Metalinguistic Awareness in Bilingual People

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ABSTRACT The research on bilinguals indicates some bilingual advantages over the matched monolinguals. It is suggested that the exposure to two different language codes influences the brain elasticity and therefore, enhances metalinguistic advantages. Throughout the years, many studies have tried to reveal the relationship between bilingualism and the demonstrated performance on metalinguistic tasks. Similarly, the aim of this study is to provide some insight to the issue of monolingual and bilingual performance on metalinguistic tasks. To evaluate this ability, the participants were asked to complete a web designed survey. The survey was designed based on Ianco-Worrall's (1972), Bialystok's (1986b) and Bialystok and Niccols' (1989) studies on *form-judgment tasks*, Vygotky's (1962) and Ricciardelli (1993) experiment on *word renaming tasks*, Ben-Zeev's (1977) *symbol substitution test* and Bialystok's (1987, 2001) and Ricciardelli's et al. (1989) *grammar judgments tests*. The questions from the survey intend to elicit the word or the syntactic awareness of the participants. The results did not demonstrate a complete overlap with the findings suggested by the literature. The general findings approved of the idea that superior metalinguistic abilities are evident in the performance of bilingual participants. However, contrary to the earlier assumptions, in some of the tasks the study identified superior metalinguistic performance demonstrated by the monolingual participant. The implications of these findings suggest that besides the exposure to two different languages, which enhances metalinguistic abilities, other factors might also influence the performance in metalinguistic tasks. Therefore, a future study which underlines a wider variety of crucial factors and a greater number of participants should be conducted to justify the validity of the results gathered from the *metalinguistic awareness survey*.

KEYWORDS awareness, metalinguistics, tests, bilinguals, monolinguals

1. INTRODUCTION

Metalinguistic tasks are tasks that require explicit attention to form, an aspect of language that is usually transparent in everyday language use. When people use language to communicate, they barely pay attention to grammar structures and rarely consider formal knowledge of the language rules (Cazden 1974). Cazden (1974), as the first one to define *metalinguistics*, refers to it as an ability to make language forms opaque and to attend to them. It is a special kind of a linguistic performance that requires special cognitive demands and is, at the same time, easier and less universally acquired than the other langue performances. *Metalinguistic*, as a general term, has been defined in different ways. It refers to the ability to go beyond the communicative use of language and to appreciate various qualities of language, such as grammatical and phonological properties, and linguistic ambiguities (Hakes 1980). Despite all the various definitions, one of the most valuable definitions for this work is Feldman and Shen's (1971) explanation of metalinguistic awareness as something that distinguishes monolingual from bilingual children.

Ricciardelli (1993) suggests that any linguistic skill can be a candidate for a metalinguistic counterpart. Thus, metalinguistic tasks should be classified and analysed according to the linguistic skill they derive from. By analysing the subject's performances on syntax, word, print and phonological tasks, Ricciardelli (1993) further developed a detailed framework which involved two complements. Depending on the nature of the tasks, the complements were either classified as control of linguistic processing or as analysis of linguistic knowledge tasks. The control of linguistic processing is referred to the component responsible for directing the attention to the selection and integration of information. This component is evident in tasks in which participants are required to make an anomalous word substitution, answer sentences about renamed things, and repeat anomalous sentences. In these tasks, participants are required to manipulate the linguistic knowledge and deal with competing information (Ricciardelli 1993).

The second component refers to the skill component responsible for structuring and explication of linguistic knowledge. Tasks that place the greatest emphasis on this component include those in which the subjects are asked to detect errors, correct ungrammatical sentences, and explain detected errors (Bialystok 1987; Ricciardelli 1993 and Ricciardelli et al. 1989).

As suggested by Bialystok and Niccols (1989), Cummins (1978), and Pinker (1994), all metalinguistic tasks rely on processes that include representational analysis and intentional control. Studies on metalinguistics generally consist of tasks designed to assess either linguistic processing or the analysis of linguistic knowledge. According to Ricciardelli (1993), if any of the above listed attributes of metalinguistic awareness is performed better by a bilingual, the person is believed to have superior metalinguistic awareness. The feedback from the research conducted over the years generally coincides with the assumption that bilingual children develop metalinguistic awareness in a different and enhanced manner and rate from monolingual children.

2. RESEARCH ON METALINGUISTIC ABILITY TASKS

2.1. THE MAIN EXPERIMENT

Leopold's (1949) observation of his bilingual child is considered to be the initial and the most influential study of bilingualism and its correspondence to the metalinguistic abilities. The study resulted in favourable effects of bilingualism on child's mental development. His detailed observation account revealed that from very early age his daughter Hildegard could render the same story freely in both languages. Moreover, when memorizing rhymes of both languages, she demonstrated a tendency to destroy the rhyme by inserting her own meaningfully related vocabulary. Furthermore, she accepted new names for objects already denoted by a language and asked for additional names in a third or even forth unfamiliar language.

This observation resulted in the conclusion that bilinguals demonstrate greater awareness of the fact that letters are symbols without an inherent meaning that do not resemble the sound they represent. This symbolic representation is interpreted earlier by bilinguals since they see the words written in two different ways. Through the process of organizing the two language systems, bilinguals develop a more analytical orientation to languages, which leads to grater metalinguistic awareness (Baker 2011; Leopold 1949). This conclusion has given rise to the period of metalinguistic experiments.

2.2. FORM-MEANING JUDGEMENT (ANALYSIS)

Ianco-Worrall's (1972), Bialystok's (1988) and Bialystok and Niccols' (1989) experiments tried to test the hypothesis that bilinguals outperform monolinguals on metalinguistic tasks. They observed the bilinguals' advantage in separating word sounds from word meaning by constructing tests in which the answer was based either on attention to the meaning or to the sound. The choice was either grounded on shared meaning or on shared acoustic properties. In the studies, the phonetic and semantic preference tests consisted of six monosyllabic set of words. Each set was made of three words drawn from everyday vocabulary used by English language speakers. In the tests, beside the word which was the standard one, two other words were provided as choices. One of the choices was semantically, while the other one was phonetically related to the standard. The participants were given three words: "cap", "can" and "hat". Based on their intuition, the participants were required to choose which word, "can" or "hat", is more like the word "cap" (Ianco-Worrall 1972). Since "cap" and "can" share the same sounds /kæ/, the candidate that chose the option "can" would appear to have made the choice determined by the sound of the words. The candidate that said that "hat" is more like "cap", appeared to choose meaning over sound. Consequently, "cap" and "hat" were given as samples that refer to the same characteristics.

The results suggested that bilinguals who have reached certain language proficiency tended to respond to the word meaning, while monolinguals more to the sound of the words. Therefore, bilinguals appear to believe that language is more of an arbitrary nature and, for that reason, chose the meaning over the sound. This statement coincides with Leopold's hypothesis and suggestion that, for bilinguals, the names of objects and the objects themselves are considered as separate notions.

2.3. WORD RENAMING (CONTROL)

Vygotky (1962), Ianco-Worrall (1972) and Ricciardelli (1993) designed questionnaires that focused on the metalinguistic task that measured the participants' ability to demonstrate control over language structures and ambiguity. Based on their experiments, the so referred *word renaming* task was designed to assess the subject's understanding of the word-referent relation.

The first part of the task tested whether individuals conceived names as aspects of things or if they viewed words as being tied to the referents. This exercise required the participants to answer whether a name of a word could be substituted for another. They were given three sets of names: "cow" and "dog", "chair" and "jam" and "book" and "water". The participants were asked if "cow" could be called "dog", if "chair" could be called "jam" and if "book" could be called "water". By giving a positive answer, the participant was assumed to perceive language as a matter of agreed convention. On the other hand, a negative answer implied perceiving the words as tied to their referents.

In the second part, the participants were required to accept the new names for the referents and answer questions about them. It was explained to all subjects, irrespective of how they responded to the previous task, that the changing of names could be possible if everybody imagined that the names used to describe things have altered.

After the introduction, children were given test items which consisted of questions about the renamed referents. For instance, after the explanation that "moon" is to be called "sun" was introduced, the participants were asked "What would you call the thing in the sky when you go to bed at night?" (Ricciardelli 1993, 352). By explaining to the children that they were playing a game in which a *dog* was called a *cow*, they were asked questions like "Does 'cow' have horns?" and "Does 'cow' give milk?" (Ricciardelli 1993, 352). Their answer was considered correct if the attributes of the object were retained even though the names had changed. By attending closely to the new name while trying to avoid confusion with the old name, the participants were asked to place a greater demand on the control of the linguistic processing (Ricciardelli 1993; Bialystok 2001). Vygotsky's (1962) and Ricciardelli's (1993) results demonstrated that most of the bilinguals felt that names could be interchanged. The tasks aimed to demonstrate the differences in the willingness to accept that the names of the words were convention rather than necessity. The study showed that bilinguals were superior in separating the qualities of objects from their names, and that they performed better in tasks that required the formulation of concepts in which the names had been arbitrarily assigned to objects (Ianco-Worrall 1972). The results from the studies demonstrated that bilinguals were able to treat words as desemanticized units and change the rules of the system better than monolinguals did (Ben-Zeev 1977).

2.4. SYMBOL SUBSTITUTION TEST (CONTROL)

Ben-Zeev's (1977) *symbol substitution test* tried to assess the individual's formal properties of word awareness and the level of the referential word arbitrariness. Control tasks require a high level of processing, as the solution depends on paying attention to language aspects that are not evident in everyday language use. In the designed *symbol substitution test* high level processing is required as the participants have to ignore the natural tendency to attend to the meaning of the words and deal only with formal instructions (Bialystok 1986a).

For instance, to substitute the word "I" for "macaroni" and to construct a sentence as "Macaroni am warm", a violation of the semantic and syntactic rules of the language rules was essential (Ben-Zeev 1977). In order to respond to the tasks correctly, the candidates had to ignore the word meaning, correct the sentence structure and resist the pragmatic-syntactic interference of the substituted word. To evade the interference of the word substitution, the usual semantic reference function had to be ignored and considered as a unit within a code system. Otherwise, the candidate would produce a sentence like "Maccaroni is warm" (Ben-Zeev 1977). The task would become more complicated if a minor part of speech was to be substituted for a major part. If the participant was asked to use the word "in" instead of "clean" and produce a sentence like "the doll is going 'clean' the house" (Ben-Zeev 1977), they would have been required to treat the sentences as an arbitrary and abstract code. This requires the ability to ignore both the meaning of individual words and the rules which govern the relationship of word classes in a sentence. The studies emphasised that bilinguals demonstrated superior skills in the area of linguistic understanding, especially in the relation between words and their meanings. This was prescribed to the presence of two language codes that provide different words which represent the same object (Ben-Zeev 1977). The existence of two language codes brings success in ignoring not only semantic, but also syntactic rules which govern the relationship between word classes and words in sentences. Since bilinguals have experienced more than one language, it is suggested that it should be easier for them to abandon the rules of a particular language and interchange them with a different set of rules when necessary.

2.5. GRAMMAR JUDGEMENT (CONTROL)

Bialystok (1986a) and Ricciardelli (1993) designed an experiment which measured the cognitive control of linguistic processing and explication of linguistic knowledge. By determining whether the sentences are grammatically correct or not, the participants were asked to judge

the grammatical acceptance and ignore the meaning of the sentences. The sentences were meaningful and grammatical (*Why is the dog barking so loudly?*); meaningful but grammatically incorrect (*Why the dog is barking so loudly?*); anomalous and ungrammatical (*Why the cat is barking so loudly?*), and anomalous but grammatically correct (*Why is the cat barking so loudly?*) (Bialystok 1986a; Ricciardelli 1993). The purpose was to determine whether or not the participants could evaluate a specific grammatical structure when asked to violate the grammatical and pragmatic rules (Bialystok 2001). Similarly, Galambos and Goldin-Meadow (1990) conducted a study in which a range of tasks assessing syntactic awareness was presented to monolingual and bilingual children. In both studies it was evident that noticing and correcting errors developed systematically in all children. However, bilinguals' ability to note and correct errors progressed faster, resulting in more significant advantages.

2.6. GAP IN THE EXISTING RESEARCH

As suggested by Bialystok et al. (2005), most of the metalinguistic experiments assess either word awareness or syntactic awareness. The focus of the conducted studies was either on linguistic processing or on the analysis of linguistic knowledge. However, what had not been conducted is a study which would focus on the control of linguistic processing and analysis of knowledge, and which would encompass tasks that involve word and grammar awareness of the participants. The designed *metalinguistic awareness survey* includes tasks that involve demonstrating word and grammar awareness. The study consists of five separate tasks, one of which assesses the ability to analyse linguistic knowledge and the remaining four measure the participants' skills in linguistic processing. Ianco-Worrall's (1972), Bialystok's (1987), and Bialystok and Niccols' (1989) experiments on *form-judgment tasks*, Vygotky's (1962) and Ricciardelli (1993) designed questionnaires on *word renaming tasks*, Ben-Zeev's (1977) *symbol substitution test* and (Bialystok 1987 and 2001) and Ricciardelli's (1993) *grammar judgments tests* were used as guidelines for designing the *metalinguistic awareness survey*.

3. METHODOLOGY

3.1. CHOICE OF PARTICIPANTS

The metalinguistic awareness survey was conducted on 23 participants, 14 of whom gave answers considered acceptable. The conducted research included participants of various linguistic backgrounds.

The monolingual participants' native language was English and they had not lived in a foreign country. Since the conducted research tried to identify a feature within a restricted type of participants, the focus of the choice of monolingual participants was only on native English speakers who could barely speak another language. Due to the cost and time efficiency, the number of monolingual participants was limited to one.

The bilinguals were participants who have lived in England and had learned English at a level required for studying and working. The non-native English speakers who have lived, worked, or studied in an English-speaking environment had a native language other than English.

An important variable considered in the choice of participants was the level of English performance in bilingual participants. In the designed questionnaire, only the answers from the participants who are believed to have reached a certain level of English proficiency were considered. To ensure that the participants had reached the minimum level of English proficiency, only participants studying or working in English speaking surroundings have been taken into consideration. More precisely, in order to work or study in an English-speaking environment, the participants had to demonstrate that their English competence is no lower than B2 level according to Common European Framework of Reference (CEFR).

3.2. THE ADMINISTRATION OF THE SURVEY

The survey was in the form of a web questionnaire administered to the participants via emails. The survey followed an interactive multi-page

delivery. The items were delivered in blocks on a single page which had to be completed before the participants were provided with the next page of items. Interactive multiple-page delivery prevented skipping questions or returning to the previous ones. After each page had been completed, the responses were transmitted to a host server by clicking *next* at the bottom of the page.

3.3. AIM OF THE RESEARCH

The essential idea was to identify the presence or absence of a quality in the observed individuals and how this quality was demonstrated in the designed tasks. The aim of the research was to demonstrate whether the bilinguals demonstrate greater metalinguistic abilities as suggested by the literature. Since there was only one monolingual participant, their result was used to confirm or reject the assumption of metalinguistic advantages in a limited number of monolingual individuals.

4. CONCLUSION

The survey resulted in a partial overlap with the findings presented in the literature. The literature suggests that, since bilinguals are constantly faced with interference of two language codes, they are expected to demonstrate superior metalinguistic abilities. The findings from the conducted survey suggest that the bilinguals demonstrated good mastery over some aspects of language. However, this mastery was not uniformly presented. The advantage of the bilingual participants was most evident in *form-meaning judgment, symbol substitution test* and *grammar judgment tasks*. Each of the tasks required either the ability to attend to the formal properties of the language, the selective attention to words or their properties, the performance of operation on the isolated target, or the ability to apply specific processes to target units as integral part of language use.

The conducted research has suggested that bilinguals have an advantage when it comes to analysing language forms owing to the exposure to two different languages. The feedback also approves Baker and Jones' (1998) and Appel and Muysken's (1987) idea that the exposure to two different linguistic codes promotes a more analytical orientation to linguistic operations, which leads to a greater awareness of the language systems.

Similar to the analysed results of the research conducted by Bialystok (1986a) and Ricciardelli (1993), in which children were asked to judge or correct sentences for their syntactic acceptability irrespective of the meaningfulness, the gathered feedback shows that bilinguals exhibit greater cognitive control of linguistic processes.

Similarly, Chin and Wigglesworth (2007) suggest that bilinguals have greater awareness of the arbitrary or conventional relationship between the words and the objects because they are constantly aware of the two competing forms for one meaning. The survey feedback demonstrates partial overlap with this theory. Bilinguals performed better than monolinguals, but not in tasks where names were conceived as aspects of things, but in answering questions which required recognizing attributes of the arbitrarily assigned names of things.

The gathered feedback also overlaps with Ricciardelli's (1993) study in which bilinguals demonstrated a superior performance in games which involved answering questions about the substituted item and in the meantime preserving the characteristics of the "old" word.

It is worthwhile to mention that even though the conducted research generally demonstrates the advantage of bilinguals, it was found that the advantage is confined to certain tasks and sometimes certain parts of the tasks. Previous research suggested that bilingual participants had consistently demonstrated the ability to pay particular attention to certain systematic aspects of the language, such as the advantage evident in the ability to process rules with flexibility and good ability in

associating words categorically (Skutnabb-Kangas 1981). According to the feedback to the conducted research, bilinguals failed to demonstrate the assumed consistent advantage in indicating the understanding of arbitrariness of language. Even though bilingual participants were able to treat words as desemanticized units and change the syntactic rules within a given language code, they conceived names as aspects of things which is an ability related to monolinguals. Similarly, besides demonstrating mastery in the ability to recognize and retain attributes after the name of the target word had been changed, bilingual participants failed to grasp the idea that names of things could be interchanged. In conclusion, bilinguals have neither across-the-board metalinguistic awareness nor universal superior metalinguistic ability. Bilinguals have a good metalinguistic ability especially in tasks that require selective control of attention to the target information and tasks that require greater analysis of internal linguistic processing.

The results do not overlap with the assumption that monolinguals are less advantaged in solving metalinguistic problems (Bialystok 2001; Bilaystok 1988; Bialystok 1986b; Ianco-Worrall 1972). The conducted study at hand yielded results similar to those demonstrated by both monolingual and bilingual participants from the above-mentioned study. Monolingual participants have also demonstrated superior analytical orientation to language. Successively, not only high metalinguistic abilities in monolingual participants are evident across all the studies, but higher scores obtained by monolinguals are also evident in the first part of the *word renaming tasks*. In other words, monolinguals appear to be more aware of the fact that the names of the objects should not be conceived as aspects of things.

It can be concluded that the research findings coincide with the theory that bilingual individuals develop analytical orientation to language. However, contrary to the earlier findings, bilingual subjects did not outperform their monolingual peers in the five conducted tasks, and thus the assumption that the great metalinguistic ability results only from organizing two different language systems is not valid for the conducted

research. This inconsistency might be considered for a further, more detailed study, which would underline a wider variety of crucial factors and a greater number of participants.

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