Chapter 8. The findings suggest that the differences between L1 and L2 in word order and rules for null subject application result in crosslinguistic influences in the children's speech.

Parental language habits, presence of siblings, and influence of school are seen as social factors essential in terms of input they provide and their overall contribution to the process of second language acquisition. In her study, De Houwer (1999) points out that parents and home environment provide a small-scale social linguistic society for bilingual children. Moreover, the linguistic milieux in which these children are immersed also contribute to the development and maintenance of one or both of the languages. In the present study the parents of the participants were asked to answer questionnaires to provide the researcher with some information about the children's immediate linguistic environment.

The information about the participants' parents was obtained through questionnaires. The parents provided their age and education level. They were also asked to provide information about their linguistic habits and practices at home with their spouses and children, and note whether they code switch when speaking with the children. The information obtained from the parents did not indicate any correlation between their education levels or code switching and their children's code switching and transfer. However, presence of both parents in the family was a factor in the children's production of null subjects in Polish and code switching. Four of the children in the group had siblings. Since no language samples were collected from the parents and the siblings, it cannot be said to what extent their language patterns influenced the speech of the participants. Romaine (1999) argues that bilingual communities are not rare, but what contributes to negative opinions and attitudes to bilingualism in some communities is the 'elite-folk approach' (the country's majority versus minority language).

Nine of the ten children attended a school or a kindergarten. Five of them had formal contact through an educational facility with both languages – Polish and English. The study was conducted in Canada, where English and French are the country's official languages, and social policies based on the country's multicultural composition encourage multilingualism. The 'elite-folk' approach that Romaine describes is not (ideally) a part of Canadian reality. Therefore, it can be said that societal attitudes are not likely to influence the participant's bilingualism in a negative way in the long term.

Romaine (1999) underscores the fact that input is more important than amount of exposure. Whereas the amount of input and its types (formal and informal) in both languages are taken into consideration in the current study, the actual quality of input was not measured. What is more, in the present study the amount of exposure appeared to be the main factor in the changes observed in the speech of the studied bilinguals.

Cummins (1991) stresses the fact that individual differences ought to be kept in mind when looking at the developmental patterns in bilingual children. Many individual differences are rooted in social, educational, and contextual conditions.

The participants of the study were not a uniform group. Any personal information which was gathered in the questionnaires and during the interviews is presented in section 5 of this chapter. Descriptions of the participants do not contain any information based on psychological tests or observations. Similarly, details on educational and social aspects of the children's lives are not known to the researcher, as they were beyond the scope of this study.

To summarize, the participants were each born to a Polish speaking family, and, therefore, had contact with Polish since birth. Exposure to English varied from birth to four years of age. Despite these differences, for the majority of the participants English was their preferred language, and they appeared to have a better command of their L2. Polish was the dominant language for only two children who had had the least exposure to English of all the participants. Moreover, grammatical errors the children made in English pointed to an ongoing acquisition process as their source. Conversely, errors in Polish suggested, rather, incomplete acquisition of L1.

The role of the above factors important in child bilingualism studies can be evaluated only to some extent, as the information about specific aspects of the participants' lives was not available. Equally, the children's personal attributes, language aptitudes, and language skills were not tested or examined. Notwithstanding the lack of this information, the findings of the study suggest that bilingual children ought to be considered in studies not only as members of particular age groups but also as individuals. Childhood bilingualism can only be understood better if its research acknowledges the diversity among child participants.

7. Conclusion

It can be said that individual differences certainly contributed to the language development and grammaticality issues of the speech produced by the participants of this study. However, the children exhibit analogous paths with respect to grammatical errors they produced in their L1 and L2. These particular paths are not influenced only by the children's chronological age or by their first exposure to L2. Their speech is also influenced by their amount of exposure to each of the languages. Overall, the grammatical errors these young participants produced are not merely the results of an ongoing language acquisition process, but are also seen as a consequence of their bilingualism.

Analysis of the errors revealed that acquisition of Polish and English proceeded differently and that, although the children are considered simultaneous bilinguals, most of them preferred using English and had a better command of that language. Acquisition of Polish appeared incomplete among the majority of the children despite it being their first language.

The youngest children in the group (those under the age of five) appear to meet the developmental milestones in their L2 English. Speech samples from the older children (over the age of five) suggest that the variable of age interacts with other variables such as amount of exposure to each language as well as the type of exposure. In addition, presence of both parents at home also seems to be of value. These observations stress the importance of all variables and their interactions. Additionally, they highlight the need to acknowledge the children's individual characteristics as possible variables. In order to further assess multicompetence of the participants in this study, their cognitive functions would need to be tested along with their language.

Despite the variation in age and age of exposure to L2 among the participants, the results of the study point to the fact that changes observed in these children's pronominal subject applications in Polish and ungrammaticality in null subjects in English can be

attributed to crosslinguistic transfer. Language transfer, *forward* and *reverse*, in turn, is triggered by increase in exposure to each respective language. Similarly, amount of exposure is the main variable correlating with code switching in these children's languages. In short, amount of contact with each language is considered to be the key factor to which changes in the participant's speech are attributed.

Examples of language transfer and code switching add to the existing evidence that the two languages in the mind of a bilingual speaker are not separate and that a bilingual cannot be treated as a combination of two monolinguals (Cook, 1992; Grosjean, 2008). The languages are in some way interrelated. As Grosjean (2008) astutely observes, "bilinguals are speakers-hearers in their own right, with complex language representations and processing mechanisms [...]" (p. 83). Notwithstanding the many differences among the members of this group, their bilingualism is perceived as a norm, not an aberration from it. Their differences only add value to the study by accentuating the multifarious nature of a bilingual speaker.

CHAPTER 10

CONCLUSION

The main purpose of this dissertation and the pilot-study on which it is based was to look at the application and omission of pro-drop in the speech of children who are simultaneous Polish-English bilinguals. This study aimed to examine the question of whether simultaneous bilingualism affects the use of the said feature in the children's respective languages and whether there is a possibility of its transfer from Polish to English and/or vice versa.

Review of the literature and empirical research results on null subject revealed that, despite their contribution to the fields of first and second language acquisition, the results were non-conclusive and contentious. Furthermore, much of the existing research dealing with pro-drop was analyzed in light of UG, and its participants were either monolingual children or bilingual adults.

Some research on child bilingualism addressed the pro-drop feature, and while it supported the crosslinguistic transfer theory operating in its participants' speech, it did not account for the triggers of transfer. On the other hand, it revealed that language transfer might not be universal, as it had been previously considered. In light of the above observations, the pro-drop feature, which was the focal point of this study, was approached from the standpoint of language transfer theory. However, other theories, such as UG and Markedness, previously applied to the investigation of pro-drop were re-examined. The objective of the current study was to discern the causes of the changes observed with regard to pro-drop application and omission in the participants' L1 and L2.

Analysis of the results in light of the hypotheses revealed that the hypotheses based on UG and Markedness fail to provide a sound argument for the findings of the current study. The trends observed in the participants' speech contradict the UG theory and the Markedness theory. Although these theories could potentially support the findings from each language separately, they fail to offer an explanation of the patterns exhibited by the young bilinguals in both languages.

The hypothesis based on crosslinguistic interference, however, offers an approach that allows one to understand the trends seen in the findings and also to account for them within the current theories of language acquisition and bilingualism. Errors seen in the application of pro-drop in English L2 support this hypothesis; additionally, changes in pro-drop application in L1 indicate the bidirectionality of transfer, thereby further upholding the CLI hypothesis.

Moreover, the analysis of the data with regard to the variables of chronological age, age of first contact with L2, amount and type of exposure to L1 and L2, as well as parental education revealed the following: the amount of exposure to Polish was the key factor in the children's production of null and overt subjects in that language. In terms of parental education level, a higher education level of the mothers appeared to contribute to lower percentages in production of non-pro-drop in Polish. As far as the speech samples from English were concerned, the chronological age of the participants had the most impact on their overall production of null subjects. Lastly, exposure to each of the two languages emerged as the potential factor in formation of grammatically incorrect pro-drop clauses. In the present study, the phenomenon of crosslinguistic influence accounts for the changes noted in the participants' speech in their Polish L1 and English L2, whereas the variables indicate the potential triggers of language transfer occurrences.

In addition to null subjects, the speech transcripts were coded for other instances of transfer, occurrences of code switches, as well as for lexical, syntactic, and grammatical errors.

All of the other examples of transfer were lexical, semantic, and syntactic in nature and appeared in the speech of more than one of the participants regardless of the amount of contact with each language. What is important, these instances illustrate not only unidirectional (forward and reverse) crosslinguistic influence but also its bidirectionality: L1 affects L2 and can also be affected by it.

A close analysis of grammatical errors revealed that verb conjugation was challenging for the participants in both languages. In addition, in L2 Polish the participants struggled with grammatical case and gender systems. Grammatical tense represented the most problematic area in L2 English. The children with the least exposure to English made the most errors in that language. The remaining inaccuracies were attributed to an ongoing language acquisition process. In Polish, errors in aspect, declension and grammatical gender cannot be treated as acquisitional. Regardless of their character, production of ungrammatical forms not only in their L1 but also in their L2 might have been prompted by the children's bilingualism.

As a result of a general lack of information about language development in bilingual Polish-English children, the participants' language acquisition processes were contrasted with the monolingual Polish- and English-speaking children. In accordance with these monolingual criteria, the children under the age of five appeared to meet the developmental milestones in their L2. As for the children over five, the variable of age seemed to interact with the variables such as amount of exposure to each language as well as the type of exposure. Additionally, it seems that presence of both parents at home had importance to the linguistic performance of the children. Finally, the fact that the participants' individual characteristics were also at play in their speech cannot be neglected.

This research is unique in that it takes a different theoretical approach to the topic of pro-drop from many of the existing studies. While considered as possible explanations for the major findings of this study, UG and Markedness theories were rejected, as they failed to account for the observed language changes. Language transfer theory, adopted as the chief premise of this research, was the most plausible hypothesis in the analysis of the results.

The present findings inform the field of Second Language Acquisition by offering observations about the young population of simultaneous bilinguals who speak Polish and English and about their speech patterns in each language. It is important, however, to look at the differences in the children's language use in order to acknowledge the individual characteristics of the speech habits of each. This project also contributes to the field of psycholinguistics in that it entails use of empirical data to illustrate the mental processes that underlie acquisition and production of speech. For that reason, the language tasks themselves were modeled on those widely used in the research of psychologists and psycholinguists studying child language acquisition.

Additionally, the findings pertaining to language transfer enhance knowledge of crosslinguistic influence supporting the concept of its bidirectionality. These findings support the claims that language transfer is not characteristic of sequential bilingualism alone. In addition, it is not merely restricted to typologically distinct aspects of languages. Finally, the data suggest that language dominance it not a necessary condition for transfer.

Transfer and code switching, despite their differences, both result from close contact of two languages. Information obtained during this study illustrates how the coexistence of two languages affects the speech of young speakers, and analysis of the data also expands the information on language contact.

As a final point, given the objective of the study and the theoretical approach to it, the combination of languages employed in this project is unprecedented. The two languages are not only different in terms of how they treat the pro-drop feature, but are further removed typologically from one another than most languages in the existing studies on bilingual children.

Overall, because of its interdisciplinary nature, this research possesses scholarly merit in that it presents findings relevant to related disciplines of linguistics, Second Language Acquisition, child bilingualism, language transfer, language contact, and also psycholinguistics. However, irrespective of its contributions to scholarship in these fields, this project does have certain limitations that indicate ways in which it could be modified and improved upon.

To verify whether the patterns found in these participants' speech are representative of Polish-English bilingual children, another study with homogenous pools of participants would have to be examined. Ideally, the participants should be representatives of two age groups – younger than five and older than five. Intragroup homogeneity would hopefully reveal a clearer and more consistent picture of language patterns and their variables.

Based on their age, the children in this group can be divided into three age groups: under the age of five, age five to seven, and over the age of seven. This tripartite division allows treating this study as a cross-sectional one. The findings from each group could point to possible language processes and changes observed in any one particular age group. However, the diversity among these children might render the cross-sectional approach inaccurate. A more correct method of studying this group would entail repetition of interviews over a period of time, using the same language tasks and collection of data. Such a process would secure a longitudinal study, thereby presenting a broader view of the language changes in the studied population. Due to time constraints and geographical distances between the researcher and the participant population, it was not feasible to make the current study a longitudinal one.

Personal attitudes toward languages are also important in the process of language acquisition, especially among the older populations of speakers. Here, the children's language attitudes were not surveyed. Only a few of the older participants expressed their language preferences. Although obtaining such information from the youngest participants might be problematic, it is possible that it could shed light on yet other variables impacting bilingualism and fluency.

Additionally, in order to assess the multicompetence of the participants in this study to greater degree, their cognitive performance would have to be tested along with their language use. Also, tests aiming to measure the children's psychological characteristics and language aptitudes could provide an even more complete picture of young bilinguals and possibly offer insight into the multifaceted nature of child bilingualism.

Lastly, it is advisable that a quantitative analysis of the data from such studies not only be based on basic calculations but also be approached through statistical calculations, which would assure a scientifically sound examination of the obtained information.

Bilingual first language acquisition is an active, creative process utilizing the communicative, cognitive, and linguistic resources of a developing child. Approaching it from only one angle, though it have a clear purpose, captures only one aspect of language development. Any research undertaking this subject must acknowledge all of its aspects and be aware of the challenges that its examination presents. Since research on bilingualism is based on data obtained from participants, it is equally necessary to account for the human factor in it, that is, issues in data collection, compilation of personal information, and individual characteristics among the members of the studied population. That having been said, results of each study expand the existing knowledge in the field of bilingualism and become the proverbial stepping stones for subsequent research.

REFERENCES

- Andersen, R. (1983). Transfer to somewhere. In S. Gass & L. Selinker (Eds.), *Language Transfer in Language Learning*. Rowley: Newbury House. 177-201.
- Andrews, A. (1985). The major functions of the noun phrase. In T. Shopen (Ed.), Language Typology and Syntactic Description. Vol. 1. Clause Structure. New York: Cambridge University Press. 62-154.
- Arabski, J. (1986). Simplifying by transfer. *Contrastive Linguistics* 1 (2): 30-38.
- Arabski, J (2006). Language Transfer in Language Learning and Language Contact. In J. Arabski (Ed.), Cross-linguistic Influence in the Second Language Lexicon. Toronto: Multilingual Matters Ltd.12-21.
- Agryri, E. & Sorace, A. (2007). Crosslinguistic influence and language dominance in older bilingual children. *Bilingualism: Language and Cognition* 10 (1): 79-99.
- Battistella, E. L. (1996). The Logic of Markedness. New York: Oxford University Press.
- Berko Gleason, J. (2005). The Development of Language. Boston: Pearson Education Inc.
- Bialystok, E. (1991). Metalinguistic dimensions of bilingual language proficiency. In Ellen Bialystok (Ed.), *Language processing in bilingual children*. Cambridge, Mass.: Cambridge University Press. 113-140.
- Bialystok, E. (2001). Cognitive Processes of L2 Users. In V. Cook (Ed.) *Portraits of the Second Language User*. Clevedon, Eng.: Multilingual Matters.
- Bialystok, E & Cummins, J. (1991). Language, cognition, and education of bilingual children. In Ellen Bialystok (Ed.), *Language processing in bilingual children*. Cambridge, Mass.: Cambridge University Press. 222-232.
- Biskup, D. (1992). L1 Influence on Learners' Renderings of English Collocations: A Polish/German Empirical Study. In P. J. L. Arnaud and H. Béjoint (Eds.), Vocabulary and Applied Linguistics. London: Macmillan Academic and Professional Ltd. 85-93.

- Bloom, P. (1990). Subjectless Sentences in Child Language. *Linguistic Inquiry* 21 (4), 491-504.
- Bloom, P. (1993). Remarks and Replies. Linguistic Inquiry 24 (4), 721-734.
- Boster, C. T. (1994). Processing, Parameter Setting, and Early Null Subject Production. *MIT* Working Papers in Linguistics. Proceedings of he 6th Annual Student Conference in Linguistics, University of Rochester, Rochester, NY, 23, 41-53.
- Broersma, M. & De Bot K. (2006), Triggered codeswitching: A corpus-based evaluation of the original triggering hypothesis and a new alternative. *Bilingualism: Language and Cognition* 9 (1), 1-13.
- Brown, R. (1973). A First Language. Cambridge, MA: Harvard University Press.
- Chomsky, N. (1975). Reflections on Language. New York: Pantheon.
- Chomsky, N. (1981). Lectures on Government and Binding. Dordrecht: Foris Publications.
- Chomsky, N. (1986). Barriers. Cambridge: The MIT Press.
- Comrie, B. (2001). Typology and the history of language. In Walter Bisang (Ed.), Aspects of *Typology and Universals*. Berlin: Akademie Verlag. 21-35.
- Cook, V. J. (1991a). The poverty of the stimulus argument and multicompetence. *Second Language Research* 7 (2), 103-117.
- Cook, V. J. (1992). Evidence for Multicompetence. Language Learning, 42 (4), 557-591.
- Cook, V. J. & Newson, M. (2007). *Chomsky's Universal Grammar*. Malden, MA: Blackwell Publishing.
- Croft, W. (1995). Modern Syntactic Typology. In M. Shibatani & T. Bynon (Eds.), *Approaches to Language Typology*. Oxford: Clarendon Press. 85-144.
- Croft, W. (1990). Typology and Universals. New York: Cambridge University Press.

Cummins, J. (1991). Interdependence of first- and second-language proficiency in bilingual children. In Ellen Bialystok (Ed.), *Language processing in bilingual children*. Cambridge, Mass.: Cambridge University Press. 70-89.

De Houwer, A. (1995). Bilingual Language Acquisition. In Paul Fletcher & Brian MacWhinney (Eds), *Handbook of Child Language*. Oxford: Blackwell. 219-250.

- De Houwer, A. (1999). Environmental factors in early bilingual development: the role of parental beliefs and attitudes. In Guss Extra & Ludo Verhoeven (Eds.), *Bilingualism and Migration*. New York: Mouton de Gruyer. 75-95.
- Fathman, A. & V. LoCoco. (1989). Word Order Contrasts and Production in Three Target Languages. In H. Dechert and M. Raupach (Eds.), *Transfer in Language Production*. Norwood: Ablex. 159-170.
- Faroodi-Nejad, F. & Paradis, J. (2009). Crosslinguistic transfer in the acquisition of compound words in Persian-English bilinguals. *Bilingualism: Language and Cognition* 12 (4): 411-427.
- Freudenthal, D., Pine, J. M., & Gobet, F. (2007). Understanding the developmental dynamics of subject omission: the role of processing limitations in learning. *Journal of Child Language* 37, 83-110.
- Gass, S. M. & Selinker, L. (2008). Second Language Acquisition: An Introductory Course. New York: Routledge.
- Gawlitzek-Maiwald, I. & Tracy, R. (1996). Bilingual bootstrapping. *Linguistics* 34 (5): 901-926.
- Genesee, F. (1988). Bilingual language development in pre-school children. In D. Bishop and K. Mogford (Eds.), *Language development in exceptional circumstances*. Edinburgh: Churchill Livingston, 62-79.
- Genesee, F. (1989). Early bilingual development: One language or two? *Journal of Child Language*, 16 (1), 161-179.
- Genesee, F. (2001a). Bilingual first language acquisition: Exploring the limits of the language faculty. In M. McGroarty (Ed). *Annual Review of Applied Linguistics: Language and Psychology, V. 21.* Cambridge University Press. 153-168.
- Genesee, F. (2001b). Portrait of the bilingual child. In V. Cook (Ed.) *Portraits of the Second Language User*. Clevedon, Eng.: Multilingual Matters.
- Genesee, F. (2003). Rethinking bilingual acquisition. In J. M. De Waele (Ed.) *Bilingualism: Challenges and directions for future research*. Clevedon, Eng.: Multilingual Matters. 158-182.
- Genesee, F., Boivin, I., & Nicoladis, E. (1996). Talking with strangers: A study of bilingual children's communicative competence. *Applied Psycholinguistics*, 17: 427-442.

- Genesee, F., & Nicoladis, E. (2007). Bilingual First Language Acquisition. In E. Hoff & M. Shatz (Eds.), Handbook of Language Development. Oxford, Eng.: Blackwell. 324-342.
- Grosjean, F. (1989). Neurolinguists, beware! The bilingual is not two monolinguals in one person. *Brain and Language*, 36 (1), 3-15.
- Grosjean, F. (1998). Studying Bilinguals: Methodological and conceptual issues. *Bilingualism: Language and Cognition* 1, 131-149.
- Grosjean, F. (2008). Studying Bilinguals. Oxford: Oxford University Press.
- Hamann, C. & Plunkett, K. (1998). Subjectless sentences in child Danish. *Cognition*, 69, 35-72.
- Haugen, Einar (1956). *Bilingualism in the Americas: a bibliography and research guide.* Alabama: University of Alabama Press.
- Hilles, S. (1986). Interlanguage and pragmatic word order. *Second Language Research* 2 (1), 33-52.
- Hyams, N. (1986). *Language Acquisition and the Theory of Parameters*. Boston: D. Reidel Publishing Company.

Hyams, N. & Wexler, K. (1993). On the Grammatical Basis of Null Subjects in Child Language. *Linguistic Inquiry* 24 (3), 421-459.

- Hyltenstam, K. (1984). The use of typological markedness conditions as predictors in second language acquisition: The case of pronominal copies in relative clauses. In R. Andersen (Ed.), *Second languages: A crosslinguistic perspective*. Rowley, MA: Newbury House.
- Isurin, L. (2003). Cross Linguistic Transfer in Word Order: Evidence from L1 forgetting and L2 acquisition. Proceedings of the 4th International Symposium on Bilingualism. 1-16.
- Isurin, L. (2005). Cross linguistic transfer in word order: Evidence from L1 forgetting and L2 acquisition. In J. Cohen & K. McAlista (Eds.), *ISB4: Proceedings of the International Symposium on Bilingualism*, pp. 1115-1130. Somerville, MA: Cascadilia Press.
- Isurin, L. (2007). Teachers' Language: L1 Attrition in Russian-English Bilinguals. *The Modern Language Journal* 91: 357-371.

- Isurin, L. & McDonald, J. (2001). Retroactive interference from translation equivalents: Implications for first language forgetting, *Memory and Cognition* 29 (2), 312-319.
- Isurin, L. & Ivanova-Sulliva, T. (2008). Lost in Between: The Case of Russian Heritage Speakers *Heritage Language Journal*, 6 (1), 72-104
- Jaeggli, O. & Safir, K. J. (Eds.). (1989). The Null Subject Parameter and Parametric Theory. In O. Jaeggli & K. J. Safir (Eds.), The Null Subject Parameter. Dordrecht: Kluwer Academic Publishers.
- Jarvis S. & Odlin, T. (2000). Morphological type, spatial reference, and language transfer. *Studies in Second Language Acquisition* 22: 535-556.
- Jarvis, S. & Pavlenko, A. (2008). *Crosslinguistic Influence in language and Cognition*. New York: Routledge.
- Jarvis, S. & Pavlenko, A. (2008). *Crosslinguistic Influence in language and Cognition*. New York: Routledge.
- Johnston, J. (1985). Cognitive Prerequisites: The Evidence from Children Learning English. In Dan Isaac Slobin (Ed.), *The Crosslinguistic Study of Language Acquisition*. Vol. 2: Theoretical Issues. Hillsdale, NJ: Lawrence Erlbaum Associates. 961-1004.
- Kellerman, E. (1983). Now you see it, now you don't. In S. Gass & L. Selinker (Eds.), Language Transfer in Language Learning. Rowley, MA: Newbury House.
- Kellerman, E. 1995. "Crosslinguistic influence: Transfer to nowhere?" In W. Gabe *et all.* (eds). Annual Review of Applied Linguistics, 15 (p. 125-50). New York: Cambridge University Press.
- Kimbrough Oller, D. & Jarmulowicz, L. (2007). Language and Literacy in Bilingual Children in the Early School Years. In Erika Hoff & Marilyn Shatz (Eds.), *Blackwell Handbook of Language Development*. Malden, MA; Blackwell Publishing. 368-386.
- Kwiatkowska-Krupa, M. (1997). Second-language acquisition in the context of socialization: A case study of a Polish boy learning English. Unpublished doctoral dissertation, State University of New York, Buffalo.
- Liceras, J. (1989). On some properties of the "pro-drop" parameter: looking for missing subjects in non-native Spanish. In S. M. Gass & J. Schachter (Eds.), *Linguistic Perspectives on Second Language Acquisition*. New York: Cambridge University Press.

- MacWhinney, B. (2000). The CHILDES project: tools for analyzing talk. Mahaw NJ: Erlbaum.
- Marian, V. (2008). Bilingual Research Methods. In J. Altarriba & R. R. Heredia (Eds.), An Introduction to Bilingualism: Principles and Processes. Mahawah, NJ: Lawrence Erlbaum.
- Marian, V., Blumenfeld, H. & Kaushanskaya, M. (2007). The Language Experience and Proficiency Questionnaire (LEAP-Q): Assessing Language Profiles in Bilinguals and Multilinguals. *Journal of Speech, Language, and Hearing Research* 50: 940-967.
- Meisel, J. M. (2001). The simultaneous acquisition of two first languages: Early differentiation and subsequent development of grammars. In Jasone Cenoz & Fred Genesee (Eds.), *Trends in Bilingual Acquisition*. Philadelphia: John Benjamins Publishing Company. 11-41.
- Montrul, S. A. (2008). *Incomplete Acquisition in Bilingualism. Re-examining the Age Factor*. Philadelphia: John Benjamins Publishing Company.
- Müller, N. (1998). Transfer in bilingual first language acquisition. *Bilingualism: Language and Cognition* 1 (3): 151-171.
- Müller, N. & Hulk, A. (2001). Crosslinguistic influences in bilingual language acquisition: Italian and French as recipient languages. *Bilingualism: Language and Cognition* 4 (1): 1-21.
- Myers-Scotton, C. (2008). *Multiple Voices: An Introduction to Bilingualism*. Malden, MA: Blackwell Publishing.
- Nicoladis, E. (2002). What's the difference between 'toilet paper' and 'paper toilet'? Frech-English bilingual children's crosslinguistic transfer in compound nouns. *Journal of Child Language* 29: 843-863.
- Nicoladis, E. (2003). Cross-linguistic transfer in deverbal compounds of preschool bilingual children. *Bilingualism: Language and Cognition* 6 (1): 17-31.
- Nicoladis, E. (2006). Cross-linguistic transfer in adjective-noun strings by preschool bilingual children. *Bilingualism: Language and Cognition* 9 (1): 15-32.
- Nippold, M. A. (1988). *Later Language Development: Ages nine through nineteen*. Boston, MA: Little, Brown and Company.
- Odlin, T. (1993). Language Transfer: Cross-linguistic Influence in Language Learning. Cambridge: Cambridge University Press.

- Odlin, T. (2009). Transfer and code switching: Separate territories but common concerns on the boarder. In L. Isurin, D. Winford, & K. de Bot (Eds.), *Multidisciplinary Approaches to Code Switching*. Philadelphia: John Benjamins Company. 337-358.
- Olshtain, E., & Barzilay, M. (1991). Lexical retrieval difficulties in adult language attrition. In H. Seliger & R. Vago (Eds.), *First language attrition*. 139-151. Dordrecht: Foris Publications.
- Paradis, J. (2007). Second Language Acquisition in Childhood. In Erika Hoff & Marilyn Shatz (Eds.), Blackwell Handbook of Language Development. Malden, MA; Blackwell Publishing. 387-405.
- Paradis, J. Nicoladis, E. & Genesee, F. (2000). Early emergence of structural constraints on code-mixing: evidence from French-English bilingual children. *Bilingualism: Language and Cognition* 3 (3): 245-261.
- Paradis, J. & Navarro, S. (2003). Subject realization and crosslinguistic interferences in the bilingual acquisition of Spanish and English: what is the role of the input? *Journal of Child Language* 30: 371-393.
- Pavlenko, A and Jarvis, S. (2002). Bidirectional Transfer. Applied Linguistics 23 (2): 190-214.
- Phinney, M. (1987). The Pro-Drop Parameter in Second Language Acquisition. In T. Roeper & E. Williams (Eds.), *Parameter Setting*, Dordrecht: D. Reidel Publishing Company.
- Polinsky, M. (2008). Heritage language narratives. In D. Brinton, O. Kagan, & S. Bauckus (Eds.), *Heritage language education: A new field emerging*. New York: Routledge.
- Ringbom, H. (2006). The Importance of Different Types of Similarity in Transfer Studies. In J. Arabski (Ed.), *Cross-linguistic Influence in the Second Language Lexicon*. Toronto: Multilingual Matters Ltd. 36-45.
- Romaine, S. (1999a). Bilingual language development. In Martyn Barrett (Ed.), *The Development of Language*. East Sussex, UK: Psychology Press. 251-275.
- Romaine, S. (1999b). Early bilingual development: from elite to folk. In Guss Extra & Ludo Verhoeven (Eds.), *Bilingualism and Migration*. New York: Mouton de Gruyer. 61-73.
- Rutherford, W. (1983). Language Typology and Language Transfer. In S. Gass & L. Selinker (Eds.), *Language Transfer in Language Learning*. Rowley: Newbury House. 358-370.
- Sapir, E. (1949). *Language: An Introduction to the Study of Speech*. New York: Harcourt, Brace & World Inc.

- Serratrice, L., Sorace, A. & Paoli, S. (2004). Crosslinguistic influence at the syntaxpragmatics interface: Subjects and objects in English-Italian bilingual and monolingual acquisition. *Bilingualism: Language and Cognition* 7 (3): 183-205.
- Sharwood Smith, M. (1991). Language modules and bilingual processing. In Ellen Bialystok (Ed.), Language processing in bilingual children. Cambridge, Mass.: Cambridge University Press. 10-24.
- Siewierska, A. & Uhlířová, L. (1998). An overview of word order in Slavic Languages. In A. Siewierska (Ed.), *Constituent Order in the Languages of Europe*. New York: Mouton de Gruyter. 105-149.
- Singleton, D. & Ryan, L. (2004). *Language Acquisition: The Age Factor*. Tonawanda, NY: Multilingual Matters Ltd.
- Smoczyńska, M. (1985). The Acquisition of Polish. In Dan Isaac Slobin (Ed.), *The Crosslinguistic Study of Language Acquisition*. Vol. 1: The Data. Hillsdale, NJ: Lawrence Erlbaum Associates. 595-686.
- Towell, R. & Hawkins, R. (1994). *Approaches to Second Language Acquisition*. Bristol, PA: Multilingual Matters Ltd.
- Trubetzkoy, N. S. (1969). *Principles of Phonology*. (Christiane A. M. Baltaxe, Trans.). Los Angeles: University of California Press. (Original work published 1958).
- Vainikka, A. & Levy, Y. (1999). Empty Subjects in Finnish and Hebrew. *Natural Language* and Lingustic Theory 17, 613-671.
- Valian, Virginia. (1991). Syntactic subjects in the early speech of American and Italian children. *Cognition* 40, 21-81.
- Wang, Q., Lillo-Martin, D., Best, C. T. & Levitt, A. (1992). Null Subject Versus Null Object: Some Evidence From the Acquisition of Chinese and English. *Language Acquisition* 2 (3), 221-254.
- Whaley, L. J. (1997). Introduction to Typology: The Unity and Diversity of Language. Thousand Oaks, California: Sage Publications, Inc.
- White, L. (1985). The "Pro-Drop" Parameter in Adult Second Language Acquisition. Language Learning 35 (1), 47-62.
- White, L. (1987). Markedness and Second Language Acquisition: The Question of Transfer. *SSLA* 9(3): 261-86.

- Winford, D. (2003). An Introduction to Contact Linguistics. Malden, MA: Blackwell Publishing Ltd.
- Wong Fillmore, L. (1991). Second-language learning in children: a model of language learning in social context. In Ellen Bialystok (Ed.), *Language processing in bilingual children*. Cambridge, Mass.: Cambridge University Press. 49-69.
- Zwanziger, E. E., Allen, S. E. M., & Genesee, F. (2005). Crosslinguistic influence in bilingual acquisition: subject omission in learners of Inuktitut and English. *Journal of Child Language* 32: 893-909.

APPENDIX A

PARENT QUESTIONNAIRE

Child Information

1. Initial of the child's first name			
2. Date of birth (D/M/Y)			
3. Place of birth			
4. First exposure to English (age) Frequency			
5. Age of immigration (if born outside of Canada)			
6. Number of hours per day spent interacting with family in Polish.			
7. Number of hours per day spent interacting with family in English.			
8. Number of hours per day spent interacting with friends in Polish			
9. Number of hours per day spent interacting with friends in English.			
10. Number of hours per day spent watching TV in Polish.			
11. Number of hours per day spent watching TV in English			
12. Number of hours per day spent listening to the radio/music in Polish.			
13. Number of hours per day spent listening to the radio/music in English.			
14. Number of children in the family Age(s)			
15. Language in which your children interact at home			
Polish English Both Polish and English			
Other (specify)			

16. What language does your child use when addressing you?

Polish	English	Both	Other (specify)		
17. If your family has a pet, what language does your child use to speak to the pet?					
Polish	English	Both	Other (specify)		
18. When your child pla Polish	ys with other Polish chil English	dren, what language do t Both	hey use? Other (specify)		

19. Does your child interact with other non-Polish bilingual children? If so, what are the languages spoken by these children?

1). _____

2). _____

If you answered 'no' to this question, please move onto question 21.

20. Have you noticed that your child learned any particular words from languages other than Polish and English? If so, from what language are they and what kind of words are they?

21. Does your child ever visit Poland with you? If so, how often do you travel and how long do you stay in Poland for?

Frequency: _____

Average visit length: _____

22. Is there anything else about your child' language that was not reflected in the questions about but you would like us to know?

410

	* * *	
Parent Information		
1. Does the child live in a:		
two parent home	single parent	home
2. Age of the parents		
mother	father	
3. Parent education level (cir	cle appropriate answer)	
mother	fathe	r
secondary	secoi	ndary
postsecondary degree	posts	econdary degree
- B.A. - M.A. - Ph.D.		- B.A. - M.A. - Ph.D.
4. What language do you spe	ak with your child?	
Polish Engl	ish Both	Polish and English
5. If one of the parents is not	Polish, what language is	spoken by this parent with the child?
Polish Engl	ish Both	Polish and English
Other (please specify)		
6. What language is spoken b	etween the parents?	
Polish Engl	ish Both	Polish and English
Other (please specify)		

411

7. Do you even code-sv If so, what languages d	vitch (change la o you use?	nguages back and forth)	while speaking	with your child.	
Polish	English	Other (please s	Other (please specify)		
8. Do you read books to	o your child? If a	so, in what language?			
Polish	English	Both Polish an	d English		
Other (please specify) _					
9. Are there any grandp	parents involved	in raising the child?			
- living with the family					
- visiting	(very often	often	rarely)	
10. How important is it (please circle one)	for you that you	ur child maintains the Po	lish language?		
very important	important	somewhat important	indifferent	not important	
11. Do you have any co explain.	oncerns with reg	ard to your child bilingu	alism? If so, wh	at kind? Please	

12. How would you evaluate your child's language development with a corresponding age group of monolingual child in Poland?

better same worse

13. Have you noticed any language interference in your child's speech? If so, in which language and what specifically?

Polish	pronunciation	vocabulary	grammar	syntax
English	pronunciation	vocabulary	grammar	syntax
Other				

14. Has your child even been diagnosed with any speech, hearing, or learning impediment? If so, what kind of impediment?

APPENDIX B

EXAMPLES OF CHILD INTERVIEW QUESTIONS SPONTANEOUS CONVERSATION

- 1. What is your favorite toy?
- 2. Who is your best friend?
- 3. Do you like daycare/school? Why?
- 4. Do you like Saturday school? Why?
- 5. What is your favorite story?
- 6. What is your favorite cartoon?
- 7. What is your favorite game?
- 8. What do you most often do with your friends? Why?
- 9. Do you like to read? Why?
- 10. What do you like to read? Why?