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The Nature and Role of Code-switching in Developing Bilingualism

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The nature and the role of code-switching in the development of bilingual linguistic and communicative proficiency has been a controversial issue for decades. In this paper we investigate the development of code-switching ability in a boy who acquired Croatian as his first language and English as his second language. The subject's successive bilingual development started when, at the age of 2 years and 10 months, he went to live in Ireland for a 14-month period. During this period several qualitatively and quantitatively different stages in the development of the boy's code-switching skill could be observed. These stages are in accordance with current research findings about the nature of bilingual children's code-switching. We conclude that code-switching is a highly complex but normal developmental feature of skilled and strategic bilingual behaviour in bilingual communicative contexts.

1. Introduction

In the last 10-20 years the field of bilingualism has experienced a considerable revival which can be witnessed in numerous papers published on the topic and in the establishment of some new and very influential journals (e.g. *Bilingualism: brain and cognition*). There are several reasons for this new wave of scientific interest in issues related to bilingualism. Firstly, during the 1970s research evidence accumulated against the detrimental effects of bilingualism (which was a popular view of the 1950s and 1960s). Secondly, among interdisciplinary oriented researchers hope emerged that findings about the neural, cognitive and linguistic processing of bilinguals may shed more light on the ontogenesis of human language in general. Thirdly, since bilingualism has become more of a norm than an exception worldwide (Hamers and Blanc, 2000), the need has increasingly arisen for a better understanding of how having two (or more) languages affects cognitive processing and the feeling of one's ethnic and cultural identity. This need has been particularly felt when dealing with issues such as, for example, the education of young bilinguals (Baker, 2000 : 1). However, before starting to investigate any of the mentioned issues and building a common



pool of knowledge, the first thing researchers had to do was agree on a definition of bilingualism as a social and individual¹ language phenomenon. Reaching this agreement has been neither straightforward nor has it been fully accomplished.

Historically speaking, the boundaries of the category had moved from definitions of bilingualism and of bilingual speakers as those with native-like competence in both their languages (Bloomfield, 1933) to definitions which, under the label of bilingualism, accepted even speakers' minimal knowledge in a language other than their first language (Macnamara, 1967). Nowadays, the most widely accepted definitions stand somewhere in between and define bilingualism as the ability to use two or more languages in a communicatively effective way, according to the given situation and according to the age of the speaker. The novelty and the advantage of this definition is that it sees bilingualism as a dynamic category that can change through time depending, for example, on the age of the speaker, his educational and social environment, his geographical mobility, contexts of communicative interactions, etc. In this way the definition reflects the reality of language development and language use which is never stable and fixed. However, it suffers from the same problem as all definitions which imply the concept of language proficiency – it is based on the notion of speakers' communicative competence, which in itself is hard to define and measure scientifically.

2. Defining communicative competence

Until the 1960s, due to Chomsky's strong influence, language proficiency was strictly seen as the grammatical knowledge of an idealized speaker-listener. However, during the 1960s this notion started to be extended through acknowledgement of the influence of different contexts on the way speakers use language (Halliday, McIntosh and Strevens 1970), and through recognition that conversation was governed by certain rules or maxims (Grice 1975), and that speakers use language to do something with it (Austin's (1960) and Searle's (1969) *speech act theory*). The notion of communicative competence was first explicitly introduced by Dell Hymes (1971) who defined it as a speaker's ability to use language forms appropriately in different communicative contexts, i.e. to know what to say to whom in what circumstances and how to say it. Hymes's concept especially resounded through the sociolinguistic, psycholinguistic and applied linguistics community. Researchers in these fields were already aware that the notion of linguistic or grammatical competence alone was insufficient when describing what language users actually did with the language or what, for example, second language users needed to acquire in order to use their new language successfully. As a result, language proficiency started to be seen as an interaction of linguistic and communicative competence.

¹ Some authors use the term bilinguality for the individual manifestations of bilingualism (Hamers and Blanc, 2000 : 1)



However, in order to operationalize the new notion of language proficiency for research purposes, this complex concept had to be broken into smaller components which could be defined and measured more precisely. The 1970s saw the development of numerous psycholinguistic, sociolinguistic and interactionist models of language proficiency. Stern (1983) gave an overview of the situation after more than a decade of searching for the ideal model. He concluded that none of the models developed up to that date, neither the single concept models (for example Oller's (1976) *unitary trait hypothesis* that sees language proficiency as a whole which cannot be broken into smaller components), nor the multiple categories models (for example the Council of Europe inventories which specify the notion of proficiency according to roles, settings, topics, functions and notions (Stern 1983:357)), could be considered as fully satisfactory.

Perhaps the two most influential models of the 1980s were Cummins' (1979) two-fold model and Canale and Swain's (1980) three-fold model. Cummins distinguished between a component of language proficiency which is primarily oriented towards communication (the so-called *basic interpersonal communication skills* – BICS) and mostly acquired through communication with others, and a component of language proficiency which is more academic in nature (i.e. *cognitive/academic language proficiency*, CALP) and consists of linguistic competence, and reading and writing skills which are learned through, and needed for, educational purposes. Canale and Swain originally distinguished *grammatical*, *sociolinguistic* and *strategic* competence. According to them grammatical competence includes knowledge of vocabulary, rules of word and sentence formation, pronunciation and spelling; sociolinguistic competence consists of knowing socio-cultural rules of communication; and strategic competence consists of a cluster of communication strategies. The role of these strategies is to enhance the effectiveness of communication, and to prevent or compensate for breakdowns in communication which result from the imperfect nature of language performance or from the lack of grammatical or sociolinguistic competencies. Similarly, Bachman (1990) also uses the notion of strategic competence but he sees it as a component of language proficiency which is superordinate to others, i.e. one that, according to his model, governs grammatical, discursive, illocutionary and sociolinguistic competence. Bachman's model is in accordance with the view of language as a goal-oriented activity and, therefore, always strategic in nature. However, it seems that Stern's remark that none of the models is completely satisfactory (because some underestimate the number of components of language proficiency, and some do not adequately differentiate the proposed components) still holds. This may be the reason that, during the 1990s, in their research and papers, many authors continued to opt for simpler models, such as Hymes's basic distinction between linguistic and communicative competence, or for Ellis's definition of communicative competence as "knowledge that users of a language have internalized to enable them to understand and produce messages in the language... it [communicative competence] entails both linguistic competence (for example, knowledge of grammatical rules) and pragmatic competence (for example, knowledge of what constitutes appropriate linguistic behaviour in a particular situation)" (Ellis, 1994 : 696).



Nevertheless, we should mention that at the same time, especially in the circles closer to foreign language teaching, one of the most elaborate models of language proficiency has become increasingly influential. It is the Council of Europe model of *communicative language competence* which consists of linguistic, sociolinguistic and pragmatic competence (Council of Europe, 2001 : 13). We would like to point out that the creators of this model have invested great effort in describing the content of the three components, that is, their subcomponents, and especially in trying to present the developmental continuum that second language learners/users are expected to achieve in each of the sub-components at a certain level of competence.

Even this short overview of some of the models of language proficiency leads to a conclusion that linguistic or grammatical competence is the most straightforward component of each model. This might be because many believe that grammatical competence plays a crucial role in the development of learners' communicative competence. As has been often pointed out in literature "learners who have acquired rules and norms governing speech acts, discourse features, and communication strategies will fail to communicate competently without grammar in all but the most limited conversational situations" (Scarcella, Andersen and Krashen 1990 : xvi). However, it might also be because "part of the problem of devising a precise theory of the development of communicative competence is that there isn't a body of theoretical work that describes the end state of development with the same degree of precision (if not unanimity) that there is for the several domains of linguistic competence" (Hoff-Ginsberg 1997 : 236). These two comments come from researchers belonging to disciplines within which two different language acquisition areas are being investigated – second and first. It should be pointed out that the issues of communicative competence that these two disciplines traditionally deal with are not identical.

Researchers of first language acquisition, i.e. psycholinguists, investigate how children develop basic communication skills such as referring to objects, requesting objects, initiating topics, repairing miscommunication, using appropriate register, appropriate style – to name just a few. Psycholinguists believe that the factors which influence the development of communicative competence are children's social and cognitive development, exposure to adult models of communication, and even direct instruction. Studies have also shown that the development of communicative skills and the development of language skills tend to proceed together, although the correlation between the two is not perfect, especially in late talkers and in cases of atypical development (e.g. in autistic children whose linguistic skills are usually much more developed than their communicative skills).

Researchers of second language acquisition in most cases do not deal with the development of basic communication skills. Their subjects are usually older and have already mastered the principles of communication in their first language². What still

² Although psycholinguists do not fully agree for how long the process of mastering the principles of communicative competence in one's first language lasts, current estimates are that it starts at around the age of 10 months and goes on well into adolescence.



needs to be learned and acquired is communicating in another language and culture which may be more or less distant from the first, thus making the task more or less complicated. Furthermore, second language users have to develop skills or strategies to repair miscommunication or to keep the communication going despite deficiencies in linguistic competence. It is to this second set of communication strategies that we now turn our attention.

3. Approaches to communication strategies

In describing the most influential definitions and classifications of communication strategies that have emerged over the last twenty years, we notice the same tone of inconclusiveness and non-unanimity among the researchers that has been observed in the previous parts of the paper. This may not be surprising if we consider what a complex endeavour communication is, or in Bialystok's words "The process of communication is the struggle to achieve precision in expression for a set of communicative goals. Put this way the tension created between intention and expression is a universal feature of communication (1990 : 131). Communication ... involves endless cycles of strategies, and isolating unique ones is neither clear nor simple (1990 : 71)." In the broadest sense, we may argue that each solution to a problem involves strategic thinking, and it is exactly this notion of problematicity of communication and of communication strategies as ways of overcoming it that is implied in most definitions (Corder, 1977; Tarone, 1980; Faerch and Kasper, 1983; Ellis, 1994; Dörnyei and Scott, 1997; Cohen, 1998). It is also the notion on which most researchers agree. Much less agreement exists when it comes to the issues of answering the questions about what communication strategies really are; how they develop; whether they are distinctive second-language phenomena (the so-called 'uniqueness fallacy') or whether they are also present in first language acquisition and use; whether they are conscious and intentional, or not; can they be learned and taught, or not? Furthermore, typologies of communication strategies can differ substantially. We can say that the nature of a typology depends on a researcher's view of the very nature of communication strategies. In the broadest sense, two basic theoretical approaches to communication strategies can be distinguished - interactional and psycholinguistic (Ellis 1994 : 396). The first approach views communication strategies as discourse strategies that can be detected in communicative interactions. Typologies which rely on this approach are usually taxonomic, arrived at through an inductive approach, that is, by analysing second language learners' performance (e.g. Tarone, 1977; Oxford, 1990). The second approach tries to explain communication strategies within a general model of speech production or language processing. Typologies that rely on this approach are usually arrived at deductively and then checked against language users' performance, and are much more parsimonious than the typologies stemming from the interactional approach (e.g. Nijmegen Project typology in Poulisse, 1990). A strong proponent of the psycholinguistic approach is Bialystok who considers strategies to be a normal and



fundamental aspect of ordinary language processing, rooted in the same processing mechanisms as nonstrategic language use. According to her, strategies “are the means by which a system can perform beyond its formal limitations and communication can proceed from a limited linguistic system” (1990 : 146). Bialystok finds support for her claims in the “prevalence and consistency of communication strategies among children speaking their first language, adults speaking their native language under a variety of communicative demands and both children and adults speaking a second language” (ibid.).

We have indulged in this short description of the strategies-related debate just to give a flavour of the complexity and liveliness of the field. Those who want to know more about communication strategies, or strategies in general viewed from the second language researchers’ perspectives, are invited to read the volumes that have emerged in the last 10-15 years (O’Malley and Chamot, 1990; Oxford, 1990; Scarcella, Andersen and Krashen, 1990; McDonough, 1995; Oxford, 1996; Kasper and Kellerman, 1997; Cohen, 1998), and numerous articles which regularly appear in influential SLA journals (one not to miss is Dörnyei and Scott, 1997).

However, in this paper we would like to concentrate on one subset of communication strategies that, although mentioned in every taxonomy, has not received much attention among second language researchers. This subset has also not often been presented as a communication strategy by researchers in the field of bilingualism (in its narrower sense)³. It is therefore on code-switching or code-mixing, a very striking characteristic of the bilingual speech mode⁴ (Grosjean, 2002), that we now focus our attention.

4. Code switching – easy to notice, hard to explain

In the SLA research tradition a communication strategy in which a language user uses a word or a phrase from another language, most frequently his first language, while trying to communicate in his second language has been called differently in different typologies. Most often it was referred to as language switch, code switch or borrowing.

³ Nowadays it is often hard (and often unnecessary) to draw a line between research belonging to the field of bilingualism and research belonging to the field of second language acquisition. The reason for this partly comes from the already mentioned fact that the notion of who can be considered bilingual has changed considerably. However, traces of traditional divisions still exist, so second language acquisition literature mostly deals with language users who have acquired the second language through formal means of instruction (e.g. school), often in a foreign language setting or later in life. Literature belonging to the field of bilingualism mostly deals with the childhood acquisition of two languages, either in an educational or natural setting, and with individual bilingualism when accompanied by societal bilingualism.

⁴ The notion of the ‘bilingual mode’, introduced by Grosjean already in the 1980s, is widely accepted nowadays. The essence of this concept is that a bilingual is a competent but specific speaker-hearer whose linguistic and communicative proficiency and performance should not be discussed and evaluated in relation to monolingual norms.



It has also been associated with lower levels of proficiency and, although seen as a learner's attempt to solve a problem by expanding his communicative resources, code-switching was regarded as a strategy with a high risk of communication failure because it was the least effective way of guaranteeing the comprehension of a target language listener (Corder, 1983). What is implicit in this claim is that researchers of second language acquisition mostly deal with instances of second or foreign language use in which interlocutors share only one linguistic code, normally the second language of the subject whose communication strategies are being investigated. On the other hand, researchers who investigate language use of more balanced bilingual speakers usually do so in the contexts of not only individual but also societal bilingualism which means that very often interlocutors share both language codes. In these cases, language switching is actually one of the most frequent characteristics of bilingual communication. However, the monolingual point of view had been so rooted that despite its obvious effectiveness in bilingual interactions (since a phenomenon would hardly become pervasive in a language if it were not effective), code-switching, especially the intra-sentential one, was regarded as an aberration from ordinary language use even among very informed linguists. For example, Weinreich's attitude was that an ideal bilingual "switches from one language according to appropriate changes in the speech situation (interlocutor, topics, etc.) but not in an unchanged speech situation and certainly not within a single sentence" (1953 : 73). However, evidence coming from observation of and research into everyday bilingual behaviour challenged researchers' preconceptions. From the 1970s many studies have shown that bilinguals, especially quite proficient bilinguals, produce 'mixed' sentences fluently and effortlessly, and in ordinary conversations (which means that switching is often used as an unmarked code). Nevertheless, what seems easy and straightforward for bilinguals turns out to be a bone of contention for the researchers. Despite three decades of very prolific research dealing with code switching/mixing, this linguistic and communicative phenomenon seems to be so complex that many issues related to it still remain unresolved.

The three most recent overviews of research in the field of bilingualism can be found in Romaine (1995), Hamers and Blanc (2000) and Muysken (2000). These authors approach code-switching/mixing from slightly different angles. Romaine's approach is the most comprehensive one and she discusses code-switching from linguistic, sociolinguistic, pragmatic and emotional/attitudinal perspectives. She also devotes considerable attention to the specific nature of bilingual children's code-switching. Hamers and Blanc view the phenomenon as primarily sociolinguistic and strategic in nature, as an outcome of interlinguistic communication strategies, arising "from the need to continuously accommodate to the intercultural encounters" (2000 : 272), and Muysken mostly discusses it from the linguistic perspective. These four researchers (voicing at the same time the general feeling in the field) agree on the following: code-switching and code-mixing are not clear-cut phenomena, which often leads to different definitions among different researchers and makes comparisons across studies difficult;



- code-switching/mixing is a common but highly complex feature of bilingual interaction whose nature depends on numerous linguistic, psycholinguistic and sociolinguistic factors (e.g. the typological characteristics of the languages involved, the degree of bilingual proficiency, the mode of bilingual processing, language attitudes, the topic and the participants involved, the type of interactive setting, the political balance between the languages);

- in trying to explain the nature of code-switching/mixing, probabilistic models (i.e. those that predict that in certain contact situations and language combinations a certain kind of code-switching/mixing or its constraints are more likely to occur than others) are better than absolute ones.

However, Romaine, Hamers and Blanc, and Muysken differ in the degree of optimism with which they view the power of explanatory models and their potential role for linguistic and psycholinguistic theory in general. We could say that the first three join those who warn that we should try not to replace an old orthodoxy and myth – that of the ideal monolingual speaker-listener, with a new one – that of a balanced bilingual who skilfully code-switches. Rather, we should consider code-switching as a cover term for a range of interlingual phenomena within which strict alternation between two discrete systems is more the exception than the rule. On the other hand, Muysken voices a different sentiment: “I want to argue against too much relativism... both because it is overly pessimistic of the relevance of linguistic structure, and because I believe it only portrays a limited picture of the often quite regular array of code-mixing patterns to be found” (2000 : 10).

As for the terminological non-unanimity of the field, Romaine, Hamers and Blanc, and Muysken also use the terms differently. Romaine prefers to use the term code-switching as an umbrella term for every instance of bilingual or monolingual speech where there is “the juxtaposition within the same speech exchange of passages of speech belonging to two different grammatical systems or subsystems” (1995 : 121). These speech passages are part of the same speech act – they are tied together prosodically, semantically and syntactically. Hamers and Blanc use the term code-switching in a very similar way. They define it as “a bilingual communication strategy consisting of the alternate use of two languages in the same utterance” (2000 : 369). However, Hamers and Blanc further distinguish code-switching from code-mixing. They define the latter as a language-contact communication strategy in which “the speaker of a language, L_x, transfers elements or rules of another language, L_y, to L_x at all linguistic levels of L_x, otherwise they would be considered as loans (in other words, code-mixing, like unintegrated transfers or non-words, is a phenomenon of ‘parole’, not ‘langue’)” (2000 : 270). Nevertheless, these two authors do acknowledge that very often it is hard to distinguish between code-switching and code-mixing, that there is a continuum between them and that some utterances can be classified in either category.

Both Hamers and Blanc, and Romaine follow Poplack’s (1980) classification and distinguish three types of code-switching: *extra-sentential* (i.e. the insertion of a tag from one language into an utterance which is entirely in another language); *inter-sentential*





(i.e. a switch at a clause/sentence⁵ boundary where one clause is in one language and the other clause is in the other language); *intra-sentential* code-switching (i.e. switches of different types which occur within the clause or even within the word boundary). It is this third type of code-switching which has been the most intriguing for linguists and in his work Muysken devotes most space to intra-sentential code-switching, or, to follow his own terminology – code-mixing. However, at this stage we will not describe different models and constraints which attempt to explain the linguistic nature of intra-sentential code mixing (e.g. *models of particular grammatical constraints* proposed in the 1970s (see Muysken, 2000 : 12-13); Poplack's (1980) *Equivalence and Free Morpheme constraints model*; Myers-Scotton's (1993) *Matrix Language Frame model*; DiSciullo, Muysken and Singh (1986) *Syntactic-government Constraint model* and its subsequent elaborations (Muysken 2000)) because in this paper we are mostly interested in the relationship between code-switching and bilingual communicative competence, or, to be more precise, a bilingual child's communicative competence.

A great deal has been written about bilingual children's code-switching. However, most data come from the case studies (Ronjat, 1913; Leopold, 1939-49; Saunders, 1982, 1989; Taeschner, 1983, Fantini, 1985; Vihman, 1985; Petersen, 1988; Doepke, 1992; Lanza 1997; Deuchar and Quay, 2000) of children who were simultaneous bilinguals, i.e. those exposed to two languages practically from birth according to the one parent – one language principle (for a classification of different 'arrangements' of upbringing children bilingually, see Romaine 1995 : 183-205). These children could also be classified as balanced bilinguals. Much less research, especially longitudinal research, on code-switching has been done with children who were successive bilinguals (i.e. who started acquiring a second language after the age of three) and less balanced bilinguals than the first group (see Romaine 1995 : 232). In brief, the general findings of both types of research are that bilingual children, like bilingual adults, do code-switch and that their code-switching is not a sign of linguistic confusion or inability to differentiate between the two language systems (although some researchers, e.g. Volterra and Taeschner (1978), claim that children start with a single grammatical system and only after the age of two start differentiating between them). Furthermore, children's code-switching, like that of adults, is influenced by the context of interaction (the setting and the interlocutors), they use it for pragmatic effect and as a communication strategy, and also as a metalinguistic device (e.g. to ask comprehension questions, to make comparisons between the languages). However, children's code-switching also differs in a number of accounts from adults' code-switching (Meisel, 1994). It seems that the majority of differences are caused by a combination of maturational and proficiency constraints, or as Hamers and Blanc put it, "...children switch or mix mostly single nouns, which suggests a lack of lexical availability; learning to code-switch intrasententially is a maturational social process similar to the

⁵ Since the concept of clause or sentence is difficult to define in oral corpora (where incomplete clauses/sentences are very frequent) some researchers speak of 'acts' as functional units.



development of stylistic and repertoire usage, and children learn it later since it requires full development of syntactic rules for both languages” (2000 : 267).

5. The aim and description of the study

The study we are going to present here is part of a comprehensive 14-month-long case study that investigates the development of successive Croatian (L1) – English (L2) bilingualism in a 3-year-old boy. In this paper we focus on only one aspect of the boy’s bilingualism – the development of his code-switching⁶ skill. Our **aim** is to investigate the relationship between the subject’s code-switching and his overall bilingual proficiency.

On the basis of the findings about the nature of bilingual children’s code-switching available in literature, we made our first hypothesis:

H1 – along with the development of the boy’s linguistic competence in L2, his ability to code switch will gradually develop from lexically-based to syntactically-based code-switching (which will not exclude the previously established lexical pattern).

On the basis of the linguistic, metalinguistic and extralinguistic context the boy was to be exposed to during the observed 14 month, we made our second hypothesis:

H2 – the boy will use code-switching extensively, often as a communication strategy.

The subject of our research was 2 years 10 months at the beginning of the study, and 4 years old at the end of the study. The boy was born in Croatia and acquired Croatian as his first language, both parents being native speakers of Croatian. At the age of 2 years 10 months, when speaking his first language, the boy left the impression of being a proficient young speaker. His vocabulary range was wide, and his morpho-syntactic and discursive competence was significantly developed. This means that he was able to carry on extended conversational exchanges about a topic of interest, using appropriately inflected forms of nouns and adjectives, choosing the right form of the verb, producing complex sentences. At the same time the boy had some knowledge of English but this knowledge was limited to a few isolated words (e.g. names of animals) and set phrases acquired through regular watching of children’s programmes and cartoons in English. He also had some awareness of the existence of two separate language systems in the sense that he was able to distinguish which language was being spoken at a certain moment. The subject’s intensive bilingual development started when the family moved to Ireland for a period of 14 months. During that period the boy progressed from almost exclusive monolingualism to balanced and proficient bilingualism. However, in between these two ends, the power relations between the boy’s first and second language, or better to say, different subsystems of the boy’s L1 and L2, changed several times. This dynamism was

⁶ We use the term code-switching in the sense Romaine (see p. 7) uses it.



very much related to the changes in the linguistic and extralinguistic context the boy was dominantly exposed to (during the mentioned 14-month period, the boy visited his home country three times) which can point to the fragility of children's linguistic representations.

The data about the boy's bilingual development consist of a diary kept by the boy's mother (who is also the author of this paper) and weekly audio recordings of the boy's verbal interactions.

The diary entries, written daily by the mother, consist of the following:

- mother's observations about the boy's linguistic, metalinguistic, cognitive, social and emotional development;
- selection⁷ of the boy's utterances and short dialogues between the boy and his parents;
- occasional comments about the boy's linguistic and communicative development made by other people who came into regular contact with the boy (e.g. those of the boy's pre-school teachers);
- a detailed record of the contexts and the amount of exposure to each of the two languages.

The audio recordings were made in four types of contexts:

- at home with the parents where the dominant language was Croatian, although, as the boy's bilingual development progressed, the language context became increasingly bilingual;
- at home when other native speakers of English or Croatian were visiting and when the dominant language depended on the visitors' first language;
- in the pre-school group where the language context was exclusively English;
- during visits to the boy's grandparents in Croatia where the language context was predominantly Croatian.

These data, consisting of 80 hours of recorded material, are being transcribed in the CLAN format and we hope to include them into the CHILDES database (MacWhinney, 1991). In addition to the mentioned data, the same procedure was used to collect data about the boy's monolingual development up to the age 2 years 10 months and the data about the boy's bilingual development after the age of 4 are also being collected. We believe that these data, although not in the immediate focus of our research, will be very valuable in obtaining a clearer and more reliable picture of the boy's bilingual development between the ages of 2 years 10 months and 4 years.

⁷ There were two principles of selection: the novelty (in linguistic and metalinguistic terms) of the boy's utterance and the sheer psycho-physical limitation of what can be recorded in writing while, at the same time, interacting with the boy.



6. Data and discussion

We have decided to structure our discussion of the boy's bilingual development around different stages. Each stage coincides either with the subject's life in Ireland or with his visits to Croatia and actually presents a qualitatively different picture of the boy's linguistic and communicative competence in his two languages. In each stage, after describing briefly the context of exposure to the two languages, we present only those features of the boy's linguistic, communicative and metalinguistic development that we found indispensable in our discussion of the relationship of the boy's code-switching ability and his overall bilingual proficiency

6.1 Stage one – the first stay in Ireland (subject's age 2;9,21 – 3;1,28)

During the first month and a half of his stay in Ireland, the subject's exposure to English was limited to two hours of TV or video programmes in English per day, some 30, unevenly distributed, hours of preschool time, and just occasional contacts with native speakers outside school. In addition to this exposure to native speakers' English, the mother often introduced elements of English while playing, telling stories or reading to the child. During that time Croatian friends visited the family and stayed for 3 weeks. After the first month and a half, the *boy* started attending preschool on a regular basis, approximately for 5 hours per day, and contacts with native speakers outside the school increased to 2-3 hours per week (the boy had a regular playmate). The mother also increased the use of English during playtime, although the language of the home stayed predominantly Croatian. In addition, the boy's grandparents visited for two weeks.

The first month and a half of the boy's first stay in Ireland is characterised by a steady increase in language comprehension and virtually no language production. The examples of language production are mostly repetitions of the mother's one- or two-word utterances (e.g. *Look!* / *Shut up!*) although the boy gradually became able to recognise, and tried to repeat, individual words in connected speech heard on TV. His L2 pronunciation was still heavily influenced by his L1. After the boy started attending preschool on a regular basis, in addition to further development of language comprehension, his language production also increased. He gradually moved from isolated words and formulaic phrases (*Where's...? / I'm coming!*) to productive two- to three-word utterances such as *No four!* (meaning 'I don't want four chippies on my plate.'). By the end of this first stage the boy was able to produce longer formulaic phrases (*What did you say?*) but also productive utterances (*Where is gone rabbit? / Me go to the toilet*) and shorter conversational exchanges (Mother: Are you a tiger? Boy: *I'm not a tiger. I'm a dinosaur.* Mother: And I'm a little mermaid. The boy: *Ah, and where's my mother dinosaur? You are my mother dinosaur.*). Typical of this stage was also the parallel existence of grammatically correct and incorrect utterances (*pig's mum* and *pig mum / This is a train.* and *This is*



train.) His L2 pronunciation, especially in formulaic utterances, started being native like, and by the end of this stage the subject increasingly started using English in his private speech (during playtime) and subconscious speech (during night time).

The boy gradually developed a set of communication strategies. During the time when his production of English was virtually non-existent, but when he would understand what was said to him, he either responded in Croatian or responded physically. Then he started using single words as holophrases (Vilke, 1991), for example, one day in the park the boy said *Blue!* meaning 'Sit on the blue bench!', or *Swing!*, meaning 'Let's go to the swings!'

Although the boy used his first **code-switched** utterance the very first day he came to Ireland (the family went shopping and seeing chicken meat on the shelf the boy said: *Vidi, chicken!*⁸), he started using code-switching on a more regular basis (although not often) after some three months of his stay in Ireland. Around this time his language production in L2 also increased. The most interesting feature of the boy's lexically based code-switching at this stage was that the boy would 'fill in' the English sentence with a Croatian word, but he would try to make the word sound more English-like. For example, instead of Croatian sounds, in producing the word he would use English sounds, and very often he would delete the final vowel of the Croatian word. It seems that the boy's impression of English words was that they had primarily consonantal endings (which is in essence true). To clarify this point, we will offer two examples. While riding in the car, the boy noticed a strangely shaped tree and wanted to show it to his parents. He shouted: *Look, stabl!*⁹; or, when given a new colouring book with red covers, the boy said: *Red. Blue star!*¹⁰, meaning 'This one is red. The blue one is already old.' The words 'stabl' and 'star' were both adapted to the English phonological system.

Around the same time when his production in English increased, the boy started showing the first signs of language attrition in his L1. This triggered the opposite direction in the boy's code-switching pattern. When the boy would miss a Croatian word (e.g. names for colours) he would insert the English word (when known) into the structure of what was in all other aspects a Croatian sentence. Often, the boy would also add the appropriate Croatian grammatical morpheme to the English lexical stem (e.g. *Vidi ih kako jump-aju!*¹¹). On the basis of these few presented examples we can say that the boy's code-switching during this first stage is in accordance with the prediction that when children do not have equal proficiency in both languages, they switch predominantly at word level (Romaine 1995). Despite some further signs of L1 attrition (e.g., the boy's Croatian sentences became shorter, syntactically less complex and often he was not able

⁸ From this point onwards we will give the English translation for every code-switched utterance. /Look, chicken!/
⁹ The "full" Croatian word would be *stablo*, meaning 'a tree'.

¹⁰ Again, the "full" word should end in a vowel – *stara*, meaning 'old'.

¹¹ /See them jump-ing./



to finish the sentence) the subject was still much more proficient in Croatian than in English. Another sign of language dominance mentioned in literature is the prevalent use of grammatical morphemes from the stronger language while code-switching (Petersen 1988, Lanza 1992). At this stage, our subject exclusively used Croatian grammatical morphemes.

We shall conclude this first stage with a glimpse of the boy's metalinguistic awareness and language attitudes. During the first ten days of his stay in Ireland the boy rejected being spoken to in English, but he gradually accepted it, although sometimes he was very shy when addressed in English. However, after two weeks, he started showing interest for the language by asking comprehension questions, i.e. he would ask in Croatian what a particular English word (for example, one heard on TV) meant. He was clearly aware of the existence of two different language systems.

6.2 Stage two – the first visit to Croatia (subject's age 3;1,28 – 3;2,13)

During this first visit to Croatia, the linguistic and extralinguistic context became dominantly Croatian (although the parents did not restrain from using English when the boy would introduce it, e.g. in short conversational exchanges), but surprisingly enough, the boy's use of English started to flourish, as if all the knowledge that had been accumulating over the previous three months came to the surface. His English utterances became syntactically and semantically more complex (*Snake want me video.*, meaning 'The (toy) snake wants to watch my video tape.' / *My puzzle, that's a good shark.*, meaning 'The shark in my puzzle picture is a good one.'). He freely combined fixed expressions with new elements (*Look at the crying Peter Pan.*), and he was able to combine two simple clauses (*That go here and this go here.*). We also want to stress that the boy's L2 production showed some typical developmental errors (Hatch, 1978) which we can interpret as a sign of linguistic progress, i.e. of the emergence and gradual establishment of a productive L2 system.

Further signs of L1 attrition could be observed at this stage. We recorded frequent use of a wrong case, gender or number of nouns or adjectives¹² and the production of unfinished words and sentences. The subject's active vocabulary narrowed and became more basic. At this stage we also observed the first signs of phonological transfer of English sounds (particularly /t/, /r/ and the diphthong /ou/) into Croatian words. Although the metaphor of the mind as a kind of container that can store only a limited amount of linguistic information has been criticised, at this stage it really looked as if the boy's second language (English) was developing and expanding at the expense of his first language (Croatian).

¹² Contrary to English, Croatian is a language with very rich nominal and verbal morphology. For example: the language has seven cases; nouns have three genders and two numbers, and, in addition to the genders, there are several paradigms of noun inflections; when an adjective modifies a noun, it has to agree with the noun in gender, number and case.



In addition to the already mentioned use of **code-switching** at the intrasentential level (*Give me that mač!*¹³ / *Idemo iskopati water.*¹⁴), we recorded the first emergence of intersentential code-switching (*But that's mum, mama hoće puno.*¹⁵).

At this stage we could observe no inhibition in the boy's use of English. When he was unable to finish a sentence in English he would just resort to some kind of self-invented pseudo language (but which had a clear English intonational pattern) or would switch to Croatian. On the other hand, when the boy was not able to finish the sentence in Croatian, he just stayed silenced (he obviously could not resort to English because it was usually the case of linguistically and conceptually more complex utterances for the expression of which the boy had not yet acquired enough competence in English).

6.3. Stage three – the second coming to Ireland (subject's age 3;2,14 – 3;5,29)

During this stage, the language input the boy received was again dominantly English. He attended preschool regularly for 8 hours per day, he heard English wherever he went, and the parents did not insist on Croatian while talking to the boy. Actually, both Croatian and English were used at home, often depending on the topic (issues related to school-time and playtime usually triggered English) and the interlocutors (the mother used more English with the boy than the father did, but the parents never talked to each other in English). Such a free, non-structured attitude towards both languages involved a lot of intra-, inter- and extra-sentential code-switching on the side of the parents and this probably influenced the boy's code-switching pattern and added to its frequency.

When the boy returned to school after two weeks of Christmas holidays, his teachers pronounced astonishment at what they described as an enormous leap in his linguistic and communicative competence. They claimed that now he understood everything they were telling him and was able to respond adequately, both nonverbally and verbally. By the end of this period the boy would use the plural of nouns and the possessive genitive almost regularly, he was able to produce complex and compound sentences, speak about present, past and future events, express his wishes, and produce tag questions. However, the already mentioned parallel existence of correct and incorrect language forms, often used within a few seconds of each other, became even more pronounced. Together with the previously noted developmental errors, this might point to the gradual building of L2 knowledge under the influence of naturalistic, non-graded input. Here are a few examples: *He's not running. He walking. / I like your hair because my hair is like you hair. / I got some money for you. I got moneys. / Where that go? This going there. Going up there. And another. This go there. That goes right here. / What is happened? What happened with that umbrella? What happened to umbrella?*

¹³ /Give me that sword!/
¹⁴ /Let's go dig water!/, i.e. dig a hole in the sand to get to the sea level.
¹⁵ /But that's mum, mum wants a lot./



As far as **code-switching** is concerned, the frequency of its use continued to grow. Utterances like *Go to my dnevni boravak*.¹⁶ or *My castle in room. Tamo di nema svjetla. That's my castle*.¹⁷ became an everyday occurrence. When trying to find a pattern in the boy's code-switching, the only thing we could conclude was that he would resort to it in order to better express himself or communicate more effectively. Sometimes he would code-switch quite spontaneously, probably without even being aware that he had changed the code, and sometimes deliberately (e.g. when the mother did not understand or hear well what the boy had just said, he would repeat the whole utterance, or just the semantically important part of it using the other language). However, this strategy, very effective at home, would have been ineffective at school, and it seemed that the boy did not use code-switching in monolingual contexts, at least not often. We could not detect instances of code-switching in the material recorded at school, and the boy's teachers claimed that, after the first three-four weeks when the boy first came to the school, he stopped using Croatian with them. Since the teachers were not focused on the boy's linguistic development, this statement might not be very reliable, but it certainly reflects the teachers' impression and there must be some truth in it. On the occasions when we were able to observe the subject's use of English with native speakers, we also did not notice examples of code-switching. When in linguistic 'trouble', the boy would just stress semantically important words. For example, on one occasion when he wanted to say that he got the book from his friend, he just showed the book and said *Book ... friend*. Had he been telling this to his parents, he probably would have switched to Croatian.

After the return from Croatia, there was a short period when the boy's L1 became re-established, but within a month signs of language attrition were well on the way again. The boy often used **code-switching** when speaking Croatian, usually inserting L2 lexical elements into Croatian sentences, sometimes adapting them phonologically and morphologically, sometimes leaving them in their L2 form. In addition to code-switching, a successful communication strategy the boy would use when speaking L1 was paraphrasing (*Daj mi ono iz čeg se jede*.¹⁸, i.e. the plate) or, having a vague idea of the phonological shape of the word he wanted to say, guessing (*zaben* for *bazen*¹⁹, *opkop* for *oklop*²⁰). However, it seems he only resorted to these strategies when he also did not know the L2 word for the concept (otherwise, he would just supply the L2 word).

At this point it is very interesting to observe that it is hard to tell which language the child was more proficient in – Croatian or English. After several days of focused observation and some elicitation attempts, we concluded that despite more frequent use of English, at the level of language comprehension the boy's knowledge of Croatian was

¹⁶ /Go to my living-room./

¹⁷ /My castle in my room. There where there are no lights. That's my castle./

¹⁸ /Give me that thing one eats from./

¹⁹ /swimming pool/

²⁰ /shield/



significantly broader. Also, when trying to express more complex thoughts or feelings, or when retelling complex events, the child would resort to L1, despite the difficulties he was experiencing with that language. We can say that at this stage there was a wider proficiency gap between different subsystems of the boy's L1 (e.g. comprehension and production level) than between different subsystems of the boy's L2.

As far as metalinguistic awareness is concerned, the boy became more proficient in translating from one language into the other, either as a deliberate communication strategy or when asked to do so. The number of his questions and comments about how something is said in English and how in Croatian also increased, as well as the number of questions in which he asked for clarification of the meaning of particular (mostly English) words or expressions.

6.4 Stage four – the second visit to Croatia (subject's age 3;6 – 3;6,18)

During this second visit to Croatia, the boy continued using English and Croatian at an approximately equal rate, although at the very beginning of this stage, English was dominant. A new development was the emergence of self-correction (e.g. *And hims... her is a special mum. / I want to go where are you...you are.*) and one more pattern of **code-switching**. Very often the boy would say a sentence in one language, and then, without being prompted or without there being any noticeable problem in communication, he would say the same thing in the other language. Furthermore, at this stage, for the first time when in a bilingual context, we observed some consistent pattern between the language the boy was addressed in and his reaction to it. This means that the language of the boy's output started matching the language of the input he had just received. This may be related to the fact that, by the end of this stage, the boy for the first time seemed equally at ease when using his L1 and L2. It could be that he had started moving towards balanced bilingualism in which both of his languages were equally easy to activate and process.

6.5 Stage five – the third stay in Ireland (subject's age 3;6,19 - 3;9,12)

During these three months the child's exposure to English was again very intensive and the consequence was the further building up of the English linguistic system: more accurate production of wh-questions, the appearance of questions formed with the auxiliaries, the use of modals, the use of past tense forms of regular and irregular verbs, the appearance of past continuous, going to future and simple future, present perfect tense. The length of the boy's L2 utterances, the size of vocabulary and communicative skills continued to grow. Nevertheless, the parallel existence of correct and incorrect forms was still very frequent. We also observed certain word order in some of the boy's sentences which may indicate the transfer of Croatian morphosyntactic and semantic structures into



English (e.g. *Poor my bum. /I want on bike. /For how many days? /Funny time.* meaning 'funny weather'). For several weeks after the return from Croatia, positive effects were felt in the boy's L1, especially in terms of length and structural complexity of the sentences and richness of vocabulary, but the boy continued to make numerous mistakes in verbal and nominal morphology. We also observed possible examples of the transfer of English syntactic and semantic features into the boy's utterances in Croatian (e.g. *Što se ovo zove?*²¹ / *Ja ću ti to reći kad imamo papanje.*²²). However, despite the dominance of English when talking about school "stuff" and the dominance of Croatian when talking about home "stuff", or the primacy of English in quick conversational exchanges and the primacy of Croatian when more complex issues were discussed, at this stage we became convinced that the boy had become a true balanced bilingual. We will describe several features of our subject's speech which might support our claim.

The **code-switching** pattern resembled that from the previous stage. The boy would often say the same thing in both languages as if he believed that since he had two systems at his disposal he might as well use them (or, was it a kind of language exercise?). Occasionally, he would use this juxtaposition of the two codes as a stylistic device (e.g. *Strašni, strašni zmaj, a big, big dragon...*²³). Also, as noticed in the preceding stage, the boy continued to switch easily and instantly from one language to the other, depending on the language he was addressed in. Still, at the beginning of this stage one qualitative difference persisted between the communication strategies used in L1 and L2. While, when in communicative "trouble" (i.e. when not knowing a word or expression) in L2, the boy would resort to his L1 and finish the utterance in Croatian, when in communicative uncertainty in his L1 the boy would, more often than code-switch, ask a metalinguistic question (*Kako se kaže X?*²⁴) or resort to paraphrasing. However, with the further development of L2 proficiency, the boy also started using paraphrasing (or the closest equivalent) and comprehension questions in English (e.g. *A bunch of buzzards? I don't know what that mean.*).

To conclude, besides having already well developed expectations of who might or might not know English, the boy also started making judgements about the amount of English he thought the people around him (including himself) knew. For instance, the boy said that the mother and the father knew both Croatian and English but that they knew Croatian better. He himself knew both languages equally well (can we talk here about a bilingual's self-confidence) and his teachers knew only English.

²¹ The boy literally translated /What do you call this?/, although 'how' instead of 'what' should be used in Croatian.

²² /I'll tell you when we have dinner./ Expressions like having dinner, breakfast, etc. are not normally used in Croatian. Instead, verbs like 'to dine' are used.

²³ /A terrifying, terrifying dragon, a big, big dragon.../

²⁴ /How do you say X?/



6.6 Stage six – the third visit to Croatia (subject's age 3;9,12 – 3;10,16)

Although we optimistically concluded that the boy had achieved bilingual balance, his language performance upon coming to Croatia revealed a different picture.

The boy's use of Croatian showed several non-native, L2-influenced features, especially at the phonetic level. The most striking of these features was the boy's pronunciation of sounds that exist but which are not identical in both languages (e.g. /t/, /d/, /r/) and sentence intonation atypical for Croatian. Furthermore, the boy's production in L1 was not always intelligible and was often left unfinished. However, it took only a week to see the first signs of improvement, first in the clarity of his speech, then in the length of the sentences, and after three weeks elements of L2 influence were lost in his pronunciation. Only the boy's morphological system did not improve significantly in the sense that he was still making many mistakes, and examples of over-regularisation (e.g. in verbal morphology) and overextension (e.g. of some formative prefixes) were still frequent.

After 4 weeks of stay in Croatia, utterances in English became very rare. This also implies that the number of **code-switched** utterances in this stage became much lower than in stage five. It seems that the boy was reacting to the predominantly monolingual setting he was very extensively exposed to.

6.7 Stage 7 – the fourth coming to Ireland and the fourth visit to Croatia (subject's age 3;10,17 – 4;0)

During the first week of the subject's return to Ireland, we could observe the effects of the five-week stay in Croatia. There was no change in the linguistic quality of the boy's L2 but there was a significant improvement in the linguistic quality of the boy's L1 that now started resembling the language his monolingual Croatian peers would use.

On the basis of the context of exposure to L1 and L2 during this final stage included in our study, we have decided to simultaneously discuss the boy's fourth stay in Ireland and his fourth visit to Croatia. During these six weeks (five weeks in Ireland and one, last week of the study, in Croatia) the exposure to both languages was very rich. Immediately after coming to Ireland, the boy had 5 days of school, and then the school closed for a two-week summer holiday. The boy spent these two weeks mostly interacting with the mother and father, and Croatian friends who stayed with the family for a week. Then the school started again and the boy had an additional two weeks of intensive L2 input, and the last week of the study was spent in Croatia where there was intensive L1 input. We would say that this balance in the context of exposure to both languages was reflected in the boy's overall balance in the use of both languages.

In only a few days after the return to Ireland, the child's communicative competence again started resembling that described in stage five. We can definitely say that the child was back in the bilingual mode with frequent intra-, inter- and extra-sentential **code-switching** which added to the ease and richness of his communicative performance. However,



the type of code-switching when the boy would say one and the same thing in both languages gradually decreased as if the boy had realised that there was no need for it. Here are some of the examples of the child's bilingual utterances: *I want myself do that. Ovo ide na rameno.*²⁵ / *Pishkin building is across the park. Preko parka.*²⁶ / *You are squashing me. Stop ruš-ing me. Stop knocking me.*²⁷ / *Ona je pretend-ila da je policeman.*²⁸ / *You know what mum. Kupi mi skipping rope for the bouncing teacher.*²⁹ / *Mama, pomoz mi otvorit. It's hard.*³⁰ / *Still the towers didn't fall. Još nisu pali.*³¹ / *Kad bih ja nosio svoj krevet na leđima (kao kornjača oklop), isto bi bio jako slow.*³² / *Maybe he's pooping. Možda kaka.*³³ The next example is perhaps the most indicative one in terms of how the boy used his two languages to overcome a conversational misunderstanding. Mother: *Ajmo brod stavit.* Boy: *Koji broj?* Mother: *Brod.* Boy: *Ah, mislio sam ja number*³⁴

However, it has to be stressed once more that despite this very extensive code-switching at home, monolingual speakers of English again reported no code-switching when the boy was interacting with them. This observation could also be corroborated by the boy's commentary that, immediately upon coming from Croatia, he found it easier to speak Croatian. However, he knew that his school friends and teachers did not know Croatian so he had to speak English to them.

Conclusion

To summarise our discussion, we can conclude that both our hypotheses have been supported. The boy's code-switching structurally changed as his competence in the second language progressed, i.e. it started as lexically based and then gradually involved larger and larger morphosyntactic constituents. The amount of code-switching also changed as a result of the change in the boy's bilingual competence, culminating at the points where the boy was in a state of balance between his two languages. We are also positive that the subject's code switching was never a sign of linguistic confusion. Had

²⁵ /I want myself do that. This goes on the shoulder./

²⁶ /Pishkin building is across the park. Across the park./

²⁷ /You are squashing me. Stop knock-ing me. Stop knocking me./

²⁸ /She was pretend-ing to be a policeman./ In the Croatian version, the boy added the grammatical morpheme '-ila' (designating 3rd person feminine, past tense) to the lexical morpheme 'pretend'.

²⁹ /You know what mum. Buy me a skipping rope for the bouncing teacher./

³⁰ /Mum, help me open it. It's hard./

³¹ /Still the towers didn't fall. Still they didn't fall./

³² /If I would carry my bed on my back (like a turtle), I would also be very slow./

³³ /Maybe he's pooping. Maybe he's pooping./

³⁴ /Mother: Let's put the ship. Boy: Which number? Mother: Ship. Boy: Oh, I thought number./ To clarify further. In Croatian words 'ship' (*brod*) and 'number' (*broj*) differ in only the last consonant and this actually caused the misunderstanding. In order to prevent further misunderstandings the boy switched to English.



it been so, we could have expected more code-switching at the beginning of his bilingual development, and also frequent code-switching in monolingual contexts, neither of which was the case.

As already pointed out in the discussion, for most of the time we perceived the boy's code-switching as a kind of communication strategy. When used spontaneously and subconsciously, it added to the boy's bilingual fluency and ease of expression. When used deliberately, it cleared misunderstandings in communication and enhanced the stylistic effectiveness of the boy's messages.

If we attempted to explain the subject's code-switching in terms of different models of language processing, we would resort to the model proposed by Bialystok (2001). According to this author, there is a relationship among different aspects of language use and two basic cognitive processes – analysis of representational structure and control of attention (ibid., 2001 : 14). Different language tasks require different degrees of cognitive involvement, so, for example, second language use requires a high degree of both analysis and control. Furthermore, different levels of second language proficiency also imply a different engagement of the mentioned cognitive processes. As the boy's knowledge of L2 developed, he was able to analyse larger and larger linguistic constituents and use them in his code-switching. As his proficiency in Croatian and English levelled, he was better able to control the use of both languages. We believe that the first instances of this higher control can be detected in the stage when the child's language output effortlessly started matching the language of the input, even in bilingual conversational contexts.

We hope that, despite this news-flash presentation of the development of our subject's code-switching, we have succeeded in showing that code-switching is a normal feature of skilled and strategic bilingual behaviour in bilingual communicative contexts. Many interesting and subtle linguistic and extralinguistic features interacting in the whole process, as well as many more examples and a quantitative analysis of the subject's code-switched utterances, had to be omitted. The reason for this lies predominantly in the fact that children's bilingual development is such a complex cognitive, linguistic, social and emotional phenomenon (not to mention the implications this complexity has for the issue of research methodology) that only a book-length presentation could serve it properly. We already have the legacy of book-length case studies of simultaneous childhood bilingualism (see the list on page 8). However, there is still much to be written about successive childhood bilingualism. We hope that the years to come will unveil many aspects of this type of bilingual acquisition and behaviour and contribute to the development of bilingual and second language acquisition studies in general.

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PRIRODA I ULOGA PREBACIVANJA KODA U RAZVOJU DVOJEZIČNOSTI

U posljednjih nekoliko desetljeća puno se raspravljalo o prirodi prebacivanja koda i njegovoj ulozi u razvoju bilingvalne jezične i komunikacijske kompetencije. U ovom radu istražujemo razvoj sposobnosti prebacivanja koda kod dječaka koji je usvojio hrvatski kao prvi i engleski kao drugi jezik. Ispitanikov naknadni dvojezični razvoj je započeo kada je dječak u dobi od dvije godine i 10 mjeseci otišao privremeno živjeti u Irsku. Tijekom 14-mjesečnog razdoblja promatranog u ovom istraživanju primijetili smo nekoliko kvalitativno i kvantitativno različitih faza u dječakovoj vještini prebacivanja kodova. Te promjene su u skladu s trenutnim spoznajama o prirodi prebacivanja kodova kod bilingvalne djece. Zaključujemo da je prebacivanje koda složena, ali i prirodna razvojna promjena u strateškom ponašanju dvojezične osobe kada se komunikacija odvija u dvojezičnom kontekstu.