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Exploring the language development of a young multilingual: A case study of metalinguistic awareness

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1 Introduction

Multilingualism is an emerging phenomenon in today's globalized world. The recognition of its importance is reflected in European language education documents recommending learning at least two foreign languages from a very early age, thus promoting child multilingualism (European Comission, 2002).

The multitude and complexity of factors influencing childhood multilingual development have been the reason for the increased use of case studies in this field of research. According to Duff and Anderson (2015) "the essence and value of case study resides in its holistic and in-depth characterization of individual entities within a particular context" (p. 112). Because of the fact that the entity under research is a person, case study methodology was the choice that could provide especially interesting and crucial insights for the understanding of such a complex construct like metalinguistic awareness.

In the case study described in this paper we attempted to look more closely into childhood multilingual development by including metalinguistic awareness as a central variable. Research into metalinguistic awareness (MA) in children is still rather scarce and we hope our study will make a valuable contribution to this area of study.

2 Theoretical background

2.1 Defining multilingualism

There is no single definition of multilingualism. Many researchers have attempted to define multilingualism (e.g.,, Cenoz, 2013; Kemp, 2009). One of the problems with defining multilingualism is the fact that it can be observed from various perspectives. The European Commission (2007) defines multilingualism as "the ability of societies, institutions, groups and

individuals to engage, on a regular basis, with more than one language in their day-to-day lives" (p. 6).

There are a number of research studies dealing with the advantages of bilingualism and multilingualism. Among those advantages are language learning strategies and metalinguistic awareness (see Kemp, 2009; Jessner, 2006). The most relevant aspect of multilingualism for the research described in this paper is metalinguistic awareness (MA). Therefore, we will look into this aspect in more detail below.

2.2 Multilingualism and metalinguistic awareness

In the most widely accepted model of multilingualism, the Dynamic Model of Multilingualism, metalinguistic awareness is considered as "a key component in the cognitive aspects involved in language learning" (Jessner,1999, p. 203). The importance of MA is even more evident when there is more than one language involved in a speaker's linguistic biography. According to Bialystok (2001), metalinguistic awareness is the domain in research that claimed consistent advantages for bilingual children over their monolingual peers. There are a number of studies dealing with the differences in processing between monolinguals, bilinguals and multilinguals (e.g.,, Stavans & Swisher, 2006; Gibson, Hufeisen & Libben, 2001). Jessner (1999) points out that the dynamics and the complexity of language processing increase with each new language added to the system. As a result of the increased experience in language learning, multilinguals demonstrate higher levels of metalinguistic awareness.

2.3 How can metalinguistic awareness be defined?

Clearly the very notion of metalinguistic awareness is considered to be highly important for understanding multilingual development. The very complexity of this concept is reflected in the abundance of definitions of metalinguistic awareness found in the literature. Thus, Jessner (2006) defines MA as a speaker's ability to "focus attention on language as an object in itself or to think abstractly about language, and consequently, to play with or manipulate language" (p. 42). Sharwood Smith (2008) sees MA as "…something that happens to us very early on when, as children, we play games with words" (p. 179). Pinto (2011) describes MA as the strongest predictor of good proficiency in second or third language acquisition. Finally, various authors claim that children's metalinguistic awareness is best observed in the context of the child's overall linguistic and cognitive development (Kecskes & Papp, 2000; Pinto, 1999; Ranta, 2008).

Bialystok (2001) distinguishes between metalinguistic knowledge, ability and awareness. Metalinguistic knowledge is defined by Bialystok as the "the explicit representation of abstract aspects of linguistic structure that become accessible through knowledge of a particular language" (2001, p. 124). For example, a child possessing metalinguistic knowledge would be able to understand that altering the word order in a sentence would completely change its meaning. According to Bialystok, metalinguistic ability "describes the capacity to use knowledge about language as opposed to the capacity to use language" (p. 124). Lastly, she claims that metalinguistic awareness requires conscious knowledge about language in that it is "a momentary phenomenon, something achieved at a point in real time because attention has been focused on certain mental representation" (p. 127). Following the view of metalinguistic awareness as conscious knowledge Karmiloff-Smith, Grant, Sims, Jones, and Cuckle (1996) one of the most prominent researchers of childhood language development, states that metalinguistic awareness involves "conscious reflection on, analysis of, or intentional control over various aspects of language outside the normal unconscious processes of production or comprehension" (1996, p. 198). She also claims that apart from mastering the way language is used, children form "explicit representations of various ways in which language functions" (p. 198)

The exploration of metalinguistic awareness has been of particular interest to developmental psycholinguists (see Liberman, 1971; Bialystok & Ryan, 1985). Within the cognitive developmental perspective on metalinguistic awareness, probably the most widely used conceptualization of metalinguistic awareness is the control and analysis framework proposed by Bialystok and Ryan (1985) which will be described in the next section.

2.3.1 Bialystok and Ryan's (1985) model of metalinguistic awareness

Bialystok and Ryan (1985) proposed a model of metalinguistic awareness consisting of two components: control of linguistic processing and analysis of linguistic knowledge. While the control of linguistic processing has been defined as the executive component of the framework, the analysis of linguistic knowledge refers to the explicit mental representations in an individual's mind (Bialystok, 2001).

Control of linguistic processing, drawing on executive control, includes placing attention on distinct task characteristics and somehow managing those task aspects that tend to be irrelevant (Bialystok, 2001). Tasks that could be used for measuring the control of linguistic processing are those that require allocating attention away from the meaning (Bialystok, 2001). Such tasks are sentence segmentation tasks, symbol substitution tasks, tasks

requiring the repetition of deviant sentences, and Piaget's sun/moon problem (Roehr-Brackin, 2018).

Analysis of linguistic knowledge refers to the ability to form explicit mental representations which are considered to be responsible for the structuring and explication of linguistic knowledge (Bialystok, 2001). Tasks that require accessing and elaborating upon linguistic knowledge are typically used to measure analysis of linguistic knowledge (Ricciardellli, 1993). Those tasks usually draw on awareness of syntax, awareness of the concept of word, detecting errors and /or correcting ungrammatical sentences and explaining detected errors (Roehr-Brackin, 2018).

The framework describing MA proposed by Bialystok and Ryan (1985) focuses on crucial cognitive mechanisms for language acquisition and use and as such has a broad application to cognitive development more generally. Futhermore this framework is aimed at addressing some other factors, such as individual differences (Roehr-Brackin, 2018). Because of its wide applicability, Bialystok and Ryan's framework of control and analysis has often been used in constructing specific tasks for measuring MA like in the battery used for this study.

2.4 Measuring MA in children

When we talk about measuring MA in children it is possible to distinguish two types of measures. One of them is informed by the cognitive developmental perspective and the other is informed by the educational perspective. The cognitive developmental perspective tends to be informed by the control and analysis framework (Bialystok & Ryan, 1985).

Ricciardelli (1993) designed seven tasks following Bialystok and Ryan's (1985) control and analysis framework. Each of the two components of MA, the control of linguistic processing and the analysis of linguistic knowledge, was assessed by four metalinguistic tasks. Three tasks drew on control of linguistic processing and three on analysis of linguistic knowledge, while one task was meant to load on both components. A detailed description of the tasks can be found in the results section of this paper. Altogether 83 English speaking monolinguals between ages five and seven participated in the study. Factor analysis showed support for the two-component model of MA, with the control of linguistic processing supported more strongly than analysis of linguistic knowledge. Namely, two tasks that were supposed to load on analysis of linguistic knowledge, the symbol substitution task and grammar judgements task, were not found to do so and did not correlate with other metalinguistic tasks. It therefore, seemed that these two tasks measured something different from what they were believed to measure (Ricciardelli, 1993).

Although the tasks were meant to be used with English speaking monolingual children, in a PhD study by Cohen (2011) the tasks were used to measure MA of 38 French-English bilinguals aged between six and eight. In order to access MA in the participants' two languages, the tasks had to be translated to French. The results showed that high level balanced bilinguals outperformed dominant bilinguals on high control tasks and on certain analysis tasks. In addition to this, the results supported Bialystok and Ryan's (1985) framework. The children performed differently on the MA measures with regard to the languages they were administered in. In the MA measure in English, the children performed best on the following tasks: word order repetition loading on the control of linguistic processing and symbol substitution and word order correction loading on analysis of linguistic knowledge. The tasks they found most difficult were symbol substitution, grammar judgements and form-meaning judgements which loaded on the control of linguistic processing. For French, the highest scores were obtained for grammar judgements and word order repetition loading on the control of linguistic processing and grammar judgements loading on the analysis of linguistic knowledge. The most difficult tasks proved to be word renaming and symbol substitution loading on the control of linguistic processing and the symbol substitution task loading on the analysis of linguistic knowledge.

3 The study

The goal of our study was to provide insight into evidence of MA of a young multilingual. Our focus was on the relationship of MA and various individual and contextual factors. More particularly, we looked into the results of an MA measure composed by Ricciardelli (1993) and the data provided by the participant's mother and teacher which added the necessary information on the linguistic development of our participant along with the observed linguistic behavior in various contexts.

3.1 The participant

Ute is a native speaker of Estonian, who also speaks English and Croatian. Living in a multilingual family Ute had been surrounded by different languages all her life. She was only one month old when the family moved from Estonia to Turkey due to Ute's father's work requirements. From the age of only ten months Ute was exposed to Turkish by a Turkish nanny who spoke only Turkish to Ute. Ute's mother reported Ute being able to speak Turkish, however Ute does not remember this. Ute's linguistic development followed a regular trajectory. Her mother reported that Ute was always fond of speaking and observing the way other people around her spoke. The family spoke to

Ute in Estonian, while she was also exposed to English being surrounded by the English-speaking international community her family formed part of. Ute's exposure to English was enhanced by her older sister's attending a British preschool in Turkey. According to the mother, Ute was able to speak English well by the time she began attending a Montessori kindergarten in Turkey when she was approximately two and a half years old. Even though the language of the kindergarten was English, it was drawn to our attention that half of the children attending the kindergarten were Turkish as well as the teachers who often spoke Turkish to each other.

Upon the family's arrival to Croatia, Ute was about four years old. She attended an English kindergarten in Zagreb. Like in the case of Turkish, it is in the English kindergarten in Zagreb that Ute's exposure to Croatian started. Listening to children speaking in Croatian, Ute's exposure to Croatian in kindergarten was crucial for the beginning of her acquisition of Croatian. Ute began her preschool education in the fall of 2016.

Both Ute's parents have worked in international contexts in which they have actively used foreign languages. The mother studied Scandinavian languages and currently works as an office manager in Zagreb. Moreover, she reported being able to generally acquire languages with ease. Apart from Estonian, Ute's mother reported being able to actively use English, Croatian, Swedish, Danish, Norwegian, and Turkish. She also reported using Russian passively. Ute's father works in finance as a head of the department and a partner in a company. Apart from Estonian, he speaks English and Turkish fluently. In addition to these languages, Ute's father also speaks some Croatian and has knowledge of the Russian language which he acquired during his education in Estonia. Ute's sister speaks Estonian and English fluently and has also been surrounded by an international community of students from an early age. Unlike Ute, her sister attended kindergarten in Estonia and due to this acquired preliteracy skills in Estonian.

3.2 Methodology

All the data was collected during spring 2017. Ute was six years old at the time the research was conducted. For data collection we relied on the MA measure results (Ricciardelli, 1993). The results of the MA measure were complemented by the data on Ute's MA gathered by means of in-school observation over several months, Ute's self-reports and semi-structured interviews with Ute's mother and preschool teacher. Ute's self-reports were gathered through an informal conversation the researcher had with her before the administration of the MA measure. Ute's attitudes to foreign languages, beliefs about language learning, motivation for learning English and Croatian and self-perception of competence in non-native languages were provided by

Ute herself during the interview. The conversation lasted for 10 minutes and administering the MA measure lasted for 20 minutes. The conversation and the MA measure were voice recorded, which was previously approved by Ute's mother. Both the MA measure and the interview were conducted in one sitting. In addition to the data on Ute's MA, the data compiled in this research includes information on Ute's language development, contexts in which Ute's languages were acquired, family socio-economic status, parents' knowledge of and attitudes towards learning foreign languages provided by Ute's mother. Ute's learner profile was created based on information obtained from her teacher, who was asked to describe Ute's English language usage in the classroom which could be observed during the 2016/2017 school year.

4 Results

As we previously explained, Ute's language use was observed from three different perspectives: language use in school as observed by her teacher, at home as observed by her mother and the way Ute reported perceiving it herself. The following paragraphs provide an account of how Ute used English, Estonian and Croatian and how it was observed.

4.1 Language use in school

At the time this research was conducted Ute had already been attending an English medium preschool for seven months. During classes Ute's linguistic skills would mostly stand out when she would offer to explain the meaning of different words her peers would not understand. Ute was described by her teacher as having wide general knowledge, displaying creativity and not being afraid of taking on the role of the leader in many activities. Also, she proved to be very eager to find new information on a wide range of topics dealt with in preschool. Ute's teacher reported on Ute's exceptionally clever questions during time spent in preschool. Furthermore, she would be able to explain the meaning of words in English that her native English-speaking peers did not even know the meaning of. Her excellent pronunciation of English was very evident. One of the teachers who is herself a native speaker of American English, mistook Ute for a native speaker. In addition to that, Ute's perception of errors in spoken English was precise and correct.

In class Ute liked to make references to Estonian and Croatian showing her awareness of the different languages she could name things in. She was unusually interested in the language her teachers used while talking to each other. Since the researcher was also one of the teachers in the school Ute attended, some of the instances of MA were observed directly by the researcher. One of such occasions happened when Ute came up to the teachers

and paid very close attention to the conversation led in Croatian without being involved in it in any way. When the conversation was over, one of the teachers noticed Ute listening closely. Ute pointed out that she understood everything that was said. Moreover, Ute displayed her active usage of Croatian trying to help other preschool students who spoke Croatian but were not yet able to express themselves in English. Croatian did not seem to cause Ute any difficulty during interactions she had with her Croatian speaking peers in the school playground or the staff at the doctor's office. Ute's mother reported on an occasion in which she was surprised by Ute's willingness to talk to the doctor in Croatian and the ease she spoke with while using Croatian. The mother reported this happening not long before the research was conducted.

4.2 Language use at home

At home Ute would combine English and Estonian. Ute's mother remembered this happening very early in Ute's language usage. She would insert Estonian vocabulary in the English phrases she picked up in kindergarten while the family still lived in Turkey. Ute would also mix the grammar of the two languages in everyday conversation mostly by applying the suffixes of one language to the other. Since Ute started attending preschool, the majority of her days were spent immersed in English. When she would come home and was asked about her day in preschool, she would automatically start speaking in English. The same would happen when she could not find the words in Estonian to express herself. Knowing her parents and sister spoke fluent English and could understand what she wanted to say gave Ute an excuse to use English even at home. It seems that the input Ute received in English affected her use of Estonian which was constrained to the conversations Ute had with her parents and her older sister. Ute's mother reported on Ute sticking to Estonian without mixing it with English only in communication with Ute's grandmother via Skype, thus showing her ability to manipulate the languages she was using when she knew that mixing was not an option.

Ute's mother reported teaching Estonian to Ute, however Ute would quickly lose her motivation to continue learning and would give up easily because she found learning Estonian difficult. Moreover, watching cartoons and movies in Estonian was also something Ute found challenging. On the other hand, watching cartoons and videos in English at age six was something Ute could do for hours without end. Ute's mother reported that Ute's time spent with her headphones on and her iPad was something she enjoyed the most because of the exposure to English she got. The summers Ute would spend in Estonia would be a clear proof of just how much English and Croatian had already occupied her linguistic repertoire. Establishing and maintaining communication with her peers was possible in English and Croatian without

many obstacles, but in Estonian this was not the case. At age six it was clear that she missed the basic Estonian vocabulary necessary for communication with children her age. Ute's mother observed that this was logical since the native speakers who surrounded Ute on a daily basis ever since she was ten months old, her family members were already using a different register due to their age and cognitive maturity.

During spring 2017, at the time this research was conducted, it was clear from the fluency and accuracy with which Ute spoke English that it was her primary language. During the conversation the researcher had with Ute, she stated her preference and confidence in using English, because she "liked to sound American". With Croatian, on the other hand, she stated being very shy because she felt she "did not sound like they do", the native speakers of Croatian. Ute's wish was to become "a famous writer".

Ute's self-awareness was not only reflected in her language use, it was also during her conversations with her family and teachers that she proved to have a mind of her own and to be highly communicative. That was particularly visible in Ute's smart and sharp remarks made both in school and at home. She was very interested in how others see her.

In the following section, the evidence from Ute's language use described above will be considered in light of her results on MA tasks (Ricciardelli, 1993).

4.3 Evidence of MA-Test results

The test results are presented following the original structure of Ricciardelli's (1993) MA measure. In the study done by Ricciardelli (1993) the age group tested was the same age as the participant in this study. Ricciardelli (1993) designed a set of seven tasks in English meant to be used for children aged five to eight. The tasks followed the two cognitive components of Bialystok's analysis and control framework. The first group measured the control of linguistic processing and included the following tasks: word order repetition, word renaming and symbol substitution. The second group measured analysis of linguistic knowledge and consisted of the following tasks: symbol substitution, word order correction and form-meaning judgements. The third and last group measured control and analysis and comprised a grammar judgement task. Each of the tasks measured different underlying constructs and were based on work done by other researchers.

4.1.1 Tasks used to measure the control of linguistic processing

Control of linguistic processing component is measured by the following tasks: word order repetition, word renaming and symbol substitution. The first

task drawing on the control of linguistic processing is word order repetition which is based on work by Bowey (1986). The underlying construct this task is supposed to measure is grammatical awareness. In word order repetition Ute's task was to repeat twelve ungrammatical sentences. This task clearly draws on the control of linguistic processing component of MA because the participant had to focus her attention on the form of the task disregarding the meaning which were distorted due to the ungrammaticality of the sentence. The grammar violations appearing in the sentences were simple word order violations (e.g., *The cat has fur black. Dad at home is. Apples not are purple.*) Ute managed to repeat all twelve sentences included in this task.

The second task pertaining to the control of linguistic processing is word renaming. This task was influenced by previous work done by Piaget (1929). The task is supposed to assess children's ability to understand word-referent relationships. Ute was asked to imagine if words could change their linguistic referents and persuaded to actually try to change the names of things so as to, for example, call the sun the moon, and the moon the sun. Following that Ute was asked a question relating to one of the referents in order to check if she was fully able to replace the meaning of the referents. The word renaming task contained twelve questions in total. Ute scored the maximum number of points answering all twelve questions correctly.

Example 1
Researcher: The game we are going to play now is about changing names.
Suppose you could call the sun the "moon" and the moon the "sun". What would you call the thing in the sky when you go to bed at night?
U: Sun.
Researcher: What would the sky look like when you're going to bed?
U: Blue.

The third task in the control of linguistic processing part of the framework is symbol substitution. This task is supposed to assess the arbitrary nature of language and was based on work done by Ben Zeev (1977). Ute was asked to replace the given word for a target word in a sentence. The result was an ungrammatical sentence. The example below provides an example of one of the sentences from the task in question.

Example 2
Researcher: This is a naming game, and each time we are going to swap words without changing anything else. Sometimes things may sound wrong or funny, but that's alright.
If I say "I" is "ice", how do we say "I am cold"?

U: I am cold ice.

This was the first task in which Ute encountered problems. Instead of just replacing *I* with *ice* Ute tried to insert the word ice in the given sentence, trying to make it meaningful saying "*I am cold ice*". After four items in which Ute continued to change the rest of the sentence after replacing the given word with the target word, the researcher moved on to the next task.

Example 3
Researcher: OK, let's move on to the next one. If I say "she" is "fish", how do we say "She likes swimming"?
U: She likes fish swimming. She likes fish.
R: If I say "they" is "he", how do we say "They were running"?
U: He is running.
R: If I say "I" is "summer", how do we say "Summer is hot"?
U: I am hot.

Focusing on form disregarding the meaning might be very difficult for young learners. So, it turned out to be the case with Ute. Interestingly so, Ute did not find it difficult to repeat sentences containing erroneous word order, as in the word order repetition task, however, creating an ungrammatical sentence seemed to be very confounding. However, her solutions, although not like the ones expected in this task, were all attempts to produce grammatical and logical sentences.

The three tasks loading on control of linguistic processing include a lot of repetition strongly loading on short term memory while suppressing and objectifying the meaning of the produced language. It can be observed that two constructs underlying the described tasks present no challenge for Ute, and those are grammatical awareness and the ability to understand word-referent relationships. In the first task Ute had to simply repeat sentences containing a word order mistake without correcting the mistakes. In the second task Ute had to switch the forms of words controlling for their meaning. What emerged as a problem was the third task which was supposed to assess the arbitrary nature of language. Ute had to construct illogical and ungrammatical sentences, controlling for the form of the sentence and disregarding its meaning. The reasons for this could be that Ute did not fully understand the given instruction, or simply had difficulties with abstracting from what she knew was acceptable. The way we saw this was that Ute's conception of what language was and what rules it was governed by was exactly what did not allow for an ungrammatical sentence to be a possible solution to the problem. With his, Ute clearly demonstrated her ability to interpret language in the

complexity of its form and meaning relationship, not allowing for the illogical and ungrammatical sentences to be possible. This could also be taken as evidence of Ute's metalinguistic ability. Tasks used to measure the analysis of linguistic knowledge offer additional insights into Ute's metalinguistic awareness.

4.1.2 Tasks used to measure the analysis of linguistic knowledge

Analysis of linguistic processing is measured by the following three tasks: symbol substitution, word order correction and form-meaning judgements. The first task measuring the analysis component of the framework is symbol substitution. This task was based on the same task used for the control of linguistic processing component. In other words, Ute was supposed to replace the given word for the target word, but this time she was expected to change all other necessary sentence elements in order to make the sentence grammatical. The score was seven out of seven. Although the total number of sentences contained in the original task was twelve, the researcher decided to stop at number seven due to the previous seven correct solutions, and the observed fatigue in the participant. Interestingly, unlike the participants in Ricciardelli's study (1993) whose performance on this task was somehow interfered by the similarity of the previous task, Ute's performance on this task was highly successful. This result proved to be consistent with the results reported by Cohen (2011). The English-French bilinguals participating in Cohen's (2011) study scored worse on the symbol substitution task loading on the control of linguistic processing than on the same task loading on the analysis of linguistic knowledge. Furthermore, for the English measure the control version of the symbol substitution task proved to be the most difficult one, and the analysis version one of the tasks where the bilingual participants scored the highest.

> Example 4
> *Researcher: This is another naming game a bit like the one we did before, but this time when I ask you to swap words, I also want you to change things so that it does not sound wrong. Let's have some practice first!*
> *In this part we say "mum" to say "they". So how do we say "Mum is home?"*
> *U: They are home.*

The symbol substitution task loading on the control of linguistic knowledge provoked confusion for Ute due to the fact that it required restructuring given sentences and producing ungrammatical items. However, the symbol

substitution task loading on analysis of linguistic knowledge proved to be much more logical for Ute since it allowed for changing the sentence structure in order to make it grammatical. It was very interesting to observe Ute's consistency in dealing with this task. This can be observed as a proof of Ute's awareness of language as being a rule-governed system in which certain structures are not present, therefore they are not allowed. As noted earlier, the symbol substitution task loading on the analysis of linguistic knowledge did not correlate significantly with any other metalinguistic task used in the Ricciardelli's (1993) study. In other words, it seems this task measures different underlying constructs form the ones it is supposed to measure.

The second task is word order correction. Measuring grammatical awareness this task was based on previous work by Pratt, Tunmer and Bowey (1984). The task draws on the analysis of linguistic knowledge due to the fact that Ute was supposed to correct as well as repeat the word order violations heard in the sentences. The word order correction task was different from the previous one, in that Ute was asked to repeat the sentence, without the mistake. In other words, the participant had to correct the mistake in the sentence and produce the correct sentence. Ute provided the expected correction for all the twelve sentences included in the task.

Example 5
Researcher: This time I want you to fix up what I say. I'll keep saying everything with a mistake in it. Then I want you to say them the way I should have said them.
Researcher: The lawn not is wet.
U: The lawn is not wet.

The final task in the analysis of linguistic component part of the framework is form-meaning judgements. In this task Ute was assessed for word awareness with a task based on previous work done by Bialystok and Niccols (1989). The idea underlying the task is to match the words for their sound or meaning depending on what is required in the task.

Example 6
Researcher: In this game you have to listen very carefully and tell me whether words sound alike or whether they mean similar things.
R: What word sounds something like cat? Hat or kitten?
U: Hat.
R: What word means something like fool? Trick or pool?
U: Pool.

Whether it was the fact that this was the sixth task Ute was required to do, or the mere fact that the exchanging of *sound* and *mean* took turns unexpectedly, thus adding another element the participant had to concentrate on, this task caused Ute to make some mistakes like in the example shown. The score was six out of eight. Having seen Ute struggling with these sentences the researcher decided to cut the task from twelve to eight sentences, keeping in mind the final task the participant had to perform.

4.1.3 Grammar judgment task

The last task aimed to measure both control and analysis is the grammar judgement task. The underlying construct assessed by this task is grammatical awareness. Due to the complexities of measuring the two components of MA as proposed in the framework by Bialystok and Ryan (1985), there are not many tasks that could be used to measure both components in equal measure. One of such tasks is the grammar judgement task (Biyalistok, 1986). This specific task is used to measure the grammaticality of sentences in four conditions: grammatically and semantically correct (e.g., *Apples grow on trees*.); grammatically incorrect and semantically correct (e.g., *Apples on trees grow*); grammatically correct but semantically anomalous (e.g., *Apples grow on noses*); grammatically and semantically incorrect (e.g., Apples on noses grow). The ungrammatical but meaningful sentences were supposed to measure the analysis component and the anomalous but grammatical sentences were to measure the control component of MA. The sentences were presented in a mixed order. Out of the 30 sentences Ute was asked to judge, she scored 25 out of 30. Here is an example:

> Example 7
> *Researcher: In this game I am going to say something, and then I want you to tell me it is the wrong or the right way round. I might say something that sounds sounds silly for fun, but you have to tell me each time if it's the right way of the wrong way round, not if it's funny.*
> *Researcher: Rabbits not can sing songs.*
> *U: Wrong.*
> *People like books funny.*
> *U: I'm not sure, but I'll give it a yes.*
> *Researcher: There are three purple oranges.*
> *U: No! (smiling)*

In line with the findings reported in Ricciardelli (1993) the grammar judgement task proved to be somewhat confusing to Ute. The reason could be found it the fact that the items loading on control of linguistic processing were

mixed up with the items loading on the analysis of linguistic knowledge. That way the task structure made it very difficult for the participants in Ricciardelli's study (1993) and Ute in the present study to apply the same criteria to all the items.

5 Conclusion

The aim of this chapter was to show how different types of factors (individual, contextual, linguistic etc.) interact with the development of multilingualism at a young age. Gathering information about the participant's linguistic development, observed linguistic behavior and metalinguistic awareness along with the triangulation of the obtained information was described. The very idea for conducting this research emerged in a multilingual surrounding where one particular individual stood out with extraordinary linguistic skills as well as pragmatic skills. Being surrounded with a multilingual community all her life, as well as attending an English medium kindergarten and preschool, the young multilingual described in this case study, developed various linguistic and pragmatic skills. Those skills, along with certain individual and contextual factors enabled Ute to acquire the languages she was exposed to. The individual factors that were observed as playing a very important role in Ute's metalinguistic awareness development were the ease with which the participant managed to "pick-up" the languages she was surrounded by in different contexts whether educational or not. Furthermore, the very awareness of the ways different languages sound and how Ute herself fits into the native-speaker norm she noticed, proves her to be very much self-aware of her competence in the languages she is able to use. An important influence in the development of Ute's insights into the ways different languages function was provided by the multilingual family she comes from. Lastly, the program of the school Ute is attending, although fully conducted in English, strives to create a rich multilingual environment which caters for the language needs of its students.

High scores on the MA measure offered convincing evidence that there was indeed a strong case for looking into the MA of a child whose linguistic skills were otherwise highly observable. The very complexity of the tasks and the accuracy with which Ute managed to comply to their demands were surely a proof of her metalinguistic abilities. The results on certain tasks proved to be somewhat different from the ones obtained by Ricciardelli (1993). Namely, Ute's performance on the symbol substitution tasks provided some very interesting insights into her view of language. The interference of the tasks noted in the study conducted by Ricciardelli (1993) where the monolingual English-speaking participants failed to correct the sentences in the second symbol substitution task, did not reoccur in this study. In fact, Ute's score is

more consistent with the results reported in Cohen (2011). This could indeed be indicative of the different way in which bilingualism as in the Cohen's study and multilingualism in this study can make a difference in dealing with certain metalinguistic tasks.

Although the results of a case study cannot be used to generalize from, the insights gained from this study can shed light on the intricacies of multilingual language development. We tried to show instances of MA whose emergence is evident at a very young age provided the necessary individual learner characteristics as well as contextual factors are present. We hope that the results presented in this paper shed some light on the complex and multidimensional nature of multilingualism at a young age. More research is needed in exploring the MA development in early trilingualism, especially research into the MA development in third language acquisition.

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