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TABLE OF CONTENTS

ARTICLES

PREDICTORS OF PICTURE NAMING AND PICTURE CATEGORIZATION IN SPANISH

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Abstract. The aim of this paper was to identify which psycholinguistic variables are better predictors of performance for healthy participants in a picture naming task and in a picture categorization task. A correlation analysis and a Path analysis were carried out. The correlation analysis showed that naming accuracy and naming latency are significant and positively correlated with lexical frequency and conceptual familiarity variables, whereas they are negatively correlated with H index. Reaction times in the categorization task were negatively correlated with lexical frequency and conceptual familiarity variables and positively correlated with visual complexity variable. The Path analysis showed that subjective lexical frequency and H index are the better predictors for picture naming task. In picture categorization task, for reaction times, the better predictor variables were subjective lexical frequency, conceptual familiarity and visual complexity. These findings are discussed considering previous works on the field.

Keywords: psycholinguistic variables, predictors variables, picture naming, picture categorization, accuracy, reaction times.

Квітіньйо Макарена Мартінез, Соріано Федеріко Ґонзало, Яйченко Вірджинія, Стіб Бренда, Барейро Хуан Пабло. Предиктори найменування зображень та їхньої категоризації в іспанській мові.

Анотація. Мета статті – визначити, які психолінгвістичні змінні є кращими предикторами продуктивності найменування зображень та їх категоризації серед здорових учасників. У дослідженні застосовано кореляційний аналіз та аналіз віднаходження шляхів.

Кореляційний аналіз доводить, що точність та латентність назв є високими, і вони позитивно корелюють з лексичною частотою та концептуальною схожістю змінних, проте негативно співвідносяться з індексом Н. Кількість реакцій у завданні на категоризацію негативно спів-відносилася з лексичною частотою та концептуальною схожістю змінних, проте позитивно корелювала зі змінною візуальної складності. Аналіз віднаходження шляхів показав, що суб'єктивна лексична частота і індекс Н – кращі предиктори у завданні найменування зобра-жень. У завданні класифікації зображень на кількість реакцій, предикторними змінними були суб'єктивна лексична частота, концептуальна схожість та візуальна складність. Отримані результати обговорюються в поданій статті, з огляду на попередні наукові праці у цій сфері.

Ключові слова: психолінгвістичні змінні, предикторні змінні, найменування зображень, категоризація зображень, точність, кількість реакцій.

1. Introduction

The picture naming task (PNT) is one of the most used paradigms in psycholinguistics, cognitive psychology and neuropsychology. The aim of this task is to evoke the first name that comes to mind when a picture (e.g. object or action) is showed. For this task, the dependent variable is the elapsed time, measured in milliseconds, since the picture is presented until the subject begins to name it. Despite being a task that appears to be very simple, many successive cognitive processes, which under normal conditions are performed very quickly and automatically, are necessary. This is the most commonly used task to decide how mental representations could be retrieved from memory (Carroll & White, 1973; Humphreys, Riddoch, & Quinlan, 1988; Oldfield & Wingfield, 1965; Snodgrass & Yuditsky, 1996).

Previous studies have assessed the impact of psycholinguistic factors in PNT. Many factors could influence different stages, such as visual recognition, concept access or word retrieval. Characterize and quantify these factors in some variables would aid to identify which is the best predictor of accuracy and speed in healthy subjects' performance (Alario et al., 2004; Barry, Morrison, & Ellis, 1997; Cuetos, Ellis, & Alvarez, 1999; Manoiloff, Artstein, Canavoso, Fernández, & Seguí, 2010). These factors should be similar across different languages but could be different depending on the material used (Khwaileh, Mustafawi, Herbert, & Howard, 2018).

A less frequently employed but equally useful way to assess conceptual retrieval is picture categorization task (PCT). In PCT, subjects must classify stimuli into one of a set of categories (for example, dog as an ANIMAL or hammer as a TOOL). Categorization implies deciding whether an item belongs to certain classification (e.g. a semantic category or a semantic domain). In this task, it is possible to use pictures or words. PCT should appear to be easier than word categorization task since perceptual attributes provide information about the membership of the item to some semantic categories (e.g. the face or the legs in an animal and a handle or a blade in a tool).

The main variables identified which affect PNT are: visual complexity, conceptual familiarity, lexical frequency, name agreement, length, typicality and age of acquisition (Bakhtiar & Weekes, 2015; Balota, Pilotti, & Cortese, 2001; Barry, et al., 1997; Bates, Burani, D´amico, & Barca, 2001; Cuetos, et al., 1999; Cycowicz,

Friedman, Rothstein, & Snodgrass, 1997; Khwaileh, et al., 2018; Laws, 1999; Snodgrass & Vanderwart, 1980; Snodgrass & Yuditsky, 1996; Székely & Bates, 2000; Székely et al., 2003). In a PCT, the most frequently variables which affect subjects performance are: visual complexity, conceptual familiar, lexical frequency, typicality and age of acquisition (Barbón & Cuetos, 2006; Morrison, Ellis, & Quinlan, 1992). Until today, the best predictors for successful performance in picture naming and picture categorization are discussed.

Lexical frequency is a measure that denotes the degree of activation of a word. This variable refers to how frequent a word is activated in a specific language. It is associated with accuracy and speed in PNT. A word with higher frequency will be more accurately and quickly recovered (Humphreys, et al., 1988; Martein, 1995; Oldfield & Wingfield, 1965). Oldfield and Wingfield (1965) identified, using a PNT with 26 pictures, a linear relationship between naming and latency times. They found a negatively correlation between naming latency and lexical frequency. This means that the names of pictures represented by words more frequently used are more available than the names that belong to words which are not so frequently used.

Age of acquisition (AoA) refers to the age at which a word is learned. The earlier a word is learned, the faster it is recovered and the higher accuracy in PNT is (Akinina et al., 2015; Bonin, Chalard, Méot, & Fayol, 2002; Bonin, Peereman, Malardier, Méot, & Chalard, 2003; Cameirão & Vicente, 2010). AoA is frequently reported as highly correlated with lexical frequency. Words that are acquired earlier tend to be high frequency (Meschyan & Hernandez, 2002). Carroll and White (1973) considered this variable a better predictor in PNT than lexical frequency. Moreover, AoA was the only significant variable in their multiple regression analysis to explain naming latencies times. Similar findings were reported by Morrison et al. (1992) using a multiple regression analysis with a PNT. In this study, the only variables that had significant effect in latencies times were AoA and the number of phonemes. Barry, Morrison and Ellis (1997) identified that speed naming was predicted by lexical frequency, the interaction between AoA and lexical frequency and name agreement. Also, Iyer et al. (2001) identified that the AoA was a slightly better predictor of latencies times than lexical frequency and also, by another variable, conceptual familiarity. They found a high correlation between AoA and latency times and also between latency times and lexical frequency. Moreover, in the same study, using a Stepwise Regression analysis, the authors identified that AoA and lexical frequency as independent variables. Some evidence suggests that the lexical frequency effect could also be partiality explained by the age of acquisition (Carroll & White, 1973). The AoA effect was also present in pictures categorization task (Barbón & Cuetos, 2006; Carroll & White, 1973). Pictures that represent concepts learned earlier are categorized faster.

Visual complexity is one of the variables which could affect accuracy and also latency times (Ellis & Morrison, 1998; Székely & Bates, 2000). This variable refers to the numbers of lines and details included in the pictures. Nevertheless, some studies assessing picture naming in adults fail to identify visual complexity as a

predictor variable in latency times (Barry, et al., 1997; Bonin, et al., 2002; Bonin, et al., 2003; Cuetos, et al., 1999; Khwaileh, Body, & Herbert, 2014; Snodgrass & Yuditsky, 1996), while others were able to identify it (D´amico, Devescovi, & Bates, 2001; Shao, Roelofs, & Meyer, 2012). The major problem is that visual complexity is frequently mistaken for another variables associated with the picture representation. In addition, it has been reported that visual complexity is negatively correlated with lexical frequency and conceptual familiarity and positively with AoA (Barry, et al., 1997; Cycowicz, et al., 1997; Ellis & Morrison, 1998; Morrison, Chappell, & Ellis, 1997; Sanfeliu & Fernández, 1996; Snodgrass & Vanderwart, 1980; Snodgrass & Yuditsky, 1996). This means that pictures that are visually more complex are denoted by less frequent words and represented by less familiar concepts. Moreover, concepts representing more complex pictures are acquired later in life. Also, Cycowicz et al. (1997) identified that visual complexity ratings measured in young children for a set of 400 pictures did not differ from the adult´s rating. This means that the conceptual familiarity or lexical frequency does not play a role when visual complexity ratings are measured.

Name agreement is another variable that predicts the performance in a PNT. This refers to the degree to which a concept is associated only to a specific name. Pictures with high name agreement were named with shorter latencies (Alario & Ferrand, 1999; Barry, et al., 1997; Boukadi, Zouaidi, & Wilson, 2016; Martínez-Cuitiño & Vivas, In press).This variable is frequently negatively correlated with visual complexity. Snodgrass and Vanderwart (1980) identified that more visually complex pictures produce more alternative names (i.e. H value). This value is another measure regarding name agreement. When H is equal to 0, a perfect name agreement is reached. When H value increases, the name agreement decreases. This correlation was replicated by Cycowicz et al. (1997) but other studies did not find it (Barry, et al., 1997; Bonin, et al., 2002; Bonin, et al., 2003; Cuetos, et al., 1999; Ellis & Morrison, 1998; Sanfeliu & Fernández, 1996; Snodgrass & Yuditsky, 1996).

Conceptual familiarity refers to daily contact with an object or a concept within a specific language or culture. This variable predicts reaction times in PNT. Familiar concepts are retrieved faster (Akinina, et al., 2015; Boukadi, et al., 2016; Ellis & Morrison, 1998; Snodgrass & Yuditsky, 1996). Conceptual familiarity is strongly correlated with visual complexity and also with lexical frequency (Snodgrass & Vanderwart, 1980). Because of the high correlation, Bates et al (2003) assumed that the frequency effect is a conceptual effect like conceptual accessibility. Almeida et al. (2007) considered that this measure affects the lexical level since it was presented in a PNT but it did not affect the semantic level, since it was absent in the categorization task.

Laws (1999) postulated that conceptual familiarity is a construct which includes a variety of concepts: conceptual, visual and functional familiarity. Laws and Neve (1999) identified that only visual familiarity is a good predictor in restricted picture naming tasks. But, until now, these findings have not been replicated.

Another variable that could be a possible predictor in both tasks is the *semantic domain*. The pictures used in naming and categorization tasks represent living things (LT) and inanimate objects (IO). Differences in performance with both types of stimuli have been reported with neurological patients and control subjects (Albanese, Capitani, Barbarotto, & Laiacona, 2000; Capitani, Laiacona, Barbarotto, & Trivelli, 1994; Gaffan & Heywood, 1993; Laws, 2000; Laws & Neve, 1999; Lloyd-Jones & Humphreys, 1997). Picture representations of LT and IO signi-ficantly vary in complexity: LT are visually more complex than IO (Laws, 2000), words representing LT are less frequent than the ones referring to IO (Warrington & McCarthy, 1983), conceptual familiarity is higher for IO(Laws, 2000), and AoA between both domains is dissimilar.

Typicality is another variable to take into consideration. Typicality measures if an exemplar is representative of the other exemplars included in the same semantic category (e.g. tomato or lemon for the fruit category). More typical exemplars of a category are named and categorized faster (Martínez-Cuitiño & Vivas, In press). Using a regression analysis, Morrison et al. (1992) identified that typicality was the only variable that predicted responses times.

The purpose of this work is to identify which variables are best predictors of the performance (accuracy and speed) of healthy participants in two tasks (naming and categorizing linear black-and-white pictures), employing a wide corpus of stimuli that belong to different semantic categories.

2. Methods
2.1. Participants

For this study, 48 participants were assessed in the picture naming task (30 % male and 70 % female), with a mean age of 25.96 years (*SD* = 5.78). In the catego-rization task, 35 participants were evaluated (45.7 % male and 54.3 % female), with a mean age of 27.68 years (*SD* = 6.06).

All participants were undergraduate students, Spanish native speakers, and none of them suffered from alcoholism, drugs abuse, psychiatric or neurological diseases. All participants were right handed. They did not present visual impairments (or they had it corrected) by the time of the assessment (e.g. glasses or contact lenses). Participants took part of the study voluntarily and signed an informed consent to participate. They did not receive any money retribution for their collaboration. The study was conducted in agreement with the Declaration of Helsinki and approved by the institutional ethics' committee.

2.2. Materials

The 400 pictures from Cycowicz et al. (Cycowicz, et al., 1997) were used to design both tasks[1]. This set of stimuli has normative data for Argentine population

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[1] In this material are included 260 black and white, simple pictures designed by Snodgrass and Vanderwart (1980) an also the pictures taken from Berman et al. (1989)

(Manoiloff, et al., 2010; Martínez-Cuitiño, Barreyro, Wilson, & Jaichenco, 2015). This set of pictures includes 108 LT and 292 IO.

2.3. Procedure

Participants were assessed during a 40-minute individual session for naming task, and a 20-minute session for categorization task. Both tasks were designed using the DMDX software (Forster & Forster, 2003) and were administered in a 15-inch-screen TOSHIBA laptop computer.

Stimuli were presented in a pseudo-random way, in four stages of 100 items each, with three breaks in between. For the naming task, items were counter-balanced according to initial phonemes (Székely, et al., 2003).

2.4. Picture naming

A practice with 10 items was presented before the task. A fixation point (*) appeared during 400 milliseconds (ms) on the screen. Then one picture was presented for 800 ms. and, finally, a blank screen to name the picture was presented during 4000 ms. This screen remained even if the subjects named the picture before the 800 ms had passed. No feedback was given regarding correct or wrong responses. Responses were subsequently analyzed with the Check Vocal program (Protopapas, 2007).

2.5. Categorization task

A practice with 10 items was presented before the task. A fixation point (*) appeared during 400 ms on the screen, then one picture was presented for 800 ms and, finally, a blank screen appeared during 2000 ms. Subjects were instructed to press the S key on the keyboard if the item belonged to the LT domain or the N key if it did not. If the participant pressed the key before the provided time was over, the next item was automatically presented. No feedback was given regarding correct or wrong responses.

2.6. Data analysis

A Pearson's *r* correlation analysis was performed for picture naming and picture categorization considering the following variables: lexical frequency, conceptual familiarity, visual complexity, age of acquisition, *H* index, correct answers and reaction times.

In order to identify predictive variables, a Path analysis was performed, using structural equation modeling. The analysis was executed by employing maximum likelihood estimate between measures as an input for the data analysis (Arbuckle, 2003). The model proposed and tested had two dependent variables: a) a categorization latent factor created from correct categorization answer and categorization reaction times and, b) a naming latent factor created from correct naming answer and naming latency times. The independent variables in the model were lexical frequency, conceptual familiarity, visual complexity, age of acquisition and *H* index. The independent variables were correlated between them.

3. Results

First, the descriptive statistics of the variables are presented en Table 1.

Table 1
Descriptive statistics

	M	SD	Min	Max	Sk	Ku
CNA	0,84	0,20	0,00	1,00	-1,61	2,21
NLT	1127,02	287,75	682,97	2289,91	0,75	0,31
CCA	0,96	0,06	0,63	1,00	-2,03	4,54
CRT	498,73	39,99	370,60	683,22	0,85	1,57
LF	2,59	1,22	1,03	5,00	0,49	-1,15
H	0,79	0,72	0,00	2,66	0,67	-0,71
CF	2,86	1,17	1,14	5,00	0,28	-1,27
AoA	2,52	0,69	1,14	4,72	0,43	-0,12
VC	3,14	0,96	1,00	4,94	-0,23	-0,79

CNA = Correct naming answer, NLT = Naming latency times, CCA = Correct categorization answer, CRT = Categorization reaction times; LF = Lexical Frequency, H = H Index, CF = Conceptual Familiarity, AoA = Age of Acquisition; VC = Visual Complexity.

The results of correlation analysis between the variables and the results of the naming and categorization tasks are presented in Table 2.

Table 2
Correlations between variables and results in the naming and categorization tasks

	CNA	NLT	CCA	CRT	LF	H	CF	AoA	VC
CNA	1	-,80***	-,03	-,07	,18***	-,29***	,16**	,03	,00
NLT		1	,06	,12*	-,22***	,29***	-,17**	-,03	,02
CCA			1	-,07	,00	,06	,03	-,04	-,01
CRT				1	-,15**	,06	-,14**	,02	,14**
LF					1	-,19***	,84***	-,01	-,34***
H						1	-,15**	-,03	,09
CF							1	-,03	-,41***
AoA								1	,03

$^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$

CNA = Correct naming answer, NLT = Naming latency times, CCA = Correct categorization answer, CRT = Categorization reaction times; LF = Lexical Frequency, H = H Index, CF = Conceptual Familiarity, AoA = Age of Acquisition; VC = Visual Complexity.

Accuracy in naming task (CNA) is significantly and positively correlated with lexical frequency (LF) and conceptual familiarity (CF), and negatively with H index. The same results were found for reaction times (NLT). This implies that

words with higher lexical frequency require less time to be retrieved, while words that were acquired later in life require more time. Also, words with higher conceptual familiarity and words with lower values in H index (higher name agreement) require less time.

Reaction times in categorization task (CRT) are negatively correlated with lexical frequency and conceptual familiarity, and positively with visual complexity (VC). In the categorization task, however, pictures with higher visual complexity, lower familiarity and lower lexical frequency required longer times to be categorized.

Subsequently, and with the aim of identify variables affecting naming and categorization of simple drawings, a path analysis was carried out (Arbuckle, 2003). The model showed a good adjustment of the data to the model ($\chi^2_{(14)} = 21.24$, $p = .10$, $\chi^2/df = 1.52$, CFI = .99; TLI = .98, AGFI = .96; RMSEA = .04). The model is presented in Figure 1.
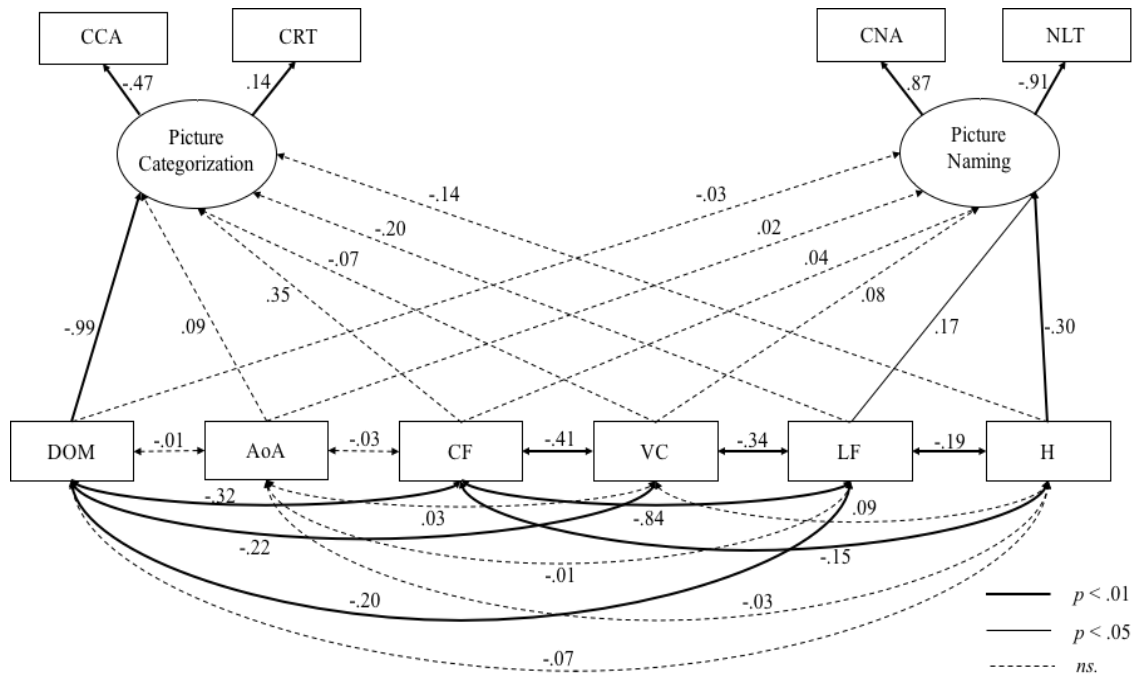
Figure 1. Path Analysis Model proposed

The path analysis showed that the picture naming task is predicted by H index ($\beta = -.30$; $p < .001$) and lexical frequency ($\beta = -.17$; $p < .05$), and picture categorization is only predicted by semantic domain ($\beta = -.99$; $p < .01$).

4. Discussion
The aim of this paper was to identify which psycholinguistic variables are the best predictors of performance (accuracy and speed) in naming and categorization tasks with healthy participants. We employed a wide corpus of stimuli (Cycowicz, et al., 1997) that belongs to different semantic categories. This material has normative data for Argentinian population. A correlation analysis was carried out, at

first, to study relation among the variables, and a Path analysis (Arbuckle, 2003) was performed, consequently, to identify the better predictors.

The correlation analysis showed for both, accuracy and latency times in picture naming task, that the related variables are lexical frequency, conceptual familiarity and H index (name agreement). These results accord with the various previous findings in which the lexical frequency is associated with the accuracy and the reaction times in picture naming task (Alario, et al., 2004; Barry, et al., 1997; Cuetos, et al., 1999; Ellis & Morrison, 1998; Khwaileh, et al., 2018; Martein, 1995; Oldfield & Wingfield, 1965; Snodgrass & Yuditsky, 1996). That means that the names of pictures represented by words more frequently used are more available than words which are not so frequently used. Also, these results accord with the findings reported about conceptual familiarity. Words that refer to more familiar concepts are retrieved faster than those related to less familiar concepts (Akinina, et al., 2015; Barca, Burani, & Arduino, 2002; Boukadi, et al., 2016; Cuetos, et al., 1999; Ellis & Morrison, 1998; Khwaileh, et al., 2018; Snodgrass & Yuditsky, 1996).

The relation between H index and the accuracy and the latency time of picture naming was also identified in various previous studies (Alario, et al., 2004; Barry, et al., 1997; Bonin, et al., 2002; Bonin, et al., 2003; Boukadi, et al., 2016; Cuetos, et al., 1999; Cycowicz, et al., 1997; Dell´Acqua, Lotto, & Job, 2000; Khwaileh, et al., 2014; Khwaileh, et al., 2018; Martínez-Cuitiño & Vivas, In press; Snodgrass & Yuditsky, 1996; Vitkovitch & Tyrrell, 1995). The H index is a measure of name agreement, and that means that a word with low values of H index correlates to a high accuracy and fast latency time in naming. A picture with higher name agreement has less competition and this influences accuracy and naming latency.

In our study, age of acquisition shows no relation to accuracy and latency time in the picture naming task. These results are not in agreement with various of previous studies (Akinina, et al., 2015; Alario, et al., 2004; Barry, et al., 1997; Bonin, et al., 2002; Bonin, et al., 2003; Cameirão & Vicente, 2010; Cuetos, et al., 1999; Dell´Acqua, et al., 2000; Khwaileh, et al., 2018; Meschyan & Hernandez, 2002; Snodgrass & Yuditsky, 1996) that classified the age of acquisition as a strong predictor variable. Words learned earlier have robust lexical representation. However, a possible explanation could be that in this study only 108 stimuli were LT. The OI are learned earlier. Perhaps this difference in the material could explain the absence of the age of acquisition effect because most lexical items in this set are acquired at earlier age therefore no AoA effect is found.

Our results also failed to detect a relation between visual complexity, accuracy and latency time in picture naming task. This accords with a major group of previous research (Barry, et al., 1997; Bonin, et al., 2002; Bonin, et al., 2003; Cuetos & Barbón, 2006; Cuetos, et al., 1999; Snodgrass & Yuditsky, 1996). Only some studies found this relation in French (Alario, et al., 2004) and in British English (Ellis & Morrison, 1998).

The Path analysis showed that lexical frequency and H index are the best predictors for the picture naming task, but excluded the conceptual familiarity. Previous reports have suggested that conceptual familiarity is included within

14

lexical frequency, so only the most robust variable of the two would show up in the analysis (Tanaka-Ishii & Terada, 2011). That means only the most frequent words and with the lower H index are named more accurately and faster. In a previous research in French language (Alario, et al., 2004) that performed multiple regressions analyses, it was found that lexical frequency, age of acquisition, name agreement, image agreement, imageability and visual complexity are predictors for a picture naming task using the same pictures, but they did not find conceptual familiarity as a predictor. In Peninsular Spanish (Cuetos, et al., 1999), they spotted lexical frequency, age of acquisition, name agreement, image agreement, number of syllables, number of phonemes and conceptual familiarity as predictor variables.

According to previous studies, our results confirm that lexical frequency and name agreement are the best predictors for picture naming task. Conceptual familiarity and lexical frequency are independent measures although they are high related (Barry, et al., 1997; Bonin, Boyer, Méot, Fayol, & Droit, 2004). Age of acquisition did not appear as a predictor. This is a rare result, since all previous studies identified the contribution of this variable to the naming times. Also, the impact of this variable had been identified across different languages (Bonin, et al., 2004; Brysbaert, Van Wijnendaele, & De Deyne, 2000; Cameirão & Vicente, 2010; Cuetos & Barbón, 2006; Khwaileh, et al., 2018).

In the picture categorization task, the correlation analysis showed, only for reaction times, that the related variables are lexical frequency, conceptual familiarity and visual complexity. This means that the pictures with higher visual complexity, lower familiarity and lower lexical frequency require longer times to be categorized. In a previous study, Barbon & Cuetos (2006) identified that the variables related to reaction times were lexical frequency, familiarity, age of acquisition and others not included in this study, such as imaginability and availability.

The Path analysis showed that semantic domain is the only predictor of the reaction times in the picture categorization task. Semantic domain (LT vs IO) predicts the speed of participants' performance. This variable, with the exception of Laws' study (2000), has not been taken as a possible predictor. Our data show that it is important to consider this variable, because IO domain is categorized more accurately and faster than LT. Categorization differs from naming because the subjects only have to recognize an item as belonging to certain category. This is not enough to respond in the naming task, where the subjects need to access the particular identity of an item and retrieve the exact name for a picture.

In both tasks, different variables affect the performance of participants. This means that both tasks are not similar and because of that, the variables that have an impact on a task are not the same that do so on the other. Considering this, it is possible to think that the cognitive processes involved in both tasks are different. A more thorough study could be necessary to detect the specific components and mechanisms involved in each task.

A limitation of this study is that all the results allow knowing in greater depth the psycholinguistic factors that predict the performance of young adults only. In a near

future, it would be important to replicate these analyzes considering the performance of older adults in order to know if the same psycholinguistic variables are the predictors.

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17

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PSYCHOLINGUISTIC MEANINGS OF PLAYFULNESS

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Abstract. The aim of the article is to describe psycholinguistic meanings of the word-stimulus "playfulness" in the linguistic world-image of the Russian-speaking population of Ukraine. The main method of the conducted research was the psycholinguistic experiment. The sample according to the criteria "gender" (males and females – included both age groups) and "age" (18-35 and 36-60) included 1,600 respondents with 400 people in each sub-group of respondents. The overall number of reactions to stimulus "playfulness" comprised 1,600 associative reactions with 475 unique associations including word combinations and sentences, where 159 reactions have frequency over 1,316 individual associations, and 0 refusals. The semantic interpretation of the results of the free association test made it possible to single out 19 psycholinguistic meanings, 12 out of them accounted for more than 1%: 1) "cheerful and joyful state", 2) "intention to attract the attention of the opposite or one's own sex", 3) "child-like spontaneity", 4) "agility, physical activity of an animal", 5) "daring and provocative behavior", 6) "agility, physical behavior of a human being", 7) "ease", 8) "changeability", 9) "behavior during a sexual intercourse", 10) "carelessness", 11) "mental activity", 12) "deliberate deceit". Taking into account the respondents' verbal behavior, the following components of playfulness were identified: flirting, impishness, humor, fugue (eccentricity), ease, imagination. The formulated psycholinguistic meanings of playfulness can be fully considered as such that give the most adequate and reliable model of the systemic significance of the studied word and which reflects the reality of linguistic consciousness.

Keywords: playfulness; psycholinguistic meaning; psycholinguistic experiment; free word association test; semantic interpretation.

Гордієнко-Митрофанова Ія, Кобзєва Юлія, Саута Сергій. Психолінгвістичні значення грайливості.

Анотація. Статтю присвячено опису психолінгвістичних значень стимулу «грай-ливість» у мовній картині світу російськомовного населення України. Основним методом проведеного дослідження був психолінгвістичний експеримент. Вибірку за критерієм "вік" (18-35 і 36-60) і "стать" (чоловіки та жінки, враховуючи обидві вікові групи) склали 1600 респондентів: по 400 осіб у кожній підгрупі респондентів. Загальна кількість реакцій на стимул "грайливість" склала відповідно 1600 реакцій-асоціацій: 475 унікальних асоціацій, включаючи словосполучення та речення, з них реакцій із частотою більше 1–159, одиничних – 316, відмов – 0. За результатами психолінгвістичного експерименту описано 19 психо-лінгвістичних значень, із них 12 більше 1 %: 1) "жваво-радісний стан"; 2) "прагнення при-вернути увагу представників протилежної або своєї статі"; 3) "безпосередність поведінки

дитини"; 4) "рухливість, рухова активність тварини"; 5) "зухвало смілива, запальна пове-
дінка"; 6) "рухливість, рухова активність людини"; 7) "легкість"; 8) "мінливість"; 9) "пове-
дінка під час сексу"; 10) "безтурботність"; 11) "розумова активність"; 12) "умисне введення в
оману". Психолінгвістичні значення дозволили, з огляду на вербальну поведінку респон-
дентів, виявити такі компоненти грайливості: флірт, пустотливість, гумор, ф'юг (ексцент-
ричність), легкість, уява. Сформульовані психолінгвістичні значення грайливості з упевне-
ністю можна розглядати як такі, що дають найбільш адекватну й достовірну модель
системного значення слова «грайливість», що відображають реальність мовної свідомості.

Ключові слова: грайливість; психолінгвістичне значення; психолінгвістичний
експеримент; вільний асоціаціативний експеримент; семантична інтерпретація.

> *"... the associative field of a stimulus word is not only a
> fragment of the verbal memory of a human being, but
> also a fragment of the image of the world shared by a
> particular ethnos, reflected in the consciousness of an
> average representative of the culture, his/her motives
> and judgments, and, consequently, cultural stereotypes"*
> *(Ufimtseva, 2009, p. 98).*

1. Introduction

During the last twenty years, one can observe a radical reorientation from
fragmentary mentions of playfulness in psychological texts (Bowman, 1987; Bundy,
1996; Chandler, 1997) to the establishment of the latter as *a stable personality trait*
in theoretical psychological studies (Guitard et al., 2005; Barnett, 2007; Shen, 2010;
Yarnal & Qian, 2011; Proyer, 2012; Yue et al., 2016; Gordienko-Mytrofanova &
Sauta, 2016; Gordienko-Mytrofanova & Kobzieva, 2017).

In Ukraine, we are the pioneers in the field of study of playfulness as a
sustainable personality trait, and we study it in the perspective of the psycho-
linguistic approach, since "the reality of each concept manifests itself in the
language" (Kondakov, 1975, p. 457). The essence of playfulness is realized through
the psycho-linguistic experiment which is carried out through the reconstruction of
its essential characteristics as semantic components, actualized in the consciousness
of native speakers. The psycho-linguistic experiment aims to describe the psycho-
linguistic meanings of playfulness.

Psycholinguistic meaning is the psychologically real meaning of a word. It
bears a tremendous cognitive value in studying of phenomena, expressed by words
with unclear semantics. It allows us to establish of the actual definitions and
semantic components, which are different from the lexicographic correlate and the
communicative meaning of the word in question and are useful for the description of
scientific phenomena (Sternin & Rudakova, 2011).

The concept of a psycho-linguistic meaning as the most adequate and reliable
model of systemic meaning is being actively developed by I. Sternin and his school
(Rudakova, A. V., Maklakova, Ye. A., Friedman, J. I. et al.). The authors of the
concept of the psycho-linguistic meaning have developed a template model for the
identification and description of the psycholinguistic meaning and the variants for

formulating the meaning based on the results of the psycholinguistic experiments with varying degree of detail determined by different goals (Rudakova, 2015).

The experience of specialists in this field has convincingly shown that the free-associative experiment is the most effective tool for describing psycho-linguistic meanings. The results of associative experiments are subjected to the semic interpretation procedure, i.e. associative reactions are interpreted as the verbalization of particular semes of the stimulus-word.

It should be noted that from the point of view of the psycho-linguistic approach, playfulness is the subject of research performed by R. Proyer. In terms of psycho-linguistic tools, the analysis of the linguistic corpus of the German language and the Goldberg hierarchical approach to studying the structure of playfulness was applied. The analysis revealed the following seven factors: 1) cheerful-engaged; 2) whimsical; 3) impulsive; 4) intellectual-charming; 5) imaginative; 6) light-hearted; 7) kind-loving (Proyer, 2012).

In his other research work R. Proyer outlined five factors, such as: cheerful-engaged; whimsical; creative-loving; intellectual; impulsive. He discovered that the sense of humor was most strongly related with the *cheerful-engaged* factor while some "humor skills" were particularly related to other factors; for example, finding humor under stress with the intellectual component (Proyer, 2014).

The purpose of this article is to describe psycholinguistic meanings of playfulness on the basis of the applied psycholinguistic research, which is expected to let us come closer to the description of its systemic meaning.

The primary objectives are the following: to reveal the semantic components of playfulness, actualized in consciousness of native speakers in the unity of all the semantic components that make it up, both core and peripheral; to present the most cost-effective experimental procedures in order to group associates in the process of describing psycholinguistic meanings; to show the psycholinguistic meaning as a type of meaning which bears a great cognitive value in studying phenomena expressed by words of unclear semantics, which are nonetheless relevant lexemes in the linguistic consciousness of native speakers.

2. Methods

Experiment was the main method of the conducted research, and the psycholinguistic experiment in particular, which was aimed at the description of the psycholinguistic meaning of the word "playfulness" as the most adequate and reliable model of systemic significance that reflects the reality of linguistic consciousness (Sternin & Rudakova, 2011, p. 188). The main stage of the research was the free association test (with the word-stimulus "playfulness").

As additional methods of exploring playfulness, the following methods have been used: theoretical analysis of the relevant literary sources, a survey (aimed at refining the results of the free association experiment); questionnaires for further precision of the characteristics of the sample. As for mathematical and statistical analysis of the results of the research, frequency and cluster analysis have been

applied, which helped to outline tendencies in the distribution of associations produced by the experimental group.

The free association experiment with the stimulus word "PLAYFULNESS" was conducted in the written form. According to the instruction, the respondents were supposed to indicate their gender, age, education/degree, profession/job position, marital status, and then write the first five words that come to their mind and are associated with the word "playfulness".

3. The study

The procedure of forming a sample in each association experiment has its own internal logic. Therefore, it is worth saying a couple of words about our sample, or samples to be more precise.

In one of our recent publications it was experimentally proved that the sufficient quantitative composition of the experimental sample ranges between 400 and 1500 people and depends on the quantitative and qualitative composition of the general population and the peculiarities of research (Gordienko-Mytrofanova et al., 2018). This means the sample should be large enough to reflect the major tendencies and features of the general population, and also meet the goal of the research.

It should be also mentioned that in our research *general population* encompasses the inhabitants of Ukraine (aged 18 to 75), whose linguistic consciousness is characterized by knowledge (including understanding) of the Russian language. According to the hypothesis of the study, further analysis of the results was foreseen for such indicators as age, gender, profession. This led to the division of the main general population into smaller groups according to key criteria.

Taking into account major social criteria and the fact that smaller general populations (strata) were to be singled out in the course of the analysis, the selection of respondents in the sample was made both quantitatively and qualitatively. The main strategy of selection is random selection (randomization), stratification with quantitative balancing (Gordienko-Mytrofanova et al., 2018).

Sample 1 reflected the characteristics of the main general population. *The purpose – outlining general trends in associations*. At the initial stage of the study, all 24 oblasts of Ukraine were covered, as well as all types of settlements, together with 40 cities. It was this available part of the main general population that constituted *the sample for representation*. The sample comprised 2,902 respondents.

Sample 2. The purpose – defining the influence of the profession on the nature and composition of associations. Within the strata of youth (group aged 18–35), which is a period when a person tries to find his or her self, we singled out clusters united by professional background. The sample comprised 500 people: 100 people representing each "type of occupation", males and females being equally represented.

Sample 3. The purpose – defining the influence of gender and age on the nature and composition of associations. Stratification of the general population was carried out, which caused the sample to become multistage. The sample according to the criteria "gender" (males and females – included both age groups) and "age"

22

(18-35 and 36-60) included 1,600 respondents with 400 people in each sub-group of respondents. Within the framework of our research, we reduced the sample size from the point of view that the response rates in the samples of 1,600 and 3,000 respondents do not statistically differ judging from the obtained experimental data.

Our research was carried out during 2014-2017 and included a sequence of successive stages.

The influence of age, gender, and profession-related differences on the verbal behavior of respondents, as well as the scope and nature of associates produced by the stimulus word "playfulness" were thoroughly described in our works (Gordienko-Mytrofanova & Sypko, 2015; Gordienko-Mytrofanova & Sauta, 2016).

The semantic interpretation of the results was made on the basis of the linguistic material from *Sample 2*. According to the requirements of this procedure, the description of the psycho-linguistic meaning was conducted on the basis of the first reaction. The overall number of reactions to stimulus "playfulness" comprised 1,600 associative reactions with 475 unique associations including word combinations and sentences, where 159 reactions have frequency over 1,316 individual associations, and 0 refusals.

Having processed the results of the experiment, we built the associative field of the word-stimulus "playfulness".

Before talking about the results of the free association experiment, it is necessary to describe the stages of the research that preceded the psycholinguistic experiment.

Theoretical analysis. The analysis of theoretical and empirical works devoted to playfulness as a personality trait (Barnett, 2007; Guitard et al., 2005; Proyer, 2012; Yarnal & Qian, 2011; Yue et al., 2016), as well as the analysis of playfulness scales from the available questionnaires: Adult Playfulness Scale, Five-Factor Personality Questionnaire, Playfulness Scale for Adults, Playfulness Scale for Young Adults, Older Adult Playfulness Scale, Adult Playfulness Trait Scale, Other-directed, Lighthearted, Intellectual, and Whimsical playfulness (Glynn & Webster, 1992; Tsuji et al., 1996; Schaefer & Greenberg, 1997; Barnett, 2007; Yarnal & Qian, 2011; Shen et al., 2014; Proyer, 2017) allowed us to outline 24 components of playfulness: cheerful-engaged; comedic; creative/ creative-loving; curiosity; dynamic; expressive; fugue; fun/ fun-loving/ fun seeking motivation; gregarious; humorous/ sense of humor; imaginative/ fantasy; impish; impulsive; informal; intellectual; lighthearted; other-directed; sensitivity to internal experience; sentiment; silly/ enjoys silliness; spontaneous; uninhibited; upbeat; whimsical.

Lexicography. The preliminary stage of the psycholinguistic experiment also involved the lexicographic description of the adjective *"playful"* on the basis of the method of summarizing dictionary definitions, which was developed by I.A. Sternin and A.V. Rudakova (Sternin & Rudakova, 2011, p. 21-29). We have analyzed as many as 20 dictionaries starting from XVIII century and established differences between modern and obsolete meanings of the word within its semantic structure. This enabled us to outline 14 meanings of the adjective "playful" which are represented by 14 synonymic rows respectively that encompass 54 synonyms of the

word *"playful:* (1) sharp-witted, zippy, skittish, irrepressible, lively, passionate, frisky, quick; (2) fast, easy, movable; (3) ingenious, fanciful, bizarre, varied; (4) changeable, unstable; (5) light-hearted, carefree, cheerful, thoughtless, sprightly …; (6) naughty, gamesome, funny, mischievous, waggish, frolicsome; (7) laid-back, easy, joking; (8) flirtatious, sexy; (9) frivolous, loose, equivocal, suggestive, flippant, indecent, sexy, provocative, scabrous, frivolous …; (10) cheerful, fun, blithe, merry; (11) rebellious, audacious, risky; (12) exciting, thrilling; (13) fresh, vivid, bright; (14) arch, cunning (Gordienko-Mytrofanova, 2014a; 2014b; 2014c).

The outlined meanings were supposed to be used later to facilitate the subsequent grouping of associated word-reactions that were received in the course of free association experiment with the word-stimulus *"playfulness"*.

Free association experiment. After lexicography we proceeded to the main stage of the psycholinguistic experiment, i.e. free association experiment with the word-stimulus "playfulness".

As it was mentioned above, having processed the results of the experiment, we proceeded to building the associative field of the stimulus word "playfulness".

The analysis of the scope and nature of associations convincingly proved that in terms of functioning 'playfulness' is a relevant lexeme in the linguistic consciousness of Ukrainian population, although there is no such notion as an aggregate of distinctive traits in the psychological discourse.

Also, it is worth mentioning that respondents generally adopt a positive attitude to the stimulus "playfulness". There are only 73 reactions (48 words) that represent negative attitude, which is 4.6% of the overall number of reactions (1,600 reactions).

Having analyzed the associative field, we proceeded to the semantic interpretation of the results of the experiment, which consists of the following subsequent operations: sememic attribution of associative reactions and semic interpretation of associative reactions (Sternin & Rudakova, 2011, p. 141-145).

Semantic interpretation of reactions. On the stage of sememic attribution all associative reactions were arranged in groups according to their meanings from the point of view of denotation. In the course of our research we came to the conclusion that it is not worth using the results of lexicography when arranging reactions in groups. To process such a large number of reactions, a new tool was created that filters meanings with the help of statistical functions in Excel program. The filter of meanings was created on the basis of 2,500 reactions and was described in our article "Playfulness as a peculiar expression of sexual relationships (semantic interpretation of the results of the psycholinguistic experiment)" (Gordienko-Mytrofanova & Sauta, 2016).

Having divided 1,600 reactions into clusters with the help of filters, we proceeded to semic interpretation. On the stage of semic interpretation the produced reactions were interpreted as linguistic representations of the stimulus (semes). Associates that are close in meaning were grouped together, and their frequency was summed up, e.g.: **Jesting 24** [jesting **22** [jesting 14, jokes 4, joke 3, joker 1; anecdotes 1; swearing playfully while driving 1].

24

The formulated semes of the outlined meanings were arranged in a connected definition of the meaning. The definitions were formulated as an organized connected enumeration of experimentally outlined semantic components of each of the interconnected meanings. Each meaning was formulated separately.

4. Results and Discussion

Psycholinguistic meanings. All the meanings given below were described in consultation with professor I. A. Sternin, the author of the concept of the psycholinguistic meaning (Gordienko-Mytrofanova & Sauta, 2016).

Playfulness (1,600 respondents)

1. CHEERFUL AND JOYFUL STATE

Caused by *MERRY-MAKING* 147, *JOY* 59; can be caused by drinking *CHAMPAIGN* 35 or other *ALCOHOL* 12; as well as *VICTORY* 1, *SUCCESSFUL DAY* 1; is connected with *ENTERTAINMENTS* 8 – *MUSIC* 5, *DANCES* 3, *SONGS* 1; *SATISFACTION* 5; in terms of behavior reflects itself in *MISCHIEVOUSNESS* 48, *FROLICKING* 5, *JESTING* 24 , *FRISKNESS* 23, *HORSEPLAY* 19, *PECULIARITIES of behaviour* 7; *FERVOUR* 8; *DRIVE* 1; is accompanied by *GOOD MOOD* 37; *OPTIMISM* 1, *POSITIVENESS* 1; feeling of *EASE* 23 , *CHEERFULNESS* 6, *VIVACITY* 5, *FREEDOM* 3, *VIGOUR* 2, *ELATION* 1; expressing *EMOTIONS* 8; feeling *HAPPINESS* 10; *DELIGHT* 3; is expressed in *LAUGHTER* 33; is a characteristic feature of a *HOLIDAY* 14 with *PAPER STREAMERS* 1, *FIREWORK* 1, *SALUTE* 1, *CLOWN* 1 in a *CLUB* 1, *CABARET* 1, *CIRCUS* 1; assumes a *COMPANY* 1.

Cumulative Index of Brightness (CIB) [1] **– 574 (35.9 %).**

2. INTENTION TO ATTRACT THE ATTENTION OF THE OPPOSITE OR ONE'S OWN SEX

Reflects itself as *FLIRTING* 66, *COQUETRY* 45; is characteristic of *YOUNG GIRLS* 24, *WOMEN* 15, *SMALL GIRLS* 3, *COQUETTE* 2, *BLONDE* 2, *BEAUTY* 2, *CUTIE* 2, *GOLD-DIGGER* 1; with *CURL* 1, wearing a *SKIRT* 1, *STICKINGS* 1, *LACE* 1 and with a *BRACELET* 1; is characteristic of a *MAN* 1 – *BLOKE* 1, *BEDHOPPER* 1, *PLAYBOY* 1; *BOY* 1;

reflects itself in *BEHAVIOUR* 2 as *MISCHIEVOUSNESS* 49, *FROLICKING* 5, *JESTING* 23 , *DALLIANCE* 16, *LIGHT-MINDEDNESS* 15, *LACK OF SERIOUSNESS* , *CUNNING* 9, *DUBIOUSNESS* 2; *SOCIABILITY* 4, *WITTINESS IN A CONVERSATION* 1; *DRIVE* 1, *SELF-INDULGENCE* 1; in the *STYLE OF CLOTHING* 2; in a *SMILE* 15, in a *GLANCE* 5, *MOVEMENT* 3, *GAIT* 2, *TONE* 2; sometimes in *ACTING UP* 1, *PRIMNESS* 1, *GRIMACES* 1; expresses itself in the demonstration of *SEXUALITY* 11, *ATTRACTIVENESS* 5, *PIQUANCY* 4, *CHARM* 4, *BEAUTY* 3, *FEMININITY* 2, *MYSTERIOUSNESS* 2, *COYNESS* 2, *ZEST* 1, *IMPRESSIVENESS* 1, *GALLANTRY* 1, *CHARM* 1, EXQUISITENESS 1; using *HINTS* 3; is caused by *LOVE* 10, *INFATUATION* 5, *PASSION* 5, *TEMPTATION* 4, *FEELINGS* 2, *INTRIGUE* 2, *INTEREST* 2, *ATTENTION* ,

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[1] Cumulative Index of Brightness (CIB) is the cumulative frequency of reactions that actualize a particular meaning.

AFFECTION 1, feeling of *TENDER ADORATION* 1; is demonstrated in personal *RELATIONSHIPS* 6 in the atmosphere of *INTIMACY* 5 and *ROMANTICISM* 4 during *DATES* 4 *IN THE EVENING* 1, for example, in a *CLUB* 2 or in a *CABARET* 1, during DANCES 3; on a *BEACH* 1; in a *COMPANY* 1.

CIB – 455 (28.44 %).

3. CHILD-LIKE SPONTANEITY

Is characteristic of a CHILD 54; and predetermined by *CHILDHOOD* 32; reflects itself in the peculiarities of their *CHARACTER* 2 or *TEMPER* 1; manifests itself in behaviour as *MISCHIEVOUSNESS* 49, *FROLICKING* 5, *HORSE PLAY* 18, *FRISKINESS* 25, *ACTIVITY* 20, *RESTLESSNESS* 11, *AGILITY* 8, *BRISKNESS* 8, *LIVELINESS* 2, *SHREWISHNESS* 1; in love for *TICKLING* 1; manifests itself in such features as *NAIVETY* 4, *SPONTANEITY* 3, *AMIABILITY* 2, *TRUST* 1, *OPENNESS* 1, *TRUTHFULNESS* 1; can be displayed in *CIRCUS* 4 with a *CLOWN* 1, at the *CHILDREN'S PARTY* 4; when playing with a *BALL* 5, *TOUCH GAME* 1, *A GAME OF TAG* 1; on the *SWING* 1; when playing with *LETTERS 1, TOY BLOCKS* 1, *SOAP BUBBLES* 1, *BABY RATTLES* 1; when watching *CARTOONS* 1; in love for *SWEET THINGS* 1; can also reflect itself in AGE 1 *YOUNG AGE* 9 and *YOUTH* 2.

*precedent texts 1 – "Love Me If You Dare", French melodrama (**love me if you dare 1**);*

CIB – 285 (17.81 %).

4. AGILITY, PHYSICAL ACTIVITY (OF AN ANIMAL)

Is characteristic of *ANIMALS 9, KITTEN 79, DOG 23, HORSE 11, RABBIT 1*, as well as of wild animals, *BEASTIES 2,* that can be seen in the *ZOO 1, – BABY TIGER 3, BABY LION 1, MARMOSET 1, CHIMPANZEE 1, YOUNG SQUIRREL 1, BUNNY 1; HIPPO 1, OTTER 1; of BEETLES 1;* is also connected with the characteristic features of animals, such as – *MANE 2, TAIL 2, FLUFFY FUR 1.*

CIB – 143 (8.94 %).

5. DARING AND PROVOCATIVE BEHAVIOR

Can be caused by drinking *CHAMPAIGN* 35 or other *ALCOHOL*; playing *ROULETTE* 1; is connected with CRIME 2, *RISK* 1, *EXTREME ACTIVITIES* 2, *DRIVING* 1 a *CAR* 1; reflects itself in *GUSTO* 22, *FERVOUR 8, BOLDNESS* 8, *FLIGHTINESS* 5, *FURY* 2, *DARE-DEVILRY* 2, *DRIVE* 1, *SPONTANEITY* 1, *SHREWISHNESS* 1; is accompanied by *EXCITED SPEECH* 3, *AGITATION* 1, *ADRENALINE* 1 rush.

*precedent texts 2 – thriller movie "Bullies", (**Bullies 1**); movie "Thief"; (**Thief 1**).*

CIB – 112 (7 %).

6. AGILITY, PHYSICAL ACTIVITY (OF A HUMAN)

Manifests itself as *FRISKINESS* 25, *ACTIVITY* 20, *AGILITY* 8, *BRISKNESS* 8, *LIVELINESS* 2, *HASTINESS* 2; in *SPORT* 5 – *FOOTBALL* 6, *BOXING* 2, *BADMINTON* 1, *BASKETBALL* 1; in games with a *BALL* 5, *TOUCH GAME* 1, *A GAME OF TAG* 1; during *WORK OUT* 1; when *RIDING* 1 a *BICYCLE*1.

CIB – 90 (5.63 %).

7. EASE

EASE 23 is accompanied by the feeling of *CHEERFULNESS* 6, *VIVACITY* 5, *FREEDOM* 3, *VIGOUR* 2, *ELATION* 1; but can also be experienced as the STATE of 1 *CARELESSNESS* 10 , *BEING RELAXED* 3, *SAFETY* 1.

CIB – 55 (3.4 %).

8. CHANGEABILITY

Is characteristic of phenomena of *NATURE* 1 that are connected with *WATER* 1, – *STREAM* 2, *WATERFALL* 1, *WAVES* 1, *STEAM* 1; various light phenomena, such as *RAINBOW* 2, *SUNBEAMS* 1, in the effects of *ILLUMINATION* 1 – *GLITTER* 1, *SPARKLING* 1, absence of light stream/reflection – *BLACK* 1, nature of light – *WAVE-CORPUSCLE DUALISM* 1; sources of *LIGHT* 1 – *SUN* 3, *FIRE* 2; as well as *WIND* 3 [wind 2, mild breeze 1]; seasons – *SPRING* 3, *SUMMER* 2; *WEATHER* 1 conditions; *BUBBLES OF CHAMPAIGN* 1;can be perceived in material objects, such as *BEADS* 1, *A PLANK OF WOOD* 1, *WIRE* 1, *TABLE* 1, *TRACTOR* 1, *STEEL SHAVINGS* 1 and some processes that are connected with them – *WELDING* 1, *SETTING UP A LATHE* 1, *SORTING OUT THE TILES* 1; also characteristic of *PAIN* 1, *SALARY* 1, *HEALTH* 1, *WORK* 1, *EXAM* 1.

CIB – 45 (2.81 %).

9. BEHAVIOR DURING SEXUAL INTERCOURSE

Assumes *FOREPLAY* 2 before *SEX* 16, including elements of *ROLE GAMES* 2, *KISSES* 1, *STRIPTEASE* 1, *TICKLING* 1; *TENDERNESS* 4, *CARESSING* 3 with the aim of getting *SATISFACTION* 4; can end up in *PREGNANCY* 1.

CIB – 35 (2.19 %).

10. CARELESSNESS

CARELESSNESS, is characteristic in the period of *RELAXATION* 6, *IDLENESS* 1 in front of *TV SET* 1, with *FAMILY* 1, on the *EXCURSION* 1; is experienced as the *STATE* 1 *BEING RELAXED* 3, *SAFETY* 1.

CIB – 25 (1.56 %).

11. MENTAL ACTIVITY

Manifests itself in *INTEREST* 4, *IMAGINATION* 3, *CREATIVITY* 2, *RESOURCEFULNESS* 2, *CURIOSITY* 2, *JOYFUL SOPHISTICATION* 2, caused by something *EXCITING* 4, *ABILITY TO ORGANIZE A GAME* 1; enables the process of *DEVELOPMENT* 3, *SELF-REALIZATION* 2 its final manifestation is *WISDOM* 3.

*precedent texts 1 – "Discovery", documentary television channel (**Discovery 1**);*

CIB – 25 (1.56 %).

12. DELIBERATE DECEIT

Manifests itself in *CUNNING* 9, *DUBIOUSNESS 2*, DECEIT 2, RUSE 1; as *ACTING* 1, *DUPLICITY* 1, *MASK* 1; *GRUMBLING* 1;can take place during *BARGAINING* 1, *EXCHANGE* 1; its example can be *EXHIBITORY DEMOCRATISM* 1.

CIB – 21 (1.31%).

13. UNIQUE DISTINCTNESS

Manifests itself as *UNIQUENES* 6 of a *PERSON* 2 and their *LIFE* 3, as well as the inner structure of, for example, a *CHRISTAL* 1, which causes *SURPRISE* 1.

CIB – 13 (0.81 %).

14. AN ADULT CHANGING THEIR BEHAVIOR TO MATCH THAT OF A CHILD

Manifests itself as *STUPIDITY* 3 and *INFANTILISM* 2.

precedent texts 1 – Marya Ivanovna, a character of jokes, archetype of an average stupid woman (Maks Frai) (**Marya Ivanovna 1**).

CIB – 6 (0.38 %).

15. AIMLESS MOVING OF AN OBJECT

to play with a *PEN* 1, *WATCH* 1.

CIB – 2 (0.13 %).

16. AIRINESS

its examples are *AIRINESS* 1 of a *LIGHT BREEZE* 1.

CIB – 2 (0.13 %).

17. GAME (false meaning)

game 60, games 8, to play 7, toys 2, to play with toys 1.

CIB – 78 (4.88 %).

18. PLAYING GAMES (false meaning)

To play with a *BALL* 5, *FOOTBALL* 4, *BADMINTON* 1, *BASKETBALL* 1, *TOUCH GAME* 1, *A GAME OF TAG* 1, playing on *COMPUTER* 3, *SLOT MACHINES* 1, *CARDS* 1, *CHECKERS* 1, playing the *GUITAR* 1.

CIB – 20 (1.25 %).

19. GAME ADDICTION (false meaning)

Can be connected with *ADDICTION* 2 to *COMPUTER* 3, *SLOT MACHINES* 1, *CARDS* 1, *ROULETTE* 1, that borders on *HYPERCOMPENSATION* 1.

precedent texts 1 – "Igromania" magazine, monthly Russian multiplatform magazine about videogames (**Igromania 1**)

CIB – 10 (0.63 %).

11 associative reactions defy interpretation: **phonetic reactions** (7 reactions), they are phonetic in the Russian language: PLAYFULNESS – *sleepiness* 3, *cuteness* 2, *pediculation* 1, *sweatiness* 1; **echo-reactions** (3 reactions): PLAY-FULNESS – *playfulness* 3; **individual reactions**, *where the connection is of particular individual nature and cannot be understood by the researcher; it is impossible to single out some meaningful connections with the stimulus* (1 reaction): PLAYFULNESS – *act* 1.

It is also worth noting that all the lexicographic meanings of the adjective "playful" that we described earlier (Gordienko-Mytrofanova, 2014a; 2014b; 2014c) are reflected in the psycho-linguistic meanings. Moreover, some new meanings have appeared which were not to be found in dictionaries before.

The psycholinguistic meanings that were described involve all playfulness scales revealed in the course of the theoretical analysis of playfulness questionnaires.

The meaning filtering tool helped us to outline and describe the influence of gender, age, and occupation on the stimulus "playfulness". The results of the analysis will be described in further articles.

The analysis of these psycholinguistic meanings helped us to single out the following components of playfulness: *flirting, impishness, humor, fugue (eccentricity)* (Gordienko-Mytrofanova & Kobzieva, 2018)*, ease, imagination.*

5. Conclusions

The psycholinguistic experiment revealed 16 psycholinguistic meanings, excluding false ones, where 12 meanings accounted for more than 1%: *1) "cheerful and joyful state", 2) "intention to attract the attention of the opposite or one's own sex", 3) "child-like spontaneity", 4) "agility, physical activity of an animal", 5) "daring and provocative behavior", 6) "agility, physical behavior of a human being", 7) "ease", 8) "changeability", 9) "behavior during a sexual inter-course", 10) "carelessness", 11) "mental activity", 12) "deliberate deceit".*

The formulated psycholinguistic meanings of *playfulness* can be fully considered as such that give the most adequate and reliable model of the systemic significance of the studied word, which reflects the reality of linguistic consciousness. The conducted research has shown that the psycholinguistic meaning helps to identify the relevant semantic components of the studied word (*"playfulness"*), different from its lexicographic correlate, and also to distinguish between scientific and everyday meanings of the word.

An essential advantage of the psycholinguistic meaning is that major attention is paid to the real traits of verbal behavior in representatives of different age groups, genders and professions, instead of the language structure.

Taking into account the respondents' verbal behaviour, the following components of playfulness were identified: *flirting, impishness, humor, fugue (eccentricity), ease, imagination.*

As for the prospect of further research, it appears worthwhile to describe the components of playfulness as components of (ludic competence) and create a questionnaire on ludic competence.

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ACQUISITION OF TURKISH GRAMMATICAL CATEGORIES
IN BILINGUAL CONTEXT

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Abstract. The paper presents results form a study on acquisition of Turkish grammatical categories by first grade Turkish speaking minority children in Bulgarian primary school. Two groups of children speakers of Turkish are tested: ethnic Turks and ethnic Roma. The Roma are Muslims and are also speakers of Turkish. Both groups speak the Northeast variety of Turkish, spoken in the surroundings of Varna, Bulgaria. The author examines the lexical reaches, syntax complexity and narrative knowledge of the children and predicts that the low results on mother tongue tests will be a reason for difficulties in the second language acquisition - Bulgarian. The author connects the results of mother tongue knowledge of the children with the language interdependence theory of Cummins (1991), where the level of the mother tongue is a predictor of second language acquisition.
Keywords: Turkish, mother tongue, bilingualism, Bulgaria.

Кючуков Хрісто. Опанування граматичних категорій турецької мови у контексті двомовності.

Анотація. У поданій статті представлено результати проведеного дослідження, що присвячене опануванню граматичних категорій турецької мови учнями першого класу турецької мовної меншини в болгарській початковій школі. В цьому тестуванні взяли участь дві групи дітей, які спілкуються турецькою: етнічні турки та етнічні роми. Роми, котрі стали учасниками дослідження, є мусульманами та розмовляють турецькою. Обидві протестовані групи говорять на північно-східній різноманітності турецької мови, якою роз-мовляють на околицях м. Варна, Болгарія. Автор досліджує лексичний запас, синтаксичну складність та наративні знання дітей і робить припущення, що низькі результати під час тестування рідної мови можуть стати причиною труднощів при освоєнні другої мови – болгарської. Автор пов'язує результати знань рідної мови у дітей з теорією взаємо-залежності мови Кумінса (1991), згідно якої рівень володіння рідною мовою є предиктором вивчення другої мови.

Ключові слова: турецька, рідна мова, двомовність, Болгарія.

1. Introduction

Turkish minority is one of the biggest minorities in Bulgaria. According to the census from 2011 their number is approximately 588. 000 or 8,8 % from the total population. However, one part of the Muslim Roma in Bulgaria is also Turkish speaking and they identify in most of the cases as Turks as well. The total number of the Turkish speaking community in the country is approximately 606 000 or 9.1 %.

The last 30 years the position of the Turkish minority in the society became very high – there is a Turkish party, which is the third political power after the Democratic and Communist party in the country and thanks to this the Turkish minority have obtain many rights in Bulgaria. One of the very first rights which they got after the democratic changes in 1990 is the right to have their names back, because during the communist regime the names of the Muslims (Turks, Roma, Pomaks) were changed by force. The second right which they got was to study their mother tongue organized in schools 4 h per week, together with other minorities such as Armenians, Jewish and Roma. However, the mother tongue classes have been introduced only in primary schools (grades 1 to 8), but not in kindergartens (Kyuchukov, 2007).

The Turkish parents usually speak a dialect. The Turkish dialects in Bulgaria are divided into two main groups: **ka-dialect** in *Deliorman* in Northeast Bulgaria and **ga-dialect** in South Bulgaria (Kyuchukov, 2019). Often the dialects have Bulgarian words, words from Arabica and archaic words from Ottoman Turkish. Last 20 years thanks to the satellite-TV and contacts with Turkey the Bulgarian Turks learned also the official Turkish from Turkey. However, the children still have problems with mastering their mother tongue. How much the children learn their mother tongue from the communication with their parents and what is the role of the parents in this process of language learning? These are the questions which I will try to answer and for this reason I check the knowledge of the children in Turkish as their mother tongue.

Some 60 years ago Luria and Yudovich (1959) claimed that the adults play an important role in the life of the children - naming objects and defining their connections with the world, helping the children to get their own individual experiences playing with words. The authors also explain the importance of the mothers, when she shows the child different objects and names them - in this way she influences the formation of his/her mental processes. All children from all cultures have the same way of developing the mental processes and this is mainly through the communication with the adults.

Aksu-Koç and Slobin (1985) conducted a research on acquisition of Turkish by monolinguals. They discovered that when children learnt Turkish at home, they do not make mistakes, i.e. their speech resembled that of their parents. Therefore, the parents and their way of speaking is so important.

Almost in all West European countries Turkish has a low prestige. Akıncı (2017) reports that the Turkish children in France, although have organized lessons in kindergarten level in Turkish as a mother tongue, do not have good knowledge of their vocabulary and syntax. The author's explanation for the low knowledge of their mother tongue is due to the low prestige of Turkish in France. The same can be said for Germany, Sweden, Denmark and England.

In some Western countries where Turkish immigrants live, as for example in the Netherlands and Germany, several researches with Turkish children have been carried out. For instance, and Boeschoten and Verhoeven (1987) studied Turkish children between 4 and 8 years of age living in the Netherlands and Turkey. They

established by measuring some linguistic categories that there were not significant differences between five-year old children from Dutch cities and from Central Anatolia in Turkey. However, some differences appear at the age of 7. A similar research on Turkish children living in Berlin, Germany was conducted by Pfaff (1993). The results of the Turkish children living in Berlin differed from those achieved by the Turkish children from the Netherlands.

Boeschoten (1990) focuses on the vocabulary and word formation of the Turkish language and how lexical units are acquired by children at home or in school for communication purposes, how children produce complex sentences and learn suffixes forming verbal tenses as well as aspects and modality. Other studies by Verhallen and Schoenen (1993) and Verhoeven (1993) research bilingual Turkish children and their lexical knowledge of mother tongue. All of them show that the Turkish bilingual children have deficit in their mother tongue knowledge.

2. Research methodology

The *main goal* of the study is to find out what is the level of knowledge of Turkish by Turkish children and Turkish speaking Roma children (6-7 years old), when they enter the primary school in Bulgaria.

The research tasks are:
1. To assess children's vocabulary in Turkish as their mother tongue;
2. To assess their narrative competence.

Oral interviews were used as a research method. Children's answers were recorded with a cassette recorder and the tapes were transcribed and analyzed. The interviews were conducted at school, in a separate room, where the child and the interviewers are present only.

The children were given the following assignments:

a) Picture and verbal test (Test 1 and 2) to measure their vocabulary;

b) To retell a story after it was read (told) by the researcher.

The Tests:

1. Picture and verbal test

Test 1 contains five pictures with objects which had to be named by the children in their mother tongue - Turkish. The objects drawn on these pictures were taken from the surrounding environment and were a part of child's world (*children, trees, flowers, sun, stones*).

Test 2 was conducted two months later. Its aim was to study the functional meaning of some words. The children were shown objects from the classroom and were asked what their purpose was:

1. What is this? (A chair is pointed out.)
What do we use it for?
2. What is this? (A table is pointed out.)
What do we use it for?
3. What is this? (A blackboard is pointed out.)
What do we use it for?

4. What is this? (A filing cabinet is pointed out.)
What do we put inside?
5. Who are they? (Students are pointed out.)
What are they doing?

To assess children's narrative competence at the beginning of the school year, the researcher read two stories and children had to retell them.

Tale A: *Horozlan tilki* (The Rooster and the Fox) in Turkish.

Tale B: *Aç köpek* (The Greedy Dog) in Turkish.

Between tale A and tale B there were two months of distance. The children in the study were divided into the following groups:

Group 1: 8 Turkish children in grade 1 speaking Northeastern Turkish dialect and living in the village of Slaveykovo, Varna region.

Group 2: 8 Turkish speaking Roma children in preparatory class (the same age as the Turkish children form Group 1) speaking the same Turkish dialect, but living in the town of Provadiya, Varna region.

These two groups of children were given Tests 1 and 2 and they had to retell stories as well.

Some children have attended a kindergarten and can speak Bulgarian but make mistakes. All children are bilingual, but their Bulgarian is not fluent. They communicate in Turkish at home and use Bulgarian at school. They are not sufficiently proficient in Bulgarian, neither in their mother tongue.

Hypothesis:

The design of the study gives us the bases to build up the following Hypothesis:

H1: The children living in the town will have better performance on the tests, than the children living in the village.

H2: The children living in a village will have better narrative skills than the children living in the town.

3. Results
3.1. Vocabulary richness
Results of Test 1 (picture naming Test)

The obtained results are given in Figure 1. Almost all subjects from group 1 (Turkish children from the village of Slaveykovo) named the objects except for 1 child who did not know the word *sun* in Turkish. The children from group 2 (Turkish speaking Roma from the town Provadiya) also did not know some words in their mother tongue – Turkish dialect – and substituted them the Bulgarian words. *Sun* turned out to be most difficult word for this group as well. Many children did not know the word at all or could not recognize the sun on a picture. There was one interesting fact – one of the subjects from this group used Bulgarian words to name all objects instead of Turkish.
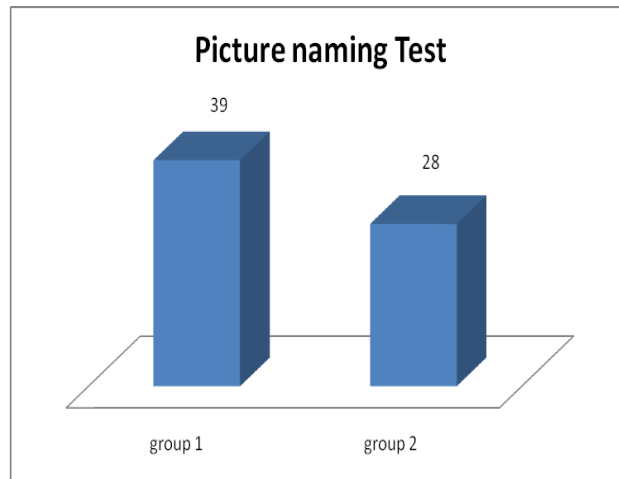
Figure1. Scores of Test 1

Comparing the groups, we can see that there are significant differences between them (p > 0.05). The knowledge of Turkish children from the village of Slaveykovo is greater than the knowledge of Turkish speaking Romani children from the town of Provadiya. What could be the reason for it? Before to answer this question let us see the results form the next test.

Results of Test 2 (objects naming Test)

In Test 2, children must name objects from the classroom and explain their function. The results are shown in Figure 2. The children were able to name the objects pointed out but could not explain their functions. All of them who had a score of 9 points did not know the functional meaning of some words. Children from different groups did not know the functional meaning of different words. For instance, the children from group 1 could not explain the words *blackboard* and *filing cabinet*, and the children from group 2 – of the Turkish word for *students*.
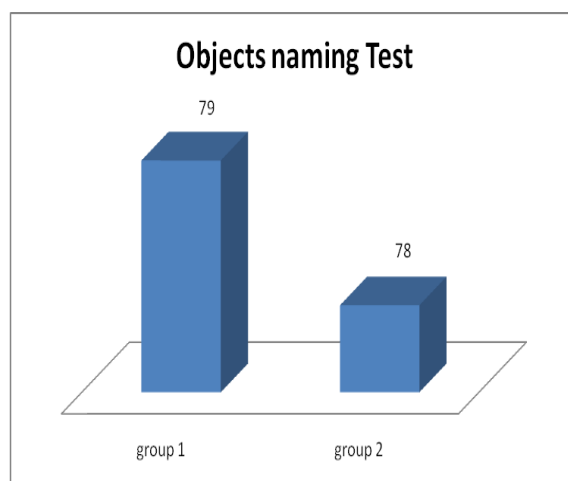
Figure 2. Scores of Test 2

There are different reasons for such gaps in children's knowledge. They can be individual (the child does not know the meaning of a word), cultural (if there is not a word to designate an object in the respective culture) and social (their parents do not explain them the meaning of words). In our case, the reasons are mainly cultural and social. As one can see from the picture there are no statistical differences in the performance of the Test 2.

3.2. Lexical knowledge

Children's vocabulary can be measured separately and in groups by the so-called Type-Token Ratio (TTR).

The children had the task to retell a tale in their mother tongue- Turkish, after they had heard it. The first tale (tale A) is called *Horozlan tilki* (The Cock and the Fox) and the second tale (tale B) is called *Aç köpek* (The Greedy Dog).

The total number of words used by the children is given in Table 1. The comparison of the total number of words used for retelling the two tales shows that there are some differences. One of the reasons is the different length of the tales selected by the researchers. This is one of the weak points of our research – we did not take into consideration the total number of words of tales A and B. However, the obtained results provide interesting information about the three groups of subjects.

Table 1

Total number of words used for retelling tales A and B

	Group 1 **Slaveykovo**	**Group 2** **Provadia**
Tale A	233	204
Tale B	201	209

The total number of words of tale B is smaller than that of tale A. We should focus our attention on another important fact – some children are more communicative than others. For instance, one child from group 2 (from town of Provadiya) refused to retell the first story, and all words were actually produced by 7 children. Comparing the results of the groups one can see that the number of words used by the children from group 2 (Turkish speaking Roma children) in the second tale was higher than that in the first one. This may be because one of them refused to retell the first story.

The results obtained by comparing the Type-Token Ratio of the subjects and their groups are very interesting. Their lexical knowledge is illustrated in Figure 3.

The obtained results are very interesting. The lowest TTR measured in group 1 is 52.2 whereas the highest is 90. The results of group 2 vary from 0 to 100. What is significant is that there is not a TTR lower than 50 in this group. We should note that sometimes the higher TTR is a result of a shorter text. Group 1 achieved the best results with TTR of 81.1, i.e. they had the richest vocabulary. The words used by the children were diverse and only some of them were repeated. This shows that

the children have a rich vocabulary. The differences in the TTRs of the groups are not statistically significant.

Figure 4 reveals the results of retelling Tale 2. Retelling this tale, the children from Group 1 are again performing better than the children from group 2.

Averadge TTR tale A

group 2   72,9

group 1   81,1
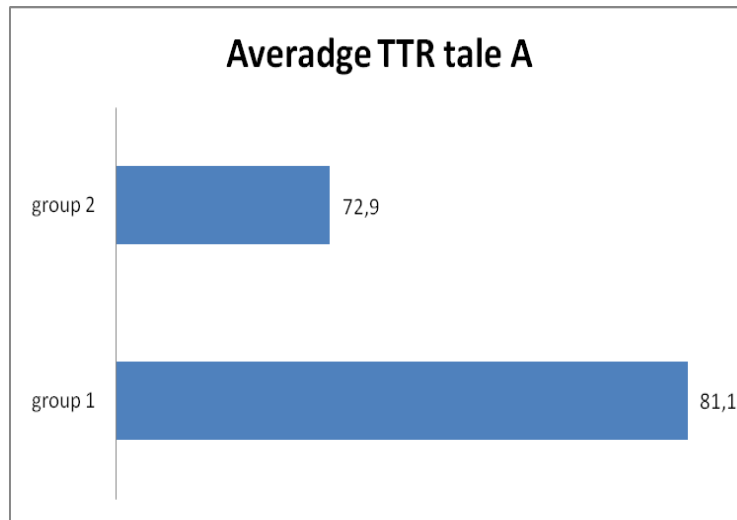
Figure 3. TTR of retelling tale A

Averadge TTR tale B

group 2   63,2

group 1   68,6
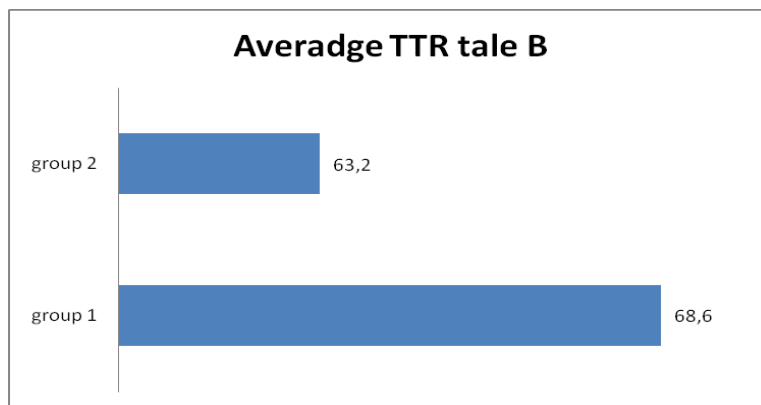
Figure 4. TTR of retelling Tale B

If we make a comparison between the separate children's TTRs, we can see that they vary from 54.8 to 85.7 in group 1 and from 58.3 to 89.4 in group 2. The results of the test with tale B are significantly lower in groups 1 and 2. Consequently, the subjects from groups 1 and 2 used less diverse words when retelling tale A. The differences between the TTR-s of the groups are not statistically significant.

The test results give us an idea about the sequence of acquisition of nouns as naming objects from the surrounding environment (nature, classroom, etc.). Abstract notions (like *sun*) are formed much later. The results of story retelling illustrate the mechanism of language acquisition and the level of mother tongue development.

Children at age 6 and 7 have a rich mother tongue vocabulary acquired in the spontaneous communication with other people.

The Turkish children (group1) achieved the best results in Test 1 and Turkish-speaking Roma children (group 2) – in Test 2. The scores of group 1 and groups 2 differ by 1 point in Test 2, i.e. they are almost equal.

The TTR of the two groups differ and the Turkish children (group 1) have higher TTR-s than the Turkish speaking Roma children (group 2). However, the differences are not statistically significant.

3.3. Narrative competence

The narrative competence of Turkish children living in a bilingual environment is studied by many scholars. Aarsen (1996) conducted a research on Turkish children living in the Netherlands. He evaluated the discourse skills of seven-year old children by examining text cohesion and coherence as well as anaphora. We also studied the skills of Turkish children to introduce characters in stories by two series of pictures – *A story with a Horse* and *A story with a Cat* (Kyuchukov, 2000).

Here we are going to analyze the narrative skills of the groups.

3.4. Narrative skills

In order to evaluate children's narrative skills, we chose three criteria for assessment of their reproduction of tales:

a) Number of sentences per a tale;
b) Number of completed episodes;
c) Number of used referents per a tale.

Number of sentences in a tale
Here we will present the numbers of the sentences per tale in figures.
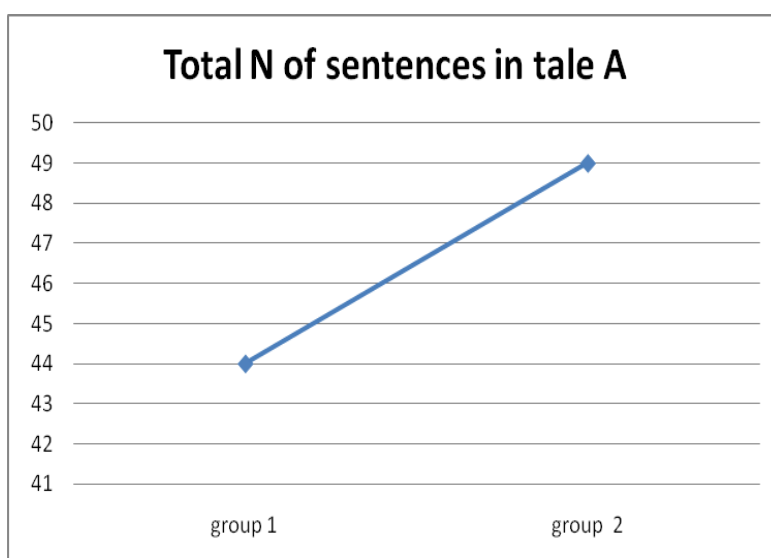
Figure 5. Total number of sentences in tale A

Figure 5 shows that the children from group 2 have higher number of sentences per tale. However, the differences are not statistically significant. The children often narrated the story without paying attention to details thus omitting some events or just preferred to omit events. This led to a reduction of episodes. The children frequently did not complete their sentences or repeated one and the same words, which did not have any meaning or connection.

Counting the total number of sentences in tale B, we observed a significant increase as compared with tale A, which is illustrated in Figure 6.
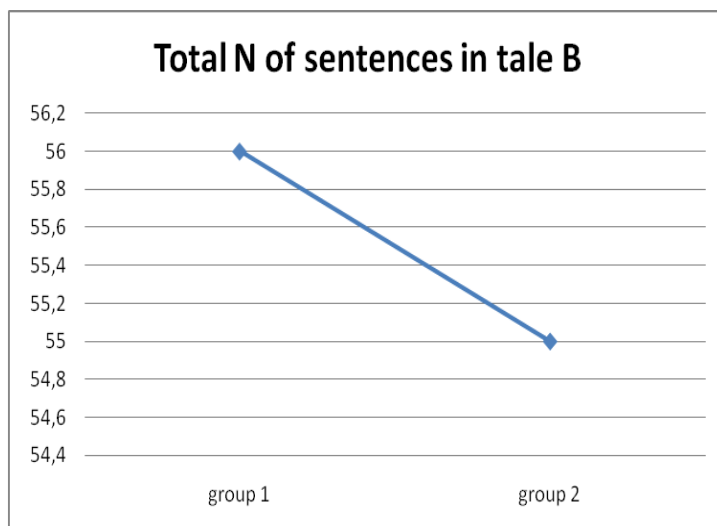
Figure 6. Total number of sentences in tale B

Although tale B was shorter than tale A, the number of sentences increased. It may be due to the two-month period between the two tests. The children have obviously improved their skills to produce texts.

If we compare the total number of sentences generated by a group, we can conclude that group 1 (Turkish children from Slaveykovo) have higher number of sentences. If we want to find out which group performed better, we must sum up the total number of generated sentences in the two tales. The result is the following:

Group 1 – 105 sentences
Group 2 – 99 sentences

One can see that the Turkish children form group 1 - the village of Slaveykovo have higher number of sentences in both stories than the children from group 2 – the Turkish speaking Roma children form he town of Provadiya. The reasons for the small differences could be that the children in the villages are much more use to listen and tell fairytales instead of the children from the town, where there are different possibilities for communication.

Number of completed episodes in a tale
As mentioned above, the tales were divided into completed episodes. Each episode included one situation as demonstrated by the example below:

40

Aç köpek

1. Bir aç köpek bir parça kemik bulmuş. Kemiği azina almiş.

2. Şu kemiklen bir dere başindan geçmiş. Suya bakmiş.

3.Suyun içinde daha bir köpek kemiklen görmüş. Av demiş.

The Greedy Dog

Episode 1: A greedy dog found a piece of meat. It took it in its mouth.

Episode 2: It went with the meat in its mouth by the river. It looked at the water.

Episode 3: It saw another dog there. It also was carrying meat in its mouth. The dog barked.

When we compared how the children narrated different episodes of the two tales, we noticed that all groups tended to reduce and simplify the content. This signifies that they have a poor vocabulary and are not able to use figurative language in their mother tongue.
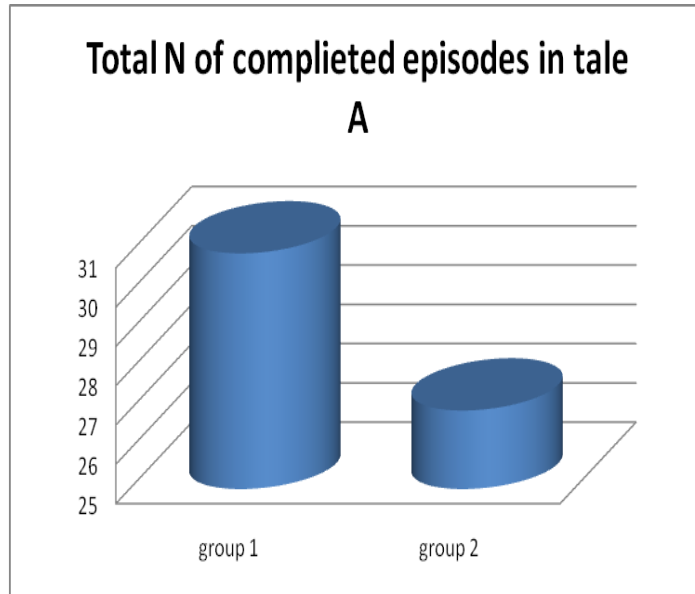
Figure 7. Total number of completed episodes in tale A

If we make a comparison between the groups, we see that the performance of group 1 is better than the performance of the children from group 2. As already mentioned, one child from group 2 refused to retell the tale, and one child reproduced just one episode. The differences between the two groups are not statistically significant.

The results of retelling tale B are given in the next figure 8.
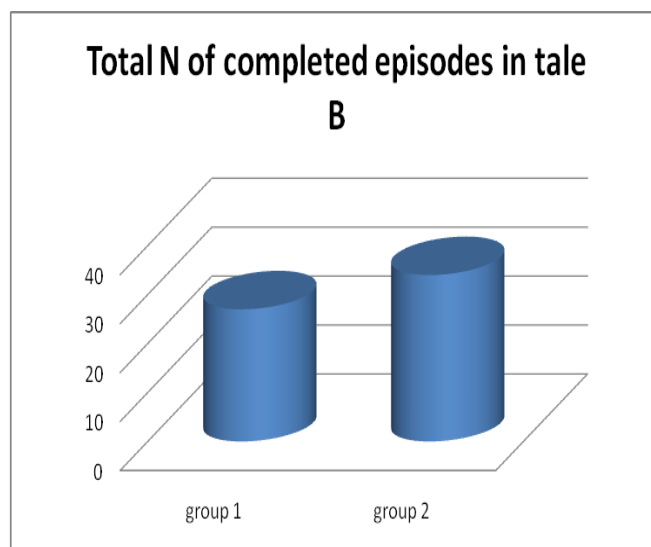
Figure 8. Total number of completed episodes in tale B

The results of group 2 are higher than the results of group 1. Some children from group 1 changed the story line by introducing an episode in which the dog wanted to exchange its piece of meat with the other dog it saw in the water. This naturally affects the number of completed episodes. Therefore, the episodes in which children introduce changes to the tale are considered incomplete.

The number of episodes narrated by group 1 were reduced from 31 (tale A) to 27 (tale B) whereas the number of episodes produced by group 2 were increased from 27 to 34. The reason is that many children having a smaller number of completed episodes in tale A, narrated more episodes in tale B, and one child who had refused to reproduce tale A, had two completed episodes of tale B.

An improvement of children's skills to retell stories without omitting episodes is observed. Therefore, their narrative skills develop at that age.

Length of thematic word chains and their referents
The thematic words in tale A selected for observation are:

horoz   *cock*
tilki   *fox*
köpek   *dog*

Some children used thematic words which had not been used by the interviewer in his or her narration of the tale.
The children coined or introduced new thematic words such as:

balkan   *instead of*   *orman*   *forest*
kukurigu   *instead of*   *horoz*   *cock*

Table 2

Total number of used thematic words chains and their referents in tale A

Tale	Group 1 Slaveykovo	Group 2 Provadiya
Tale A	46	33

Many children from the groups use identical thematic words and rarely substitute them, for instance, for personal pronouns. The following example illustrates how a child from group 1 narrates:

Tilki işitmiş orozum sesini. Koşuylan gelmiş orozum yanina ...
The fox heard the cock's voice and ran to the cock...

or

Köpek işitmiş tilkiyi. Koşula gelmiş köpek...
The dog heard the fox. The dog came running...

Other children very skillfully and successfully use personal pronouns or the suffix for third person singular thus avoiding the repetition of one and the same words. Two children from group 1 used the Turkish personal pronoun *o* for third person singular and the past tense form *-miş.* Two children from group 2 used the Turkish personal pronoun *o* and a child used the Bulgarian word for *fox* instead the Turkish one. The average number of thematic words used in retelling tale A is the following:

Group 1 (Turkish children) - 5.7 thematic words
Group 2 (Turkish-speaking Romani children) - 4.1 thematic words

The Turkish children were skillful using the thematic words and the skills to work with thematic words in the group of the Turkish-speaking Roma turned out to be poorer. One possible explanation for the latter is the age of the respondents from this group - they were youngest.

The thematic words in tale B are the following:

köpek   dog
kemik   meat
su   water

The thematic words used by the different groups are given in Table 3.

Table 3

Total number of used thematic word chains and their referents in tale B

Tale	Group 1 Slaveykovo	Group 2 Provadiya
Tale B	59	74

The average number of thematic words used by the groups in retelling tale B is the following:

Group 1 (Turkish children) - 7.3 thematic words
Group 2 (Turkish-speaking Romani children) - 9.2 thematic words

If we make a comparison between the average numbers of thematic words in tale A, we will notice an increase in the number of referents used by a group. Consequently, the children acquired skills for using thematic words during the two-month period between the tests. The personal pronoun or the verbal suffix for third person singular is more frequently used by all groups as a strategy for avoiding repetition.

The children from group 2 have better use of thematic words, which showed an incredible improvement in tale B (with an average number of thematic words 9.2) in comparison with tale A (with an average number of thematic words 4.1). One possible explanation is that the children may had acquired skills to use referential words in an oral text during the two-month period.

We can draw a conclusion that according to our criteria, 6- and 7-year old Turkish children have narrative competence. The performance of the different groups of children was good according to the different criteria.

The evaluation of the number of sentences criterion shows that the score of the Turkish children from Slaveykovo (105 sentences) is highest. The reasons for these results may be different but, in my opinion, the basic one can be sought in the fact that children living in villages more regularly communicate with their grandparents than those living in towns and cities. It is known that grandparents are those people who narrate stories.

4. Conclusions

The conducted research provides interesting information about the linguistic development and socialization of Turkish speaking children at the age of 6 and 7.

The research on children's' vocabulary show that Turkish children are better in naming objects.

We can conclude that Turkish children at the age of 6 and 7 have not mastered their mother tongue yet. This means that children should be taught in their mother tongue at kindergarten. Then developing their speech, they will be better prepared for their Bulgarian language classes when they start school. These findings and the international documents referring to mother tongue education necessitate

amendments in the curricula of the Ministry of Education and Science, namely introducing mother tongue education in the kindergarten.

The research indicates which groups of children what gaps have in their mother tongue proficiency. Taking into consideration the Cummins' theory, according to which the bilingual children learning a second language have problems with those grammatical and linguistic categories which are not well acquired in the mother tongue of the children, we should admit that children will have problems with exactly these linguistic categories in Bulgarian. This can give teachers some ideas about what methodology to apply to the Bulgarian language teaching in order to overcome problems with these grammatical categories in the initial school grades.

This study here although limited in the number of participants, shows some important tendencies regarding the place and the role of mother tongue education for the cognitive development of bilingual children and its importance in the language interdependence theory of Cummins (1991), where the level of the mother tongue is a predictor of second language acquisition.

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LANGUAGE USE AND IDENTITY AMONG MIGRANT ROMA

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Abstract. The paper presents the issue of language use and identity among Muslim Roma youth from Bulgaria, living in Berlin, Germany. Interviews with a structured questionnaire on language use and identity was conducted with Bulgarian Muslim Roma living in Berlin, Germany. The results showed that, in order to be accepted by the German Turks, Bulgarian Muslim Roma youth change their language use and identity from Muslim Roma to a new identity - Bulgarian "*Osmanli*" Turks. The findings showed that the change of language and identity among young Roma in this study served as strategies for integration and acceptance in the German society.

Keywords: language use, ethnicity, identity, acculturation, Roma.

Кючуков Хрісто, Самуїлов Сава. Уживання мови та питання ідентичності серед ромів-мігрантів.

Стаття присвячена питанням використання мови та ідентичності серед ромів-мусульманів, котрі проживають у Берліні, Німеччина. Результати показали, що для того, щоб бути прийнятими німецькими турками молоді роми-мусульмани змінюють свою мову в щоденній комунікації, а також ідентичність, та називають себе болгарськими осман-ськими турками. Проведене дослідження демонструє, що зміна мови та ідентичності серед молоді ромів слугували стратегіями для інтеграції та прийняття в німецьке суспільство. Стратегії, які використовують молоді роми-мусульмани, еміґруючи з Болгарії до Німеч-чини через дискримінацію та расизм у болгарському суспільстві, що спостерігається проти ромів та мусульман, відомі з наукових джерел серед інших мігрантів, а також в інших частинах світу, як стратегії прийняття в суспільство та успішної інтеграції.

Ключові слова: використання рідної мови, етнічність, ідентичність, акультурація, роми.

1. Introduction

After Bulgaria became a member of the European Union in 2007, Bulgarian Roma had the possibility of travelling freely in Europe, and to settle in other Western European countries. EU countries with large Turkish migrant communities such as Belgium, France and Germany became preferable destinations for the Bulgarian Muslim Roma. This is because they speak Turkish, and this language was useful in finding jobs and establishing relations with Turkish migrants in these countries.

The younger Bulgarian Muslim Roma living in Western European countries usually do not speak the Romani language and know very little about Roma history and Romani culture. They often identify themselves as Turks. In Bulgaria, the

Turkish minority and the Turkish language can have higher prestige in comparison with Romani language and Roma identity (Kyuchukov, 2007). Rather than identify themselves as Bulgarian Muslims, and as immigrants in Western European, these youth have tended to identify themselves as Turks or Ottoman Turks (*Osmanlı Turkleri*). The identity of *millet* (from tr. *milliet* – nation) which is equal to Muslim Roma used in Bulgaria, is not used any more. They use the Turkish identity and speak Turkish, but their Turkish is different from the Turkish spoken by the Turkish migrants (in Germany) and in order to avoid any discrimination by migrant Turks they usually explain that they belong to the Ottoman Turks (Kyuchukov, 2016).

Like many immigrants, Muslim Roma youth in Germany are aimed at succeeding in Germany. Navigating languages and identity questions are central to the adaptation of the youth considered in this chapter and as Dimitrova and Ferrer - Wreder (2017) wrote "the Roma youth with multiple or flexible ethnic identities are more likely to be successful in school and in society" (p. 326). For Roma youth in the study learning a Berlin variation of Turkish and adapting to the local rules of the Turkish community are a guarantee of well-being and success in the German society.

K. Brizic (2006) reports about a similar phenomenon among immigrant children in Austria, where there are differences between the L1/L2 acquisition by children from Turkey and former Yugoslavia. The article focuses on the countries of origin, taking into account particularly their policies on (minority) language(s) and education, integrating approaches from socio- and psycholinguistics as well as language attrition studies, sociology and pedagogy.

Keeping in mind the situation of Bulgarian Muslim Roma migrant youth in Berlin, and their desire to be successful in Germany, this article addresses the following research question:

What are the problems of language use and identity among Bulgarian Muslim Roma youth in Berlin, Germany?

This question will be addressed taking as our point of departure, the ethnic background, language and communication skills of the Bulgarian Muslim Roma migrant youth.

1.1. Clarification of Key Terms

In this section, the terms ethnicity and identity change and their connection to the language use are discussed. The changes of the ethnicity and identity are parts of the acculturation process and the language use plays an important role in it. It is also important to note that adolescence concerns identity formation and changes in the structure of personality in the context of the surrounding world (Erikson, 1964). Main questions of the identity search are: *what are we, what want we to be, and what others expect from us?*

Ethnicity

Ethnicity is a term used for a group of people based on perceptions of shared social experience or one's ancestors' experiences (Peoples & Bailey, 2010). For example, "members of the ethnic group see themselves as sharing cultural traditions

and history that distinguish them from other groups. Ethnic group identity has a strong psychological or emotional component that divides the people of the world into opposing categories of "us" and "them" (Peoples & Bailey, 2010, p. 389).

According to Fishman (1998), language is the main indicator of the ethnicity. The link between the language and ethnicity depends on the context, and is also rooted in social and/or historical circumstances. The processes of globalization and mobility however, also influence language and ethnicity. Fishman (1998) reported also that among small ethnic groups such a phenomenon as changing from one ethnicity to another bigger nationality is common.

Identity

According to Rovira (2008) "identity, simply stated, is who you are; individuality; the condition of being a certain person. In the social sciences, identity is defined as the way that individuals label themselves as members of a group; in psychology, it refers to an individuals' self-esteem or self-image" (p. 65-66). Language is important to identity, the same person in one situation can use a dialect of a language and have an identity connected to that dialect, and in another situation, can use another dialect of the same language and have a totally different identity. The change of the identity can be individually experienced, but very often can be a collective action.

Language

Language is an instrument to express culture. Rovira (2008, p. 66) stated that "…language is a fundamental aspect of cultural identity. It is the means by which we convey our innermost self from generation to generation. It is through language that we transmit and express our culture and its values". Language and identity are closely related and, in many societies, and language is a sign of the social, caste, educational and cultural groups to which a person may belong to.

Acculturation

Berry (1997, p. 6) stated that "The concept of *acculturation* is employed to refer to the cultural changes resulting from these group encounters, while the concept of *psychological acculturation* and *adaptation* are employed to refer to the psychological changes and eventual outcomes that occur as a result of individuals experiencing acculturation. Three interrelated aspects of adaptation are identified: *psychological*, *sociocultural* and *economic*". Organista, Marin, and Chun (2010) presented acculturation as a more complex phenomenon that considers at least two cultural dimensions where, an individual may retain some aspects of the culture of origin and also learn and favor aspects of the new culture. This more complex understanding of acculturation is often perceived as promoting a society characterized by individuals who are comfortable in various cultural settings (Padilla and Perez, 2003).

In different European countries where Roma groups live, in order to avoid everyday discrimination, some may take on different identities and may assimilate into the mainstream society. Kivisto (2013) has shown that in Europe, negative attitudes, open discrimination, and the exclusion of migrants are increasing, and

these trends and experiences are applicable for Roma migrants as well. Kivisto (2013, p. 127) described the situation in this way:

"…it is often difficult to disentangle the sources of anti-immigrant animus. On the one hand, immigrants *qua* immigrants are often the object of hostility. They can be seen as competitive threats and economic burdens to the receiving society, as well as being in various ways perceived to be culturally 'different' in negative terms. Thus, findings from the Eurobarometer in the early years of the twenty-first century found that one in five Europeans in 15 countries surveyed believed that their nation should enact repatriation policies for legal migrants, while four out of ten interviewees expressed opposition to the granting of civil rights to legal migrants."

From another perspective, a study conducted in Britain and France showed that the Roma were viewed as being on the bottom of the hierarchy in terms of prejudices in those societies. The prejudices towards Roma can be greater than anti-Muslim prejudices (Bleich, 2009). The situation in Berlin is not different. Visiting the Berlin schools one can see that migrant children and youth (Turks and Arabs) have negative attitude towards Roma children and youth from Bulgaria and Romania. Very often they are victims of verbal attacks and bullying and in this sense to "be a Turk from Bulgaria" maybe perceived to be less dangerous and more prestigious, than to be a Roma.

1.2. Language, Social Identity, Acculturation and the Study Context

The key terms (i.e., ethnicity, identity, language, and acculturation) play an important role in the process of social identity in a multicultural and multilingual context. According to Tabouret-Keller (1998), the collective change of identity can be a guarantee for a higher social status and possibly living better in a new society. "A*ccommodation theory*" posits that the shift of speech styles is done with the aim of social integration and this phenomenon is very typical in multilingual communities (Giles, 1984 as cited in Tabouret-Keller, 1998).

Language, ethnicity and identity play important role in *accommodation theory*. From one side, *language and ethnicity* are connected, but from other side, there is also a tight connection between the *language and identity*. Language is the most important criteria of the accommodation theory and it guarantees the adaptation of the person in a new context and to a new situation.

Muslim Roma youth from Bulgaria living in Berlin are typically multilingual. In addition to speaking Turkish and Bulgarian, they may also speak some German. At school, they are taught English as well, and some of them had learned some Russian in Bulgaria before coming to Germany. Their fluency in these languages varies, but often times they have to negotiate through a myriad of languages; and each of these languages may impact their identity. The Muslim Roma community in Berlin, Germany, is well established and the Roma have good connections among themselves. They tend to stick together as a social group, consistent with what Tajfel and Turner described "The individuals will not interact as individuals, on the

basis of their individual characteristics, but as members of their group" (1986, p. 10). In the Roma community, the youth has a new role. To begin with, they receive German school education as well as learn from the local streets, the new local variety of Turkish spoken in Berlin. Some of the youth also attend Turkish language lessons at school, a dialect of Turkish which the Bulgarian Muslim Roma considers to be more prestigious than the Bulgarian Turkish variety. Soon upon arrival in Germany, many of the children and the youth identify themselves as Bulgarians. However, after improving their Turkish, they change their identification to that of Turks from Bulgaria. Because of their language skills, Roma parents often call on the help of their children as translators/interpreters, when they have to communicate with German official institutions.

For Ochs (1993) the term "social identity" is a "cover term for a range of social personae, including social status, roles, positions, relationships, and institutional and other relevant community identifies one may attempt to claim or assign in the course of social life" (p. 288). The relation between language and social identity is very tight as well. Bailey (2001) analyzed how, when, and why individuals identify as members of particular groups. Conducting research among young Dominican Americans, the author showed how language was used to enact a specifically non White identity, adapting the Afro-American Vernacular; or to linguistically claim a distinct "non-Black" Spanish/Dominican identity; or to illustrate the way in which Dominican migrants situationally highlight boundaries among themselves. Language was functioning as an emblem of identity. According to Fought (2006) "there are number of types of linguistic resources in multiethnic communities for speakers to use in indexing the ethnic identity: 1.) a heritage language; 2.) code-switching; 3.) specific linguistic features; 4.) suprasegmental features; 5.) discourse features; 6.) using a borrowed variety" (p. 21-22).

In another study, Kyuchukov (2016) observed that speaking Turkish, the Muslim Roma youth code-switched to Bulgarian and German, as well as used specific linguistic and discourse features. Very often among themselves, they would speak either Bulgarian or Bulgarian dialect of Turkish; but when among the Turkish migrants form Turkey living in Berlin, they are likely to immediately use another dialect of Turkish, namely the Berlin Turkish. Thus, the Muslim Roma community living in Berlin shows many signs of assimilation into the wider society. In a unidirectional model of acculturation in which "the cultural change occurs in one direction - people move away from their culture of origin and toward the dominant group during resettlement in a new country" (Organista, Marin, & Chun, 2010, p. 103). It may also be the case, that Muslim Roma youth living in Berlin do not learn much of the majority language (i.e.б German) and culture. Instead, they are interested in acquiring the culture of another migrant group in Germany, namely, Turk immigrants who arrived in the 1960s and 1970s to Germany.

The primary goal of young Muslim Roma in Berlin is to be well received in the Turkish community and to prosper in the German society. For them, it is clear that well-being in German society, involves becoming integrated with the Turkish migrant community, who have succeeded in gaining respect, cultural, linguistic and

human rights in the German society. Children and students of Muslim Roma who attend primary and secondary schools learn Turkish as mother tongue in classes provided by the schools, attend cultural or sport clubs run by Turks and adapt to Turkish culture and value system of Turkish minority in Berlin. This is the way, they think that they will be successful and have prosperity in the wider German society.

The overview of the literature in application to the case of young Muslim Roma in Berlin shows that the issues of language and identity change are not new in social psychology and in sociolinguistics. Small and isolated ethnic minority groups are often targets for discrimination and rejection in a variety of societies. Human beings try to find ways to be accepted and appreciated in societies and the cases described here have been observed in other contexts, such as in North America, Australia and Europe. Well-being is a normal human desire and young Roma in a new context act and behave no differently from any other human beings. They simply would like to be accepted and to find their place in the society. In the literature, one can find many cases of young Black or Latino Americans, young Arabs in France and Belgium, young Turks in Europe, who behave in the same way – going through the processes of acculturation in order to be integrated in a wider society. The young Muslim Roma in this study are not an exception to this case.

2. Methods

Here, we present a description of results from a study among Bulgarian Muslim Roma youth. The focus of the study was to explore how these youth viewed themselves, and their views on identity and language use in their lives.

Study participants were either enrolled in schools in Berlin or had graduated from a Bulgarian institution and migrated to Berlin in search of a job. Here, they face a new reality: a large Turkish speaking community from Turkey and will have to navigate how to integrate into the German society often through the Turkish community. Participants were 17 adolescent boys and 12 girls between 16-22 years old. They were interviewed using a structured questionnaire in informal settings. Based on the participants' responses, the sample maybe viewed as consisting of two groups. The first group comprised of participants who were born in Germany or came to Germany at very young age. This group reported being interested getting higher education, reported motivation to study German, to get a profession, and they did not appear to be isolated from the German society. They reported contacts with Germans, Bulgarians and Turks. This was a smaller group in the overall sample. The other group of respondents came to Berlin in the course of the last three to four years. They reported more isolation, having contacts only with relatives, and Bulgarians and very few contacts with Turks. They had little to no desire to learn German, and reported conflicts the law including criminality or prostitution.

The questionnaire contained 19 questions divided into three parts dealing with social-demographic information, identity, language use, and integration. The

participants' responses to the questions were open ended and their answers were written down on a form. For example:

What language do you speak with: a) your parents, b) your brothers and sisters, c) your relatives, d) your friends, e) someone from Bulgaria on the street/ shop, f) other people

Identity and language were assessed using the same items as Broeder and Extra's (1995) survey. The items focused on:

language variety: *Which language(s) is/are used in your home?,*

language proficiency: *Can you understand/speak/ read/ write this language?,*

language choice: *Do you speak this language with your mother/father/ elder brothers(s) or sister(s)/ younger brother (s) or sister(s)?,*

language dominance: *Which language do you speak best?,*

language preference: *Which language do you like to speak most?*

The qualitative data were coded with the codes 1 and 0. For positive answers, the code 1 was given, and for negative ones – the code 0 was given.

3. Results

In both groups of youth, Turkish was the mother tongue. Only 6 % of participants spoke some Romani at home. All of them spoke and understood Bulgarian, but only 12 % used it in their everyday communication. Bulgarian was rarely used, because the social contact with ethnic Bulgarian speakers was limited. Most of the Muslim Roma youth reported using Turkish (44%) or Turkish and Bulgarian (38 %) in their homes. They did not report speaking German at home.

Herein their language preferences, there was not so much diversity. Many preferred to speak the Berlin variety of Turkish, which they considered as "standard" Turkish (88 %) and others (mainly the ones who were born in Berlin and came very young) preferred to speak German (12%). There were no preferences towards Bulgarian and Romani language.

In Bulgaria, all respondents identified themselves as *millet*, which is the other name of Muslim Roma. In Germany, in communication with migrant Turks from Turkey, they reported identifying themselves as Turks/Bulgarian Turks or "citizens of old Ottoman Empire" which is equal to Turkish. Only 3% reported identifying as Roma. Almost all of them identify themselves as Turks (when communicating with migrant Turks from Turkey) and as Bulgarians (when communicating with Germans). In Bulgaria, they all used Turkish as their mother tongue at home, but would not or could not use it in public. In Berlin, they would use Turkish in public places, such as in shops, restaurants, schools. None of them identify themselves as Germans or Bulgarians in communication with Roma, Turks or Bulgarians from Bulgaria. The results are shown in Figure 1.

Here are some of the reasons given by participants regarding their willingness to identify as Turks.
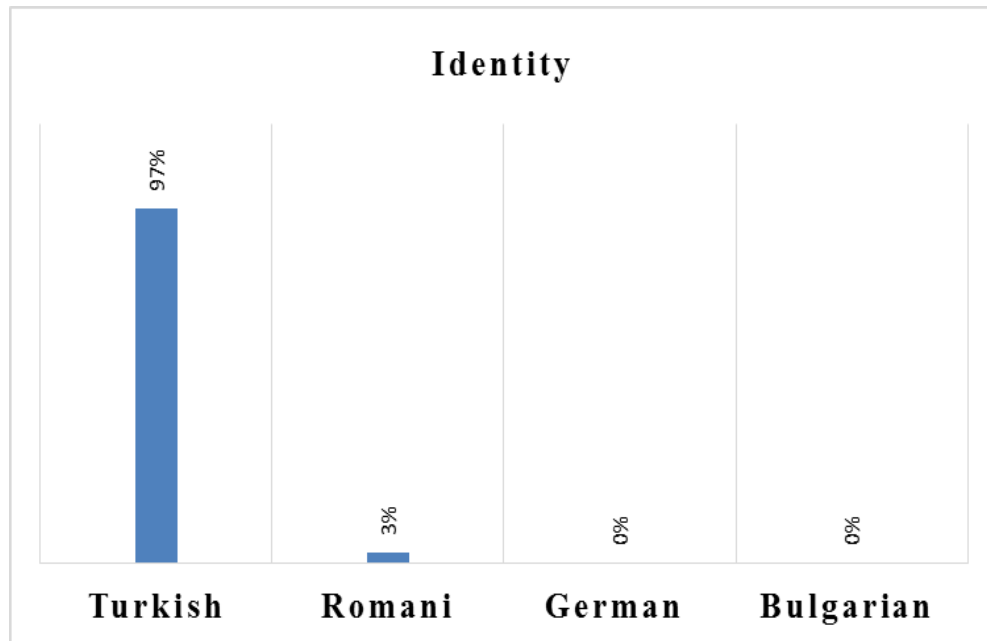
53

Figure 1. Self-Identification of Bulgarian Muslim Roma Youth in Berlin

Participants stated that: *"to be a Roma or Turk in Bulgaria means that you are not a human being"; "no one wants me in Bulgaria"; "I am treated differently in Bulgaria".* The Bulgarian society, last decade or so, has shown that otherness and minorities, particularly Roma, are not accepted. The open discrimination in everyday life turns to be a norm. Opposite to the Bulgarian situation many reported that to be Roma or Turkish in Germany means: *"I feel not discriminated"; "I am accepted as I am".*

Most of the participants (92%) reported that they thought that the Turkish language facilitates their integration into the German society, and 8 % reported that they thought German and English would facilitate their integration into German society.

Although the Muslim Roma youth can freely identify as Roma in Germany, they prefer to identify themselves as Turks, because of the Turkish language and Turkish ethnicity has some prestige in Germany. Antigypsyism takes a different form in Germany than in Bulgaria, but the negative attitudes towards Roma nevertheless still exist. This issue becomes clearer when one considers two questions regarding the future of Romani. One of the questions was in connection with the desire of the young people to have Romani language as a subject in schools similar to Arabic and Turkish in German educational system. Overwhelming majority of the participants (89%) were negative towards this proposition. Only 11% thought it was important to have Romani as a subject in the German educational system. The other question was about wanting their children to learn Romani and to identify as Roma. Here too, nearly all the participants (97 %) were negative to the idea. Only 3% from the Muslim Roma youth thought that it is important for the future of Romani language that when they have families and have children to speak Romani in their households.

In answering the research question stated above we contend that for Bulgarian Muslim Roma youth in Berlin, the integration into German society is considered as a positive development, however for the time being they see it possible only through the Turkish language and Turkish identity. In their opinion, the Berlin dialect of Turkish is more valued than the Bulgarian dialect of Turkish. The children and youth try to learn the Berlin Turkish, although they code-switch between Bulgarian Turkish and Berlin Turkish variety (Giray, 2015) and surely future generations will be much better in Turkish spoken in Berlin and they will see themselves as having a Turkish identity (Marushiakova and Popov, 2004)

4. Discussion

The Muslim Roma youth coming from Bulgaria and being raised in a society where the attitudes towards minorities are extremely negative have experienced the so called "Matthew effect" (Merton, 1968), where the gap between the majority and minorities becomes bigger and bigger. In Bulgarian, the minorities get more and more isolated and without any power and positions in political life. Bulgarians on the other hand get more and more aggressive towards minorities and exclude the minorities (including high educated and highly qualified minority members) from the social and political life. Having all the negative experiences from Bulgaria and being in a new country where one of the minority groups has higher prestige and is well integrated in the society, the process of acculturation among the Muslim Roma youth is a result from the desire to overcome the "Matthew effect" – the gap between the minority and majority.

Changing language and identity is one of the strategies which can help to overcome the existing gap. This is a phenomenon well described in social psychology (Bailey, 2001). The grounds of this phenomenon are different. One is psychological: the low self-esteem of a group of people belonging to a minority group. A second one is *economical*: the desire on the part of minority group to be integrated in the society (acculturation) in order to enhance job employment opportunities. The third one is political: members of a minority group avoiding direct racism and discrimination. The fourth is *religious* one, when the members of a group are scared about their lives and future.

From sociolinguistic point of view, Turkish and German languages for Bulgarian Muslim Roma youth in Berlin are *"Ausbau"* and *"Abstand"* languages, as described by Trudgill (1992). *Abstand* in German means "distance" and *Ausbau* is "extension". For Muslim Roma youth, the language which gives them *extension* in the German society is Turkish. German is a language which is one of *distance*. Most probably, the children and grandchildren of these youth will speak better German. For Muslim Roma youth from Bulgaria living in Berlin, the integration in the German society goes through Turkish community, learning a "new" Turkish dialect and having a "new" identity – from *Ottoman Turks* to *Turks*. This is one of the strategies of prosperity and well-being in the new context – just a basic human desire.

5. Conclusions

Changing of one's language, ethnicity and identity are strategies used in context of the aforementioned study and may have relevance to other highly discriminated against minorities and/or numerically smaller ethnic/social groups. The six Cs of competence, confidence, connection, character, caring and contribution (Lerner et al., 2005; Lerner, Dowling & Anderson, 2003) in the case of Muslim Roma in Berlin is possible, but may only be achieved through the Turkish identity and language. In the German society, the forms of anti-gypsyism are increasing. The young Muslim Roma in Bulgaria witnessing the forms of anti-gypsyism towards other Roma groups from Romania, Macedonia, Bosnia and Serbia, use their religion and knowledge of Turkish to "accommodate" to the German society, respectively to have a better life in the society. The tight connections with the Turkish community gives a possibility to young Muslim Roma to have confidence, to show their competence, to create connection, to develop their character, to show care and love to family members and to contribute in the society as a whole. The long term consequences of this accommodation strategy are yet to be known for youth in this study. However, the use of this strategy was clearly relevant in this sample.

This study has several limitations such as a non-representative study sample, and it could have been enriched by the use of other methods. Despite these limitations, the study findings provide a good base to continue research with other groups of young Roma in different European contexts. The most important question is how to support a context in which young Roma can be proud of their ethnicity and language and also have success in the wider society, so that future generations can avoid being completed assimilated into the mainstream culture at the cost of their heritage and identity. The number of initiatives taken by institutions such as Council of Europe and European Commission aiming and focusing on the educational and professional development of young Roma, do not pay enough attention to the issues of identity and Romani language use, and the context that young Roma must navigate in order to thrive.

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REVISITING RESEARCH ON GRAMMATICAL GENDER ACQUISITION BY RUSSIAN-SPEAKING CHILDREN WITH DEVELOPMENTAL LANGUAGE DISORDER

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Abstract. Although both Developmental Language Disorder (DLD) and grammatical gender acquisition have been the focus of scientific interest for decades, a few research has been conducted in order to explore how DLD Russian-speaking children acquire this linguistic category. One of the main reasons for this is the difficulty of recruiting DLD children as we still cannot reliably identify these children. Previous studies claim that typically developing children acquire grammatical gender at about 3-4 years of age, but have difficulties with neuter gender up to 6 years of age. This brief report aims at providing the theoretical background of a research in process. The review deals with the issue of grammatical gender acquisition by Russian-speaking children diagnosed with DLD. Specifically, this paper reviews i) the main findings of studies on gender acquisition in typically developing Russian-speaking children, ii) the outcomes of research on how Russian-speaking DLD children make use of grammatical gender.

Keywords: Developmental Language Disorder (DLD); grammatical gender; acquisition; Russian.

Огнєва Анастасія. Перегляд досліджень щодо опанування граматичного роду російськомовними дітьми із загальним недорозвиненням мовлення.

Анотація. Не дивлячись на те, що загальне недорозвинення мовлення (ЗНМ) та опанування граматичного роду перебувають у центрі наукових досліджень упродовж десятиліть, недостатньо уваги було приділено дослідженню того, як російськомовні діти із ЗНМ опановують цю граматичну категорію. Однією з головних причин цього є труднощі у відборі дітей із ЗНМ, оскільки ми все ще не вміємо добре ідентифікувати таких дітей. У попередніх дослідженнях йдеться про те, що діти, які розвиваються типово опановують граматичний рід приблизно у віці 3–4 років, але мають труднощі з середнім родом аж до 6 років. Метою статті є забезпечення теоретичного підґрунтя дослідження. Статтю присвячено проблемі засвоєння граматичного роду російськомовними дітьми з діагнозом ЗНМ. Зокрема фокус уваги зосереджено на: а) провідних результатах досліджень у галузі опанування категорії роду російськомовними дітьми з типовим розвитком; б) результатах досліджень того, як оперують граматичним родом російськомовні діти із загальним недорозвиненням мовлення.

Ключові слова: загальне недорозвинення мовлення (ЗНМ), граматичний рід, опанування, російська мова.

1. Introduction

Developmental Language Disorder (DLD), also known as Specific Language Impairment (SLI)[1], is a diagnosis for children who exhibit difficulties learning their

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native language despite their normal non-verbal IQ, no neurological, physical or mental disabilities (Leonard, 2014). Although linguistic limitations have been reported in all language components (*i.e.* phonology, semantics, pragmatics), the central weakness is the grammar morphology. This problem has been commonly noted across a variety of languages (Leonard, 2014; Bedore and Leonard, 2001; Clahsen, Bartke and Göllner, 1997). For instance, English-speaking children with DLD are reported to have difficulties in verb morphology, specifically, omissions of auxiliary verbs or 3rd person morphemes are observed (*e.g.* *she talk* instead of *she talks* or *mommy cooking* instead of *mommy is cooking*). Previous crosslinguistic studies on gender in DLD mainly focused on gender agreement between the noun and the determiner and were based mainly on elicitation or sentence completion task in French, Spanish, Greek Dutch or Portuguese. Generally, the results of this research showed that DLD children had a higher error rate in their productions, such as omissions, substitutions, etc. (Anderson and Lockowitz, 2009; Anderson and Souto, 2005; Bedore and Leonard, 2001; Jackson-Maldonado and Maldonado, 2017; Orgassa and Weerman, 2008; Roulet-Amiot and Jakubowicz, 2006; Silveira, 2006; Varlokosta and Nerantzini, 2013).

Russian is a language with a rich morphology system. All nouns are distinguished between three grammatical genders: masculine, feminine and neuter. Gender agreement is expressed in some pronouns, numerals, participles, demonstratives, verbs in past tense, and adjectives. Gender agreement marking in Russian is illustrated in example (1)[2].

(1) a. *krasn-yj kover-Ø ležal-Ø   na polu*
         red.M   rug(M)   lie.PST.M   on floor
         'a red rug is on the floor'
     b. *krasna-ja knig-a ležal-a   na stole*
         red.F   book(F) lie.PST.F   on table
         'a red book is on the table'
     c. krasno-*je veščestv-o byl-o   v butylke*
         red.N   substance(N) be.PST.N in bottle
         'red substance was in the bottle'

According to Corbett (1991), Russian has a fairly regular declension-gender correspondence, so grammatical gender of the majority of the nouns is highly predictable from their phonological shape in nominative singular. Thus, nouns ending in non-palatalised consonants are masculine (*stul* 'chair'), nouns ending in stressed /a/ are feminine (*butylka* 'bottle'), and nouns ending in stressed /o/ are neuter (*okno* 'window'). However, some nouns have opaque forms in nominative singular. For example, nouns ending in palatalised consonants can be both masculine and feminine (*den'* 'day.M', *len'* 'laziness.F'). Other opaque nouns are

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[1] The name of this diagnosis has been a matter of debates. Previously, Specific Language Impairment was the most commonly used. However, since it has been questioned due to controversy, in 2017, during CATALISE Consortium a recommendation for the use of the term Developmental Language Disorder was proposed (Bishop, 2017).
[2] The abbreviations used in glosses are the following: M masculine, F feminine, N neuter, PST past tense.

those that end in unstressed vowels. Due to a vowel reduction process, both unstressed /a/ and /o/ are pronounced as /ə/, as in /knigə/ 'book.F' and /oblakə/ 'cloud.N' (Mitrofanova et al., 2018).

Thus, during language acquisition process, children need to learn how to correctly assign gender to every new word they learn and also how to establish the agreement between the nouns and the dependent items in a sentence. Are DLD children able to extract the regularities provided in their native language and make use of them? In the following sections we will provide the main findings with typically developing and DLD children.

2. Methodology

This paper uses a descriptive approach, providing a brief theoretical review on the state-of-the-art of grammatical gender acquisition in Russian-speaking children with typical language development and those diagnosed with DLD. The works included in this review were chosen according to the availability and their relevance for the topic.

3. The study
3.1. Grammatical gender acquisition in typically developing children

Previous research on grammatical gender in typically developing Russian speaking children include several longitudinal and experimental studies (Gvozdev, 1961; Popova, 1973; Ceitlin, 2005; 2009; Rodina and Westeergard, 2012; Mitrofanova et al., 2018 *inter alia*). One of the first observations that had been made is that the masculine-feminine distinction appears quite early in child speech, at about 2 years of age (Gvozdev, 1961; Ceitlin, 2005; 2009). Ceitlin (2005) also mentions that children possibly start to distinguish between two main groups of nouns: those than end in –a, and those that end in a consonant. It is reported that approximately at 2;0, children go through a stage of overgeneralized use of feminine gender. Specifically, Gvozdev (1961) reports examples as *mal'čik letela tuda* 'boy(M) fly.PST.F there' and *mal'čik legla* 'boy(M) lied.PST.F down'. Experimental research by Popova (1973) also provides evidence for feminine gender overgeneralization stage.

Acquisition of neuter gender is reported to be more difficult for children. Ceitlin (2005) claims that in child speech neuter nouns are almost absent. Instead, children often substitute neuter gender by feminine. For example, *jaicka drugaja* instead of *jaičko drugoje* 'other egg' (Gvozdev, 1961) or *moja mesta* instead of *mojo mesto* 'my place' (Ceitlin, 2005).

Thus, in previous research it is argued that children start acquiring grammatical gender using formal cues, *i.e.* the ending provided in the noun. In the course of acquisition, this formal criterion is replaced by rules based on the semantic properties of a noun. Nonetheless, an elicited production study by Rodina with "irregular nouns" (*e.g.* males' names ending in –a, like Vanya, hybrid nouns, like *plaksa* 'crybaby', etc.) has provided interesting outcomes (Rodina, 2008; Rodina and Westeergard, 2012). According to this study, children are sensitive to both

formal and non-formal cues in gender agreement task from early on (Rodina and Westeergard, 2012, p. 1101). Semantic knowledge for irregular masculine nouns ending in –a emerges quite early, approximately at 2;6-3;0. The most challenging nouns were the women's names ending in –ok/ik (*e.g., Lenok*), in this case, children were reported to acquire semantics at about 5-6 years of age.

A recent experimental study explored the sensitivity of Russian-speaking children to gender cues (Mitrofanova et al., 2018). In the first task with real words, the correct answer rate was quite high (the highest result was 100% in a condition of masculine nouns ending in consonants, whereas the lowest was 84% in a condition of feminine nouns ending in palatalised consonants). In the second task with pseudo words, children established correctly the agreement with feminine nouns (ending in –a) in 93%, with masculine nouns (ending in consonants) in 88%, and with neuter nouns (ending in a stresses –o) in 75%. When children were exposed to non-transparent nouns (feminine / neuter or feminine / masculine), they tended to choose feminine gender in 83% in the first case and 78% in the second case.

3.2. Grammatical gender acquisition in DLD children

Previously we have briefly explored grammatical gender acquisition process in typically developing children. Considering the fact, DLD children exhibit problems with morphology, it is predicted grammatical gender may be a potential aspect of limitation.

In an experimental study by Rakhlin and colleagues (2014), although children diagnosed with DLD show deficit in the accuracy of gender assignment, they did not differ from typically developing children as for the sensitivity to agreement features. In fact, as for the gender agreement sensitivity, the results were mixed. The authors argue that DLD children seem to have gender and gender agreement knowledge at an implicit level but are impaired during the explicit performance (Rakhlin et al., 2014, p.18).

Another evidence was provided by Tribushinina and Dubinkina (2012) and Tribushinina et al. (2018). Specifically, the scholars explored adjective production and gender agreement in DLD children. They have found out that DLD children had difficulties with adjective agreement. Apart from that children had deficits with the use of degree markers for adjectives (this is explained by the problems with inflectional morphology). They also made more semantic substitutions than typically developing children (*e.g., dlinny* 'long' instead of *širokij* 'wide'). A particular difficulty was observed for the agreement inflection and affixal negations (*e.g. neglubokij* 'not-deep').

4. Conclusions

The aim of this paper was to provide a theoretical background on the issue of grammatical gender acquisition in DLD Russian-speaking children. As observed, studies with typically developing children are quite numerous and have shed light on how grammatical gender is acquired and used. Still, little is known about how DLD children make use of grammatical gender, what cues they use in order to

assign gender to a novel noun and what are the developmental phases of gender acquisition. The current available studies do not exploit the full range of issues on gender acquisition by DLD children. Moreover, research by Rakhlin et al. (2014) explored DLD children aged 7;2-15;10, who may have already been receiving treatment for a long time, thus their results may be argued on this basis.

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CREATING AND TESTING SPECIALIZED DICTIONARIES
FOR TEXT ANALYSIS

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Abstract. Practitioners in many domains–e.g., clinical psychologists, college instructors, researchers–collect written responses from clients. A well-developed method that has been applied to texts from sources like these is the computer application Linguistic Inquiry and Word Count (LIWC). LIWC uses the words in texts as cues to a person's thought processes, emotional states, intentions, and motivations. In the present study, we adopt analytic principles from LIWC and develop and test an alternative method of text analysis using naïve Bayes methods. We further show how output from the naïve Bayes analysis can be used for mark up of student work in order to provide immediate, constructive feedback to students and instructors.
Keywords: text analysis, machine learning, LIWC, naïve Bayes.

Тарабань Роман, Піттман Джесіка, Налабандян Талін, Янг Вінсон Фу Зун, Марсі Вільям, Ґунтуру Шрівінаса Мерті. Створення та тестування спеціалізованих словників для аналізу тексту.
Анотація. Робота фахівців-практиків у багатьох галузях, наприклад, клінічних психологів, викладачів коледжів, дослідників передбачає збір письмових відповідей їхніх клієнтів чи студентів. Добре розроблений метод, який застосовується сьогодні до текстів такого типу, − це комп'ютерний додаток Linguistic Inquiry and Word Count (LIWC). Програма LIWC трактує слова в текстах як індикатори ментальних процесів людини, її емоційних станів, намірів і мотивів. У статті використано аналітичні принципи LIWC, розроблено та протестовано альтернативний метод аналізу тексту з використанням методів наївного баєсового класифікатора. Автори демонструють, як результати аналізу за наївним баєсовим класифікатором можуть бути використані для аналізу студентської роботи з метою надання негайного, конструктивного зворотного зв'язку і студентам і викладачам.
Ключові слова *аналіз тексту, машинне навчання, LIWC, наївний баєсів класифікатор.*

1. Introduction

The linguist, Edward Sapir, believed that "language and our thought-grooves are inextricably interwoven, [and] are, in a sense, one and the same" (in Salzmann, 2004, p. 43). An assumption that characterizes contemporary thinking across many domains of research and applications is that the language a person uses can reveal a great deal about that person, including thoughts, feelings, motivations, and personality. Pennebaker and King (1999) proposed that "the way people talk about things reveals important information about them" (p. 1297). Elsewhere, Tausczik and Pennebaker (2010) suggested that "The words we use in daily life reflect who we are and the social relationships we are in" (p. 25).

Practical applications of language analysis can be traced as far back as the psychoanalytic work of Freud (Tausczik & Pennebaker, 2010). Whereas early work was slow and tedious, recent advances in technology have enabled analyses of large language samples from sources like product reviews, forums, blogs, social networks, and mental health settings. These analyses have been used productively to achieve a variety of goals, for example, in business for sentiment analysis, and in clinical settings to treat depression. The focus of the work presented in this paper is on using machine tools to analyze the semantic content of college students' written class work and to provide automated feedback regarding the quality and coverage of their responses for specific writing tasks. The analytic procedure that we describe can be applied to a wide variety of data and is not limited to the college course data we present here.

A successful and widely applied machine tool for text analysis is Linguistic Inquiry and Word Count (LIWC) (Pennebaker, Boyd, Jordan, & Blackburn, 2015). LIWC uses pre-defined dictionaries as the basis of its computing power. In our approach to text analysis, we adopt the basic assumption underlying LIWC, which is that words in a text can function as statistical variables and thereby provide the basis for quantitative analysis. We further assume that words, as variables in an analysis, have a weighted relationship to the message that is being conveyed. That is, some words are more important than others. We use naïve Bayes analysis to incorporate these ideas into a general method for constructing dictionaries for specific language corpora of interest to practitioners.

1.1. Machine Tools for Text Analysis

Machine tools for analyzing the content of language samples are based on the general assumption that aspects of the semantic structure of text can be recovered through algorithmic methods. The approaches across machine methods vary, with some systems constructing high-dimensional semantic spaces of correlated words (Landauer, Foltz, & Laham, 1998; Lund & Burgess, 1996), others relying on pre-defined words to identify cognitive and affective categories (Pennebaker et al., 2015), and yet others searching out topics across samples of documents based on distributions of words within and across the documents (Blei, Ng, & Jordan, 2003). In the next two subsections, we briefly describe LIWC, which provides a framework within which to understand the methods that we develop, and naïve

Bayes analysis, which is a well-known algorithm for calculating complex conditional probabilities.

1.2. LIWC

Highly selective lists that define categories are the heart of the LIWC program. These lists were developed over the course of decades and in consideration of extensive samples of texts (Tausczik & Pennebaker, 2010). When presented with a text for analysis, the LIWC program searches through the text, word by word, and compares each word with those in the pre-defined categories of words. The percentage of words in each LIWC category–as determined by the presence of words that define that category–are subsequently calculated. The LIWC program reports the percent of words for 125 categories with nearly 6,400 words or word stems (Pennebaker et al., 2015) defining these categories. Examples of LIWC categories include those that are:

- Content-oriented: work (*hire*, *review*, *memo*) and home (*laundry*, *backyard*, *family*)
- Grammatical: articles (*a*, *an*, *the*) and prepositions (*over*, *under*, *between*)
- Psychological: positive (*pleasant*, *hopeful*, *compassion*) and negative (*jealousy*, *loneliness*, *terrified*) emotion (Pennebaker et al., 2015).

Overall, LIWC uses the words in texts as cues to a person's thought processes, emotional states, intentions, and motivations. The influence of LIWC on text analysis has been broad, with translations of LIWC dictionaries into Catalan (Massó, Lambert, Penagos, & Saurí, 2013) and Dutch (Boot, Zijlstra, & Geenen, 2017; Van Wissen, & Boot, 2017), among other languages.

A limitation of the LIWC approach is the reliance on pre-defined dictionaries and categories for classification. Specifically, the dictionaries are constructed to identify and quantify specific categories. Dictionaries of grammatical categories (e.g., first-person plural pronouns) that stem from the English language are face-valid, whereas dictionaries of psychological (e.g., cognitive processes) or content-oriented (e.g., family) language categories were constructed by judges and, thus, are more likely to represent inaccurate categorization (Newman, Groom, Handelman, Pennebaker, 2008; Pennebaker et al., 2015). Applicable to the current study, the dictionaries are susceptible to missing relevant categorical information in a target set of essays because the categories of interest may not be well represented by the LIWC categories. Our method, using naïve Bayesian methods, attempts to bypass this limitation.

1.3. Naïve Bayes

Naïve Bayes is an algorithm based on the calculation of conditional probabilities. The basic equation for estimating the probability of some category X given some variable y is:

$$P(X \mid y) = P(X \cap y) / P(y) \qquad (1)$$

The probability of X AND y, $P(X \cap y)$, in this equation is equal to $P(y \mid X) * P(X)$. If we treat the words in a text as variables, then there are multiple predictors, y_i. Naïve Bayes treats each of the words as independent predictors, so that the

numerator in (1) becomes:

$$P(y_1 \mid X) * P(y_2 \mid X) * P(y_3 \mid X) \ldots P(y_i \mid X) * P(X)$$

The simplifying assumption of independence of predictors–i.e., there is no consideration of interactions between predictors–allows the algorithm to easily compute probable classifications based on large numbers of predictors.

Naïve Bayes can be used to build classifiers using supervised learning methods. Basically, for some set of data, human raters classify the instances. The naïve Bayes classifier computes the strongest predictors within those instances in order to best match human classifications, and can then apply these predictors to new instances. In the present case, the predictors are the words in students' essays. The significant difference between LIWC and a naïve Bayes classifier, which we want to emphasize here, is that LIWC applies pre-defined and fixed predictors–i.e., the words that define the LIWC categories–in order to identify predefined categories. Through naïve Bayes, the researcher defines the categories of interest for a sample of texts and naïve Bayes discovers the predictors in the sample that are most strongly associated with those classifications. Thus, naïve Bayes is able to create specialized dictionaries tailored to the needs and interests of the researcher and in consideration of the available texts.

The present work is largely exploratory. We have several related goals:

- To build a naïve Bayes classifier to identify specific content in students' open-ended essays
- To test the classifier's ability to reliably transfer its knowledge to new essays
- To identify the most reliable predictors that naïve Bayes uses in its classifications
- To mark up students responses as a form of constructive feedback to students.

2. Methods

A website was created entitled Ethical Engineer https://EthicalEngineer.ttu.edu (see Figure 1) to allow engineering students to read and respond to case studies posing ethical issues that have arisen in engineering. The website outlines a prompt for students to respond to, posing an array of questions to consider when approaching these ethical issues. The Ethical Engineer currently includes three case studies. The present study analyzed student comments to one of three case studies that are presented on the website. The case study is titled "Which is More Important – Environmental Concern or Economic Growth?" and can be read in full on the website.

Participants were primarily students enrolled in an undergraduate ethics course offered at Texas Tech University, as well as students from participating institutions abroad, primarily India. Students participated on a volunteer basis.

2.1. Procedure

The 119 independent comments to the case study that were available on the website at the time of this study were selected for analysis. The instructions for

submitting a comment are shown in Figure 2 (color coding was not used on the website and is used in the figure to highlight the categories that were analyzed using naïve Bayes).[1] An example of a typical student comment is shown in Figure 3.
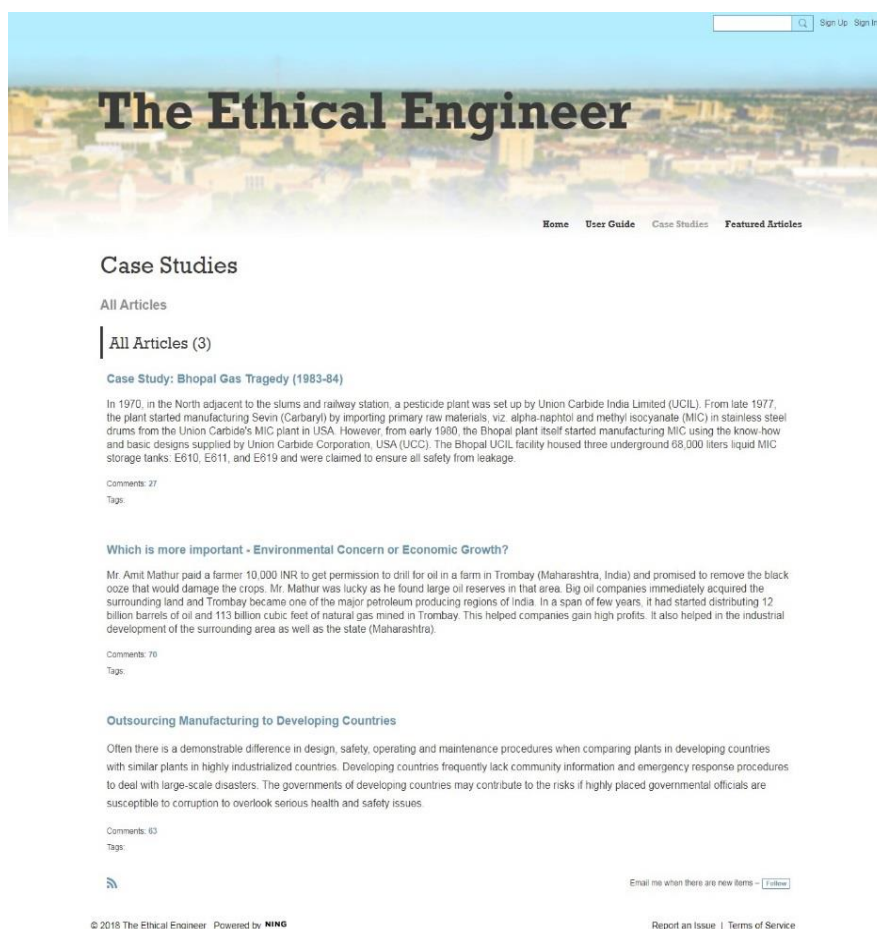

Figure 1. Screen Shot of https://EthicalEngineer.ttu.edu Case Study Page

> *Submit a Comment*
> *As you read and analyze case studies your reflective comments are invited on some or all of the following.* *a) As part of your analysis include information on the stakeholders and how they are impacted both positively and negatively.*
> *b) What knowledge and skills are needed to implement sophisticated, appropriate and workable solutions to the complex global problems facing the world today?*
> *c) What interdisciplinary perspectives would help identify innovative and non-obvious solutions?*
> *d) What insights can you articulate, based your culture and other cultures with which you are familiar, to help understand your worldview and enable greater civic engagement?*
> *e) What is your position on the right thing(s) to do?*

Figure 2. Instructions for Submitting a Comment to a Case Study on the Website https://EthicalEngineer.ttu.edu (Color coding and lower-case lettering are used here to indicate the categories of interest to the reader – details below)

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[1] Color coding in this and the other examples in this paper is visible in the online version of the paper but not in the paper copy of the Journal.

petroleum413 April 9, 2019 at 12:27pm

In the case study "Which is more important- Environmental Concern or Economic Growth" by Dr. Majumdar, the situation examined is about an area in India known as Trombay economic growth and pollution due to big oil companies. Trombay and the surrounding areas economies began to expand rapidly due to the big oil companies drilling and refineries, but with this expanding company came many negative consequences. The environment and the surrounding communities were greatly affected by the pollution which was being created by the drilling sites and refineries. One way to help prevent these situations from occurring is for engineers and large oil companies to know the most effective drilling and refinement process which minimize negative environmental impact. Secondly, problem solving skills and the ability to communicate respectively to people of other cultures are an essential tool to solving the complex global problems created by big oil companies. Also, knowledge of safe disposal practices is an essential tool to solving the difficulties facing the world today. Third, by engineers having interdisciplinary perspectives such as knowledge about chemistry and economics would assist in detecting innovative, non-obvious solutions to balancing economic growth and the impact on the environment. Fourth, civic engagement is an essential device to understanding the balance between environmental concern and economic growth. In many cultures certain land is considered sacred, holy, or historical significance. In the event that there is holy, sacred, or historical lands is near drilling sites, engineers with knowledge about the locations of these land can enable superior civic engagement. Lastly, the balance between economic growth and environmental concern is an extensive ethical concern. I believe engineers should take precautions to prevent negative environmental impact. A more expensive piece of equipment may affect the company's profits but will eliminate potential problems in drilling or refinement is worth the expense. Also, I believe countries who do not have strict environmental regulations should not be taken advantage due to less restrictive laws.

Figure 3. Sample Comment to the Case Study "Which is More Important…" Displayed on the Website https://EthicalEngineer.ttu.edu

2.2. Classification by Human Raters

Each comment was parsed into sentences. The 119 comments resulted in 1631 sentences. Two trained researchers carried out classification of each sentence as pertaining to one of five possible categories, as indicated by the color coding in Figure 2: a) Stakeholder, b) Knowledge and Skills, c) Interdisciplinary Perspectives, d) Cultural Understanding, e) Right Action. A sixth category, Other, was used to classify sentences that did not fit one of these categories. For classification, the researchers independently classified the sentences. The researchers then reviewed their combined classifications and resolved cases of disagreement through discussion.

The 1631 sentences were divided into a training set, based on 84 student comments consisting of 1196 sentences, and a test set based on 35 student comments consisting of 435 sentences. Inter-rater agreement was similar for the training set (77 % agreement) and test set (75 % agreement).

2.3. Naïve Bayes Classifier

The 1196 training sentences and human classifications were input into a comma separated values (.csv) file, a portion of which is shown as an example in Figure 4.

70

Comment Sentences	Classification
This interdisciplinary perspective always should be applied when people make judgements about any solutions.	Interdisciplinary
In the case study above, the stakeholders indeed make a lot of money of drilling oil in the farm, but meanwhile they sacrifice many other residents' lives and health around this area.	Stakeholder
The corporations around the world have been more and more active and tightly interactive.	Culture
People would be more open and have higher tolerance of culture difference.	Culture
However, there are still some taboos that should be considered before stakeholders make any decisions.	Right
Good research and understanding from both sides are the prerequisites for good cooperation.	Interdisciplinary

Figure 4. Example of Portion of Comma Separated Values (.csv) File Used for Training and Testing a Naïve Bayes Classifier

The .csv file constituted the input to naïve Bayes, which was implemented in R https://cran.r-project.org/web/packages/naivebayes/naivebayes.pdf through R-Studio, using package e1071 and Laplace smoothing. Numbers, stop words (e.g., function words like *the, if, on*), and punctuations were removed, and stemming (e.g., reducing *trouble, troubles, troubling* to *troubl*) was applied. The modification of the data, as described, resulted in 584 word stems across the 1631 sentences. Therefore, the naïve Bayes analysis was based on 584 predictors. These predictors were tested against each sentence, which allowed naïve Bayes to estimate the most likely classification for each sentence.

3. Results

A confusion matrix showing frequencies (percent of total sentences shown below frequencies) of agreements and disagreements between human raters and the naïve Bayes classifier for 435 new sentences is shown in Figure 5. Matches between human raters and the naïve Bayes classifier indicate a modest 61.1 % level of agreement between humans and machine. Given that the two human raters initially agreed on classifications 75 % of the time for these test data, we should not expect the Bayes classifier to agree with the human raters at a 100% level. Instead, it makes more sense to think of the Bayes classifier as another rater, in which case there is a 14 % discrepancy between the ability of humans to make the classifications and the machines ability to make comparable classifications.

3.1. Text Markup for Feedback

Output from naïve Bayes was used to mark up students' comments as potential feedback to students and instructors. The visual displays showing mark up through color coding and figures (See Figures 6 and 7 below) are implemented using the Shiny application http://shiny.rstudio.com/ in R Studio.

One form of text markup is to use the most probable naïve Bayes classification of each sentence (Culture, Interdisciplinary, etc.) to mark up a student's submission through color coding. This form of markup can provide students and instructors with immediate visual feedback regarding coverage of the recommended points to address, as indicated in the instructions for leaving comments. The markup also shows the distribution of comments to the classifications targeted in the naïve Bayes analysis. The color coding of sentences in a student's comment is supplemented by the Shiny application with a bar graph and radar graph (See Figure 6), providing students with additional information about their coverage of the points targeted in the instructions for leaving comments.

| | | | | Actual(Human Raters) | | | | |
Predicted	Culture	Interdisciplinary	Other	Right	Skills	Stakeholder	Row Total
Culture	23 \n 0.053	2 \n 0.005	4 \n 0.009	4 \n 0.009	2 \n 0.005	1 \n 0.002	36
Interdisciplinary	0 \n 0.000	28 \n 0.065	0 \n 0.000	1 \n 0.002	4 \n 0.009	0 \n 0.000	33
Other	6 \n 0.014	2 \n 0.005	13 \n 0.030	2 \n 0.005	5 \n 0.012	17 \n 0.039	45
Right	8 \n 0.018	12 \n 0.028	23 \n 0.053	69 \n 0.159	13 \n 0.030	26 \n 0.060	151
Skills	1 \n 0.002	3 \n 0.007	0 \n 0.000	4 \n 0.009	25 \n 0.058	1 \n 0.002	34
Stakeholder	5 \n 0.012	2 \n 0.005	7 \n 0.016	9 \n 0.021	5 \n 0.012	107 \n 0.247	135
Column Total	43	49	47	89	54	152	434

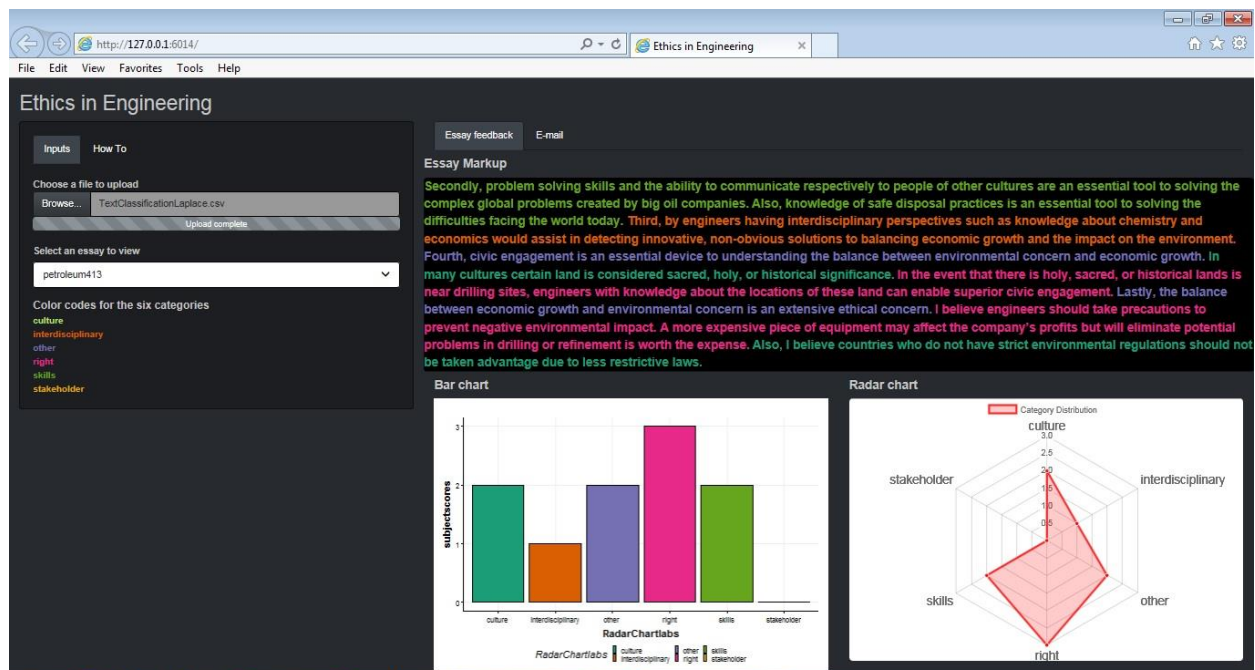*Figure 5.* Confusion Matrix for New Classifications

Figure 6. Example of Feedback Showing Most Likely Classifications of Sentences Based on Naïve Bayes Output and Mark Up Using Shiny App

A second form of markup, to provide another form of feedback to the user and the instructor, can be carried out as follows. First, calculate simple Bayesian probabilities for each predictor (stem) for each category (stakeholder, inter-disciplinary…), next rank order the predictors for each category, and, finally, use a

subset of ranked predictors (e.g., top 10) for each category in order to mark up the text. This feedback can be used to make more explicit the strongest conceptual elements within an essay. An example of text markup using this method is shown in Figure 7.
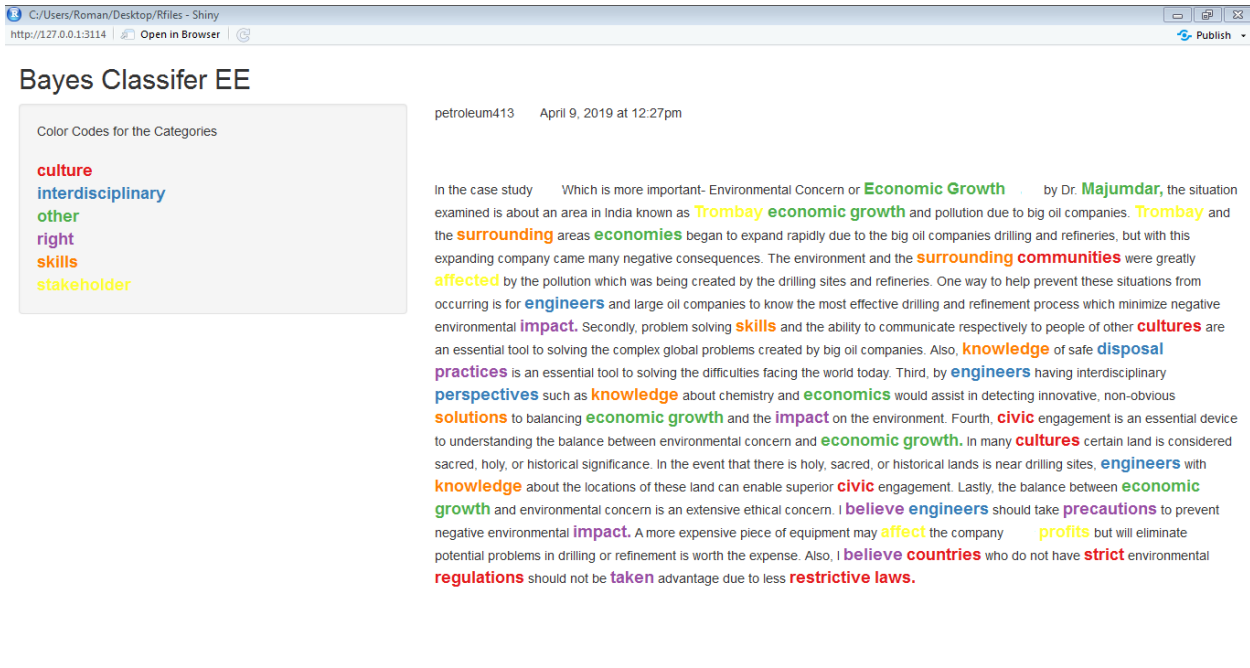

Figure 7. Example of Feedback Using Bayesian Probabilities of Most Reliable Stems and Markup Using Shiny App

4. Conclusions

The present analysis of a sample of students' comments to an engineering case study using naïve Bayes showed fair agreement between machine and human classification. We believe the algorithm will come into closer agreement with humans as we increase the amount of data for training. Further tests will show whether this is indeed the case.

If our approach to constructing specialized dictionaries using Bayesian analyses–in lieu of pre-defined dictionaries as employed by language software, such as LIWC–proves successful, several potential benefits emerge for instructors. First, content analysis can be tailored to students' vocabulary levels, regional vernacular, and other word choice factors. Second, the method provides for a flexible range of analysis, i.e., it affords the analysis of short responses or longer essays. Finally, the method allows instructors to focus on course-related subject matter, i.e., classifiers can be directed to specific course topics. Overall, the very practical benefits of the Bayesian methods we describe are an ability to quickly bring a classifier up to speed, to continually update the classifier with additional human assessments, to tailor the classifier to the specific needs and goals of an instructor, and to merge naïve Bayes code with other code necessary for creating an interface for student input and feedback.

The current goal of this project is to classify comments from the Ethical Engineer website according to topics (e.g., Stakeholder, Interdisciplinary…) of current interest to the instructor. However, we envision further extensions of this work. For example, it is possible to add to the classifications that naïve Bayes identifies, for instance, classifying sentences in student submissions, or other sources, according to binary classifications like

- descriptive/analytic
- productive/unproductive
- high/low quality.

These classifications could be supplemented by identifying the strongest predictors that naïve Bayes used to make those classifications and marking them up in the submission, as in Figure 7.

The methods described here are not without limitations. The algorithm treats predictors as independent, which is handy statistically and from the perspective of cognitive modeling, but which also introduces a limiting heuristic. That is to say, conceiving of the classification process as a compilation of independent predictors ignores interactions between predictors. Knowledge of how predictors interact and combine into more complex constructions like propositions (Kintsch, 1998) would significantly extend the analysis and feedback that could be provided to students and instructors.

Finally, although the naïve Bayes and markup methods we describe here can provide useful feedback to students, effective feedback may still require human judgment to provide students with input on the depth, insights, empathy, and creativity of their responses. These are human- and machine-processing questions and challenges that still remain.

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ТЕСТУВАННЯ ТА ОЦІНЮВАННЯ МОВЛЕННЄВОЇ КОМПЕТЕНЦІЇ: НІМЕЦЬКИЙ ДОСВІД

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Анотація. Оскільки навчання іноземної мови на сьогодні має абсолютно новий, сучасний підхід, оцінювання мовленнєвої компетенції повинно відповідати чітким між-народним стандартизованим вимогам. Позаяк стаття має стислий інформативний характер, в її межах уточнено поняття оцінювання, як спонукання до відповідної мовленнєвої реакції або дії через чітко поставлені комунікативні завдання. У статті також відображено типи оцінювання, а саме формальне та неформальне, зовнішнє оцінювання та самоконтроль. Через те, що завжди важливо розуміти, з якою метою здійснюється оцінювання мовленнєвої компетенції, у статті виокремлено його функції, а саме: діагностування, сприяння, розпізнання прогресу, констатування досягнення цілей, встановлення рейтингу, виставлення оцінок, порівняння, мотивація та ін. Там, де дві особи, існують дві суб'єктивні картини об'єктивного світу: бачення ситуації тим, хто оцінює, і тим, кого оцінюють, то до уваги також взято психоемоційний аспект досліджуваного питання.

Ключові слова: оцінювання, тестування, формальне та неформальне оцінювання, зовнішнє оцінювання, самоконтроль, стандартизовані мовні іспити, психоемоційні стани особистості.

Tarasiuk, Inna. Speech Competence Testing and Assessment: German Approach.
Abstract. Methods and approaches of foreign language teaching being changed considerably of late, the assessment of the language competence should be consistent with clear international standardization requirements. Since the article has a brief informative character, the notion of evaluation as an inducement to a corresponding speech reaction or action through the well-defined communicative tasks is defined. Such types of evaluation as formal and informal, external evaluation and a self-assessment are outlined in the article. Different functions of speech competence assessment were covered, as it is important to understand its purpose. Among them are diagnostics, encouragement, progress recognition, the statement of goals achievement, the setting of rating, grading, comparison, motivation. Since there are two subjective pictures of the objective world where there are two persons: the vision of the situation for those who evaluate and those who are evaluated, the psycho-emotional aspect of the issue under consideration is also taken into account.

Keywords: assessment, testing, formal and informal assessment, external assessment, self-assessment, standardized language exams, psycho-emotional states of personality.

1. Вступ

Неможливо уявити собі заняття з іноземної мови, на якому б викладач не оцінював студентів/ учнів переважну більшість свого часу. Це відбувається свідомо, або і не усвідомлено, формально, або ж не формально. Отримана від оцінювання інформація використовується для планування та побудови

наступного заняття, для інформування студентів або ж їхніх батьків про актуальний рівень знань тощо.

У світі дедалі більшого значення надається питанням тестування та оцінювання на заняттях з іноземної мови, німецької мови зокрема. Практика застосування різних форм оцінювання щоразу урізноманітнюється. Саме тому, аби бути насправді кваліфікованим, сучасним викладачем іноземної мови, важливо орієнтуватися в усіх актуальних вимогах до оцінювання мовленнєвої компетенції своїх студентів та учнів, якими керуються колеги провідних закладів освіти Європи. Передусім вважаємо за доцільне в межах цієї статті надати стислу термінологічну характеристику поняттям тестування та оцінювання в площині нашої наукової теми, виокремити їхні типи та завдання з погляду того, хто навчає, і того, хто навчається.

У фаховій літературі, як і на практиці, основною ознакою тестування є спонукання студента/ учня до відповідної мовленнєвої реакції або дії через чітко поставлені завдання (приміром дати відповіді на основі прочитаного тексту, створити власне комунікативне повідомлення до рисунку, графіку тощо). Утім, коли йдеться про мовний сертифікат, частіше вживається термін іспит, ніж тест. Винятком щоправда є TestDaF (сертифікований іспит з німецької мови, як іноземної) (Grotjahn, Kleppin, 2015; Lengyel, 2010; Krumm, 2001).

Термін оцінювання ніби включає у себе згадане тестування, але позначає радше різні форми оцінки мовленнєвих таких навичок: спостереження, виправлення, похвала та покарання.

До проблеми тестування та оцінювання зверталося у свій час багато вчених. Серед сучасних дослідників у німецькомовному просторі можна виокремити С. Баллвег, С. Болтон, Р. Гротян, К. Клеппін, Й. Рохе та ін. (Ballweg, Drumm, Hufeisen, Klippel, Pilypaityte, 2013; Bolton, Glaboniat, Lorenz, Perlmann-Balme, Steiner, 2008; Grotjahn, Kleppin, 2015; Kleppin, 2010; Roche, 2010).

При розробці тестування та характеристиці мовних здібностей усі великі міжнародні розробники стандартизованих мовних іспитів, так само як і європейські університетські Центри вивчення мови, державні та приватні школи дедалі більше керуються описом рівнів мовленнєвої компетенції загальноєвропейського стандарту (die Kompetenzenniveaus und Kann-Beschreibungen des Gemeinsamen europäischen Referenzrahmens für Sprachen (GER)). Загалом насьогодні GER уважають головним інструментом забезпечення та гарантування якості в галузі тестування та оцінювання іншомовної компетентності (Bolton et al., 2008; Grotjahn, Kleppin, 2015, p. 22; Krumm, 2001).

2. Методи дослідження

Для досягнення поставлених цілей було використано такі теоретичні методи дослідження: аналіз, синтез, порівняння, узагальнення, систематизація

наукових джерел для вивчення особливостей тестування та оцінювання мовленнєвої компетенції в міжнародній практиці.

3. Обговорення результатів

У контексті оцінювання потрібно говорити про дві перспективи одного й того самого процесу:

– перспектива/ погляд на оцінювання з позиції викладача;

– перспектива/ погляд на оцінювання з позиції того, хто навчається.

Пропонуємо розглянути функції, описані німецькими вченими Р. Гротян та К. Клеппін, які формально виконує оцінювання у навчальному процесі з погляду викладача (Grotjahn, Kleppin, 2015).

1. *Діагностування.* Під час діагностування йдеться про виявлення сильних та слабких сторін того, хто навчається;

2. *Сприяння.* Після діагностування рівня знань, викладач вирішує, кому з його учнів потрібна додаткова підтримка;

3. *Розпізнавання успіхів/ прогресу.* Викладачеві важливо знати, яких успіхів досягли окремі учні, або ж група загалом;

4. *Констатування досягнення цілей, визначених навчальною програмою;*

5. *Вибір або допуск.* Окремі іспити мають селективну функцію. Лише за умови досягнення певного рівня знань можливо отримати, приміром, допуск до навчання в Німеччині (як приклад *TestDaF*);

6. *Встановлення рейтингу* всередині однієї групи;

7. *Виставлення оцінок.* Тест або іспит є підставою для виставлення тої чи іншої оцінки;

8. *Порівняння* з іншими (паралельними) навчальними групами/ класами;

9. *Мотивація учнів.* Із оцінюванням часто пов'язують прагнення мотивувати учнів до кращих досягнень, повторити та закріпити вивчений матеріал;

10. *Дисциплінування.* Іноді негативне або ж суворе оцінювання спонукає студента/ учня до кращої/ соціально адекватної поведінки в групі/ класі.

Також учні/ студенти можуть бути зацікавлені з різних причин у інструментах оцінювання. Розглянемо функції, які, на думку учнів, виконує оцінювання:

1. Інформація про власний рівень знань на основі контрольних робіт, тестів для самоконтролю, іспитів тощо;

2. Розпізнавання власного прогресу в навчанні;

3. Розвиток власних навичок діагностики рівня знань, як важливої передумови до самостійного навчання;

4. Отримання важливого документа про освіту. Диплом або сертифікат про знання мови дає можливості для продовження навчання й успішного працевлаштування.

Отож, з оцінюванням пов'язано багато функцій і розглядаємо й застосовуємо ми їх залежно від мети оцінювання та соціальної ролі: «викладач» – «учень» (Van Avermaet, Gysen, 2008; Krumm, 2001).

З'ясувавши функції оцінювання, вважаємо за доцільне стисло зупинитися на його основних типах.

Отож, у світовій практиці прийнято розрізняти формальне та неформальне оцінювання, а також зовнішнє та самооцінювання/ самоконтроль (Clalüna, Tscharner, 2013; Garme, 2005; Grotjahn, Kleppin, 2015; Roche, 2010).

Відтак, до формального оцінювання належать іспити та тести, в основі яких лежить ґрунтовна, багаторічна праця спеціалістів. Типовою ознакою формальних іспитів є їхня стандартизація. У стандартизованих іспитах чітко врегульований формат текстів та завдань. Також існують украй чіткі та зрозумілі критерії оцінювання, за якими визначають рівень мовної компетенції (рівень А1 – С2 за загальноєвропейським стандартом (GER)). Як приклад таких іспитів вважається сертифікований іспит Гете-Інституту (Goethe-Zertifikat), іспити австрійського мовного диплому (ÖSD), тест німецької як іноземної мови (TestDaF), а також тести з англійської мови, такі як TOEFL або IELTS. Формальні іспити повинні відповідати усім міжнародним стандартам. Неформальні мають менш вимогливі критерії за змістом та технікою їх складання. Прикладами неформальних іспитів можуть бути проміжні екзамени та тести, які викладач самостійно готує для певного навчального курсу (Garme, 2005; Grotjahn, 2010; Shohamy, 2001; Studer, 2010).

Утім, низка науковців, серед яких Моніка Клалюна та Барбара Чарнер та ін. вважають, що стандартизовані іспити мають численні недоліки, оскільки не враховують індивідуальних та ментальних особливостей мовців у контексті їх інтеграції у іншомовному середовищі (Clalüna, Tscharner, 2013).

Говорячи про зовнішнє оцінювання в контексті нашої теми, варто зазначити, що всі стандартизовані тести та іспити, а також основна частина тестів, що застосовуються на заняттях, використовуються з метою зовнішнього оцінювання. Тобто, або зовнішня організація, або власне викладач оцінює мовленнєві здібності тих, хто бере участь у іспиті. Зазвичай наприкінці видається офіційний сертифікат, посвідчення або ж виставляється оцінка.

Типовий самоконтроль може бути ініційованим як викладачем, так і самим студентом/учнем. Результати дають інформацію про його актуальний рівень знань та допомагають в подальшій організації навчального процесу.

Отже, в оцінюванні завжди є рівні особи – той, хто оцінює, і той, кого оцінюють. А там, де є дві особи, там є дві суб'єктивні картини об'єктивного світу: бачення ситуації тим, хто оцінює, і тим, кого оцінюють. Разом із тим, які б соціальні ролі ми не мали тепер, кожен без винятку має досвід складання того чи іншого іспиту. І зазвичай, пригадуючи власний досвід, про іспити ми згадуємо і розповідаємо досить емоційно. Чи ці спогади емоційно позитивно, чи негативно марковані, залежить безумовно від багатьох чинників, приміром від психоемоційного стану, темпераменту, рис характеру особистості. Не менш важливою є також мотивація, власне мета, з якою ми складали цей іспит. Деякі люди пов'язують з іспитом виключно позитивні емоції, сприймають його як виклик, можливість продемонструвати усі свої знання та вміння, довести собі та іншим, що вони заслуговують на найвищу оцінку. Але

дуже часто хвилювання та негативні емоції переважають та перешкоджають проявити себе. Наслідком надмірної тривоги може стати невдало складений іспит. На Рис.1 досить влучно відображено обидві екзаменаційні ситуації (Grotjahn, Kleppin, 2015, p. 11).

Рисунок 1. Вплив психоемоційних станів особистості на результат іспиту

Важливо зазначити, що навіть погляд викладача/екзаменатора (привітний, підбадьорюючий, або ж навпаки, критичний, осудливий) здатний позитивно або негативно впливати на студента/учня, а відтак і на результат його роботи. Слід завжди намагатися бути ввічливим та доброзичливим, адже іспит повинен спонукати до вдосконалення, а не розчарування людини, яка вивчає іноземну мову.

4. Висновки

Отож, у підсумку можна сказати, що питання оцінювання мовленнєвої компетенції є дискусійним та простим водночас, адже є низка стандартизованих механізмів оцінювання, які прекрасно зарекомендували себе на практиці та якими ми можемо фрагментарно користуватися на заняттях. Проаналізувавши типи та функції оцінювання стає зрозумілим, що вони мають дві перспективи розгляду – з позиції того, хто оцінює, і того, кого оцінюють. Тому повноцінне вивчення проблеми оцінювання неможливе без урахування психологічного аспекту. Саме цей аспект надає поштовх до майбутніх наукових розвідок, котрі відобразимо в подальших публікаціях.

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АКАДЕМІЧНА ПРОКРАСТИНАЦІЯ В ІНОЗЕМНИХ СТУДЕНТІВ БАКАЛАВРАТУ В УМОВАХ ЛІНГВОКУЛЬТУРНОЇ ІНТЕГРАЦІЇ

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Анотація. У статті обґрунтовано актуальність вивчення чинників акультурації та мовної адаптації у контексті дослідження специфіки прояву прокрастинації іноземними студентами. Висвітлено особливості операціоналізації вказаних понять у сучасній науковій літературі. Вибірку дослідження склали іноземні студенти (n=41), які навчаються за освітнім рівнем «бакалавр» у двох вищих навчальних закладах України. Результати кореляційного аналізу свідчать про позитивний взаємозв'язок прокрастинації із загальним рівнем прояву стресу акультурації (r = 0.43, p<0,01), а також такими його аспектами як акультураційний страх (r = 0.46, p<0,01), сприйнята дискримінація (r = 0.37, p<0,05), почуття провини (r = 0.31, p<0,05). Вагоме значення аспектів мовної інтеграції у контексті вивчення тематики прокрастинації підтверджено зафіксованими прямими значущими кореляційними зв'язками із загальною шкалою мовної тривожності (r = 0.59, p<0,001), страхом негативної оцінки (r = 0.62, p<0,001), страхом спілкування (r = 0.62, p<0,001) та складання іспитів (r = 0.47, p<0,01).

Ключові слова: прокрастинація, акультураційний стрес, мовна адаптація, мовна тривожність, іноземні студенти.

Zhuravliova, Olena; Zasiekina, Larysa; Zhuravliov, Oleksandr. Academic Procrastination Among International Undergraduate Students Under the Conditions of Linguistic and Cultural Integration.
Abstract. The article is focused on revealing the factors of acculturation and language adaptation through the study of the specific character of procrastination in international students. The specific features of the operationalization of these concepts in modern psychological literature. The peculiarities of the operationalization of these concepts in modern scientific literature are highlighted. Among the research participants were international undergraduate students (n = 41) who study at two higher education institutions of Ukraine. Results of the correlation analysis indicate a positive correlation between procrastination with the general level of acculturation stress (r=0.43, p <0.01), as well as its aspects as an acculturation fear (r= 0.46, p <0.01), discriminated perception (r=0.37, p <0.05), feeling of guilt (r=0.31, p <0.05). Great significance of the aspects of language integration in the context of studying the subject of procrastination is confirmed by stable direct correlations with the general scale of speech anxiety (r = 0.59, p <0.001), fear of negative evaluation (r = 0.62, p <0.001), fear of communication (r = 0.62, p <0.001), and exams (r = 0.47, p <0.01).

1. Вступ

Трансформація соціальної реальності, зміна її ціннісного простору і модернізація усіх сфер суспільного життя супроводжується значним розширенням спектру зобов'язань людини та встановленням жорстких термінів для їх виконання. Бажання особистості відповідати суспільним стандартам успішності породжує необхідність ефективного управління власним часом, свідомої регуляції своєї діяльності. Водночас, закономірно, що надмірна інтенсивність інформаційних потоків і нестабільність соціального середовища досить часто відіграють роль стресогенного чинника та детермінують дезадаптацію індивіда, що виявляється у недотриманні ним самостійно встановлених термінів, а, відтак, призводить до зниження продуктивності його життя. Окреслене явище знайшло відображення у понятті «прокрастинація» та зайняло важливе місце у колі інтересів сучасних дослідників.

Термін «прокрастинація» походить від латинського procrastinatio (лат. pro – «вперед, далі», crastinate – «завтра»), що дослівно тлумачиться як «відкладання на завтра». Складність та багатомірність прояву цього феномену у різних видах діяльності породжує різноманіття визначень та методологічних позицій до його інтерпретації. Однак, аналіз низки наукових праць (Wendelien van Eerde, Klingsieck, 2018; Chowdhury, Pychyl 2018; Markiewicz, 2018; Steel, 2007; Ferrari, 1995) дає змогу виокремити спільні особливості у множині представлених поглядів та узагальнити їх у визначенні прокрастинації як свідомого добровільного відкладання попередньо запланованих важливих справ, що призводить до очікуваних негативних наслідків і супроводжується відчуттям емоційного дискомфорту. Таким чином, суттєвим індикатором цього конструкту є саме ірраціональний характер відтермінування діяльності (Balkis & Duru, 2019; Tibbett & Ferrari, 2015; Haghbin 2015; Klingsieck 2013; Steel, 2007). Відтак, прокрастинація є неадаптивною стратегією поведінки (Lindblom-Ylänne, 2015), яку у традиційному розумінні пов'язують із такими явищами як пасивність, дисфункціональність, відсутність самоорганізації тощо (Колтунович, Поліщук, 2017). З огляду на це, особливу увагу науковці акцентують на деструктивних наслідках її прояву, серед яких найчастіше відзначаються психічні проблеми (депресія, тривога, страх) (Tibbett & Ferrari, 2015), соматичні порушення (погіршення загального самопочуття, гіпофункція імунної системи, головний біль тощо) (Sirois, Pychyl, 2017; Klingsieck 2013), труднощі в інтерперсональних стосунках (Goldin, Katz, Kuziemko, 2006; Steel, Ferrari, 2013), фінансові втрати (Sirois, Pychyl, 2013; Gamst-Klaussen, Steel & Svartdal 2019).

Попри це, прокрастинація стрімко набуває масштабів соціальної хвороби. Так, близько 15 – 25 % дорослого населення схильні до стійкого виявлення дилаторної поведінкової тенденції. Значно вищі показники прояву вказаної особливості демонструють студенти: систематичне зволікання серед них

властиве 80–90 % осіб. Водночас близько 50 % з них констатують, що в результаті такого відтермінування зазнали значимих негативних наслідків (Markiewicz, Dziewulska, 2018).

Слід зауважити, що студентський вік є періодом активної соціалізації індивіда, розвитку вищих психічних функцій, становлення інтелектуальної системи та особистості загалом. Поряд із цим, початок навчання у ВНЗ є стресогенним життєвим періодом, оскільки передбачає інтенсивні повсякденні навчальні навантаження (Грабчак, 2016). Відтак, закономірним є той факт, що саме вказана категорія осіб найчастіше стає об'єктом наукових досліджень, зорієнтованих на вивчення тематики прокрастинації. Попри це, деякі її аспекти залишаються недостатньо висвітленими. Однією із таких прогалин у сучасних умовах інтенсивних інтеграційних процесів є дослідження специфічних особливостей прояву прокрастинації іноземними студентами.

За даними Міністерства освіти і науки України станом на 2018 рік у нашій країні навчалось понад 75 тис. студентів із 154 країн світу, з-поміж яких найчисельніші групи становить молодь із Індії, Марокко, Азербайджану, Туркменістану, Нігерії, Єгипту, Туреччини. Жителі кожної країни мають власні традиції, звичаї, світогляд, що формують самобутність кожної соціальної групи. Відтак, іноземні студенти змушені адаптуватись як до нових академічних, так і культурних умов. Зважаючи на це, окрім змінних, які традиційно розглядаються науковцями у ролі детермінант прокрастинації (наприклад, аверсивність задачі, самооцінка, особливості мотивації, рівень нейротизму, конфлікт ролей тощо), особливої уваги, на нашу думку, заслуговують стрес акультурації та мовні труднощі.

Акультурація – це процес культурних та психологічних змін в результаті контакту представників різних соціокультурних груп (Berry, 2005).

Початковий етап включення індивіда у нове соціальне середовище супроводжується значним розширенням меж власного досвіду та може зумовлювати виникнення почуття самотності, нестачі тісних інтерперсональних відносин, туги за домом, культурний шок, страх расової, етнічної чи релігійної дискримінації (Kornienko, Shamrova, Kvesko, Kornienko, Nikitina, Chaplinskaya, 2016). Згідно з Дж. Расселл та колег, вказані психологічні труднощі тісно корелюють із фізичними проблемами: розладами сну, втратою апетиту, зниженням загального енергетичного тонусу, підвищеною вразливістю до різних хвороб, стійкими соматичними скаргами (Russell, Rosenthal & Thomson, 2010).

Доцільно зауважити, що соціокультурна адаптація кожного студента характеризується різною динамікою, успішність якої значною мірою залежить від його індивідуальних особливостей (розвиненості адаптивних механізмів, загального рівня психічної зрілості тощо). Відтак, виокремлюють різні типи акультурації (Ряднова, Безега, Безкоровайна, Воскресенська, Пера-Васильченко, 2018):

1. Повне прийняття особистістю норм, звичаїв цінностей нового соціокультурного середовища, які поступово починають домінувати над її власними етнічними рисами;

2. Часткова інтеграція індивіда у нові для нього умови, що виявляється у прийнятті виключно «обов'язкових норм» конкретної соціальної спільноти, при одночасному збереженні ключових характеристик своєї етнічної групи;

3. Відмова від прийняття норм та цінностей нового соціокультурного середовища та дистанціювання від його представників.

З огляду на це, припускаємо, що неуспішна акультурація може послугувати причиною дезадаптації особистості, а, відтак, призвести до проявів прокрастинації.

Важливою умовою повноцінної інтеграції іммігранта у незвичну для нього соціальну реальність є оволодіння іноземною лексикою у мірі, необхідній для повноцінної комунікації на побутовому рівні та реалізації усього спектру академічних задач. Так, С. Лі зауважив, що знання мови є найкращим предиктором психологічної, соціокультурної адаптації та задоволення іноземцем потреби у соціальній підтримці (Lee, 2008).

А. Жанібек виокремлює два типи позиціонування індивіда у контексті засвоєння іноземної мови (Zhanibek, 2001):

1. Самовдосконалення, що виявляється у позитивній емоційній оцінці власного прогресу у розвитку мовних навичок;

2. Самоусунення, що передбачає негативне сприйняття своєї компетентності в окресленій сфері, а, відтак, детермінує виникнення мовної тривожності.

Широкий спектр наукових досліджень підтвердив наявність кореляційного зв'язку між рівнем прояву тривоги іноземцем та успішністю мовної інтеграції. Значний внесок у вивчення вказаної проблематики здійснив М. Горовіц, на думку якого, мовну тривожність слід розглядати як складний і багатовимірний феномен самосприйняття, переконань, почуттів, поведінкових патернів, пов'язаних із освоєнням іноземної мови. Конструкт мовної тривожності включає три взаємопов'язані негативні виміри: 1) страх спілкування; 2) страх тестування (складання іспиту); 3) страх негативної оцінки (Horwitz, Horwitz & Cope, 1986).

Мовна тривожність має такі само клінічні прояви, як й інші типи цієї властивості: пришвидшене серцебиття, посилене потовиділення, тремтіння, занепокоєння, нездатність сконцентруватись, забудькуватість. У дослідженні, проведеному М. Хашемі та М. Аббасі, респонденти описували й інші характерні для них ознаки мовної тривожності, серед яких: почервоніння, тремтіння голосу, занадто швидкий або ж, навпаки, повільний темп мовлення, потирання долонь, зниження результативності тощо (Hashemi, Abbasi, 2013). Негативні наслідки, що виникають у процесі засвоєння іноземної мови, – результат розподілу індивідом уваги між когніціями, зорієнтованими на виконання необхідних завдань та когніціями, пов'язаними із власною особистістю, що знижує його загальну продуктивність (Kráľová, Sorádová, 2015).

2. Методи дослідження

З огляду на актуальність окресленої проблематики, мета нашої наукової розвідки полягає в установленні взаємозв'язку між особливостями

акультурації, мовної інтеграції іноземних студентів та їхньою схильністю до прояву прокрастинації.

Для реалізації сформульованої мети було застосовано такі методи: теоретичні (аналіз, синтез, узагальнення, систематизація наукової літератури з досліджуваної проблеми); емпіричні (Procrastination Scale (Lay), An Acculturative stress scale (Sandhu, Asrabadi), The foreign language classroom anxiety scale (Horwitz)); методи описової статистики, кореляційний аналіз.

Вибірку дослідження склали іноземні студенти (n = 41), які здобувають освіту у вищих навчальних закладах України: Східноєвропейському національному університеті імені Лесі Українки, Луцькому національному технічному університеті. Серед них – 29% жінки, 71% – чоловіки. Усі респонденти були повідомлені про анонімний характер опитування та можливість резигнації на будь-якому етапі.

3. Обговорення результатів

Описову статистику діагностованих змінних представлено в таблиці 1.

Таблиця 1

Описова статистика діагностованих змінних

Змінні	M	SD	Min	Max
Вік	25.14	5	19	40
Прокрастинація (PS)	52.7	9.85	24	88
Сприйнята дискримінація (PD)	22.19	7.6	1	5
Туга за домом (H)	12.36	3.82	1	5
Сприйнята ненавись (PH)	12.66	5.2	1	5
Страх (F)	8.78	3.64	1	5
Стрес пов'язаний зі змінами / Культурний шок (SD)	8.07	2.95	1	5
Почуття провини (G)	4.78	2.41	1	5
Загальний рівень акультураційного стресу (T)	93	28.75	42	158
Страх спілкування (CA)	29.07	7.87	1	5
Страх тестування (TA)	38.62	9.01	1	5
Страх негативної оцінки (FN)	16.38	6.18	1	5
Загальний рівень мовної тривожності (LA)	84.07	21.37	51	121

Основна отримана демографічна інформація включила два показники: стать та вік студентів. Аналіз вказаних даних засвідчив відсутність лінійного зв'язку цих параметрів із рівнем прокрастинації (r = 0.00 та r = 0.26 відповідно). Слід зауважити, що подібні емпіричні висновки були представлені й іншими науковцями, наприклад, Дж. Феррарі, Дж. Каллаганом, І. Ньюбігіном, Г. Шауенбургом (Ferrari, Callaghan, Newbegin 2005; Schouwenburg, 2004).

Подальша робота з даними полягала у перевірці припущення згідно з яким систематичний прояв дилаторної поведінкової тенденції характерний саме для тих іноземних студентів, які відчувають труднощі із адаптацією до нового соціокультурного середовища. Для цього використано коефіцієнт Пірсона, результати застосування якого відображено у таблиці 2.

Таблиця 2

Взаємозв'язок прокрастинації зі стресом акультурації

	PD	H	PH	F	SD	G	T
PS	0.37*	0.18	0.29	0.46**	0.28	0.31*	0.43**

Примітка: *p<0,05; **p<0,01.

Тісний позитивний кореляційний зв'язок (r = 0.43, p<0,01) виявлений між прокрастинацією та акультураційним стресом слугує підтвердженням сформульованої нами гіпотези. Відзначимо, що зв'язок схильності до відкладання респондентами важливих справ прослідковується не лише із загальним рівнем успішності культурної інтеграції, але й з її окремими аспектами. Зокрема, найбільш вираженою є взаємозалежність між прокрастинацією та акультураційним страхом (r = 0.46, p<0,01), який супроводжується ідентифікацією нового оточення як ворожого. Оцінку подібного соціального відчуження передбачає і шкала «сприйнятої дискримінації», відтак, встановлення прямої кореляції (r = 0.37, p<0,05) її показників зі схильністю до зволікання вважаємо закономірним. Очевидно, умови сегрегації та побоювання ймовірної загрози насильства посилюють фундаментальну потребу особистості у безпеці. Як зазначають Д. Сандху та С. Асрабаді (Sandhu, Asrabadi 1994), природньою реакцією іноземця є пошук підтримки у нечисельної на території чужої країни групи співгромадян та одночасна відсутність спроб налагодити комунікацію із членами нової соціальної спільноти. З огляду на це, ґрунтуючись на ідеях Л. Рорера (Rorer, 1983) припускаємо, що однією з детермінант прокрастинації досліджуваних є страх власного успіху. У цьому разі особистість переконана, що демонстрація більш ефективної діяльності у порівнянні з іншими членами власної референтної групи створює загрозу бути відторгнутою. А, відтак, з метою збереження відчуття безпеки та приналежності студент відкладає певні задачі. З іншого ж боку, спираючись на теоретичні погляди Ф. Дубова та колег (DuBow, McCabe, Kaplan, 1979), слід зауважити, що іноземці часто уникають саме тих завдань, які передбачають взаємодію з особами, схильними до проявів дискримінації. Окрім цього було зафіксовано значущий кореляційний зв'язок прокрастинації із почуттям провини (r = 0.31, p<0,05). Адаптація до нової культури інколи сприймається емігрантами як зрада власної, а отже отримані показники можуть свідчити про схильність відтерміновувати задачі, ефективна реалізація яких залежить від успішної ресоціалізації. Водночас,

незначущою виявилась кореляція прокрастинації з тугою за домом (r = 0.18), стресом пов'язаним зі змінами (r = 0.28), сприйнятою ненавистю (r = 0.29).

Подальший аналіз отриманих емпіричних даних вказує на вагоме значення аспектів мовної інтеграції іноземних студентів у контексті вивчення проблематики прокрастинації (табл.3).

Таблиця 3

Взаємозв'язок прокрастинації з мовною тривожністю

	CA	TA	FN	LA
PS	0.59***	0.47**	0.62***	0.59***

Примітка: **p<0,01; ***p<0,001.

Окрім тісного позитивного взаємозв`язку (r = 0.59, p<0,001) схильності до зволікання із загальним рівнем прояву мовної тривожності, значуща взаємозалежність була виявлена і з усіма іншими діагностичними пара-метрами, що відображають труднощі у засвоєнні нової мови. Найвираженішою (r = 0.62, p<0,001) є кореляція зі страхом негативної оцінки. Джерелом тривоги у цьому випадку є побоювання справити негативне враження на соціальне оточення, недосконало розмовляючи іноземною мовою. Отож, студенти прокрастинують у межах тих завдань (ситуацій), які передбачають оцінку їхніх мовних умінь. Закономірним, з огляду на це, вважаємо зв'язок дилаторної поведінки зі страхом спілкування (r = 0.62, p<0,001), ймовірно, що у випадку тривоги з приводу нестачі навичок для повноцінної комунікації з носіями іноземної мови, студент уникатиме задач пов'язаних з подібною інтеракцією. Тісна кореляція зволікання зі страхом тестування (складання іспиту) (r = 0.47, p<0,01), на нашу думку, може свідчити про використання прокрастинації студентом у ролі механізму психологічного захисту, адже, наприклад, відтерміновуючи підготовку до іспиту, він отримує перевагу, яка полягає у можливості пояснити невдачу обмеженим часовим ресурсом, а не власною некомпетентністю.

Цікавими в контексті нашого дослідження виявились результати аналізу специфіки взаємозв'язків між особливостями акультурації та мовної адаптації. Серед показників кореляції між шкалами двох методик не виявлено жодного незначущого (табл.4).

Таблиця 4

Взаємозв'язок стресу акультурації з мовною тривожністю

	PD	H	PH	F	SD	G	T
CA	0.58***	0.4**	0.46**	0.62***	0.53***	0.39*	0.65***
TA	0.53***	0.38*	0.47**	0.58***	0.47**	0.37*	0.6***
FN	0.62***	0.41**	0.49**	0.66***	0.62***	0.46**	0.7***
	0.62***	0.43**	0.51***	0.66***	0.58***	0.44**	0.7***

Примітка: *p<0,05 **p<0,01; ***p<0,001.

Отже, отримані дані свідчать про потребу вивчення вказаних процесів у нероздільній єдності та дають змогу констатувати, що успішне включення особистості у нове соціокультурне середовище неможливе без достатнього рівня мовної інтеграції.

4. Висновки

Прокрастинація є стабільною, неадаптивною формою поведінки, яка дезорганізує функціонування особистості (Ferrari, Crum, Pardo, 2018). Однією з найважливіших перешкод на шляху формування системи заходів зорієнтованих на мінімізацію її негативних наслідків є відсутність чіткого розуміння предикторів виникнення вказаної деструктивної тенденції. Відтак, дослідження прокрастинації у контексті акультурації та мовної адаптації особистості, з одного боку, суттєво поглиблює розуміння сутності вказаного феномену, з іншого, створює основу для оптимізації шляхів включення іноземних студентів у нову соціальну реальність та сприяння ефективному функціонуванню у академічному середовищі, конструктивній побудові міжособистісних відносин у новій для них соціальній реальності.

Відтак, у цьому контексті на особливу увагу заслуговує той факт, що чинники стресу акультурації, які безпосередньо не взаємопов'язані з прокрастинацією, попри демонстрацію залежності з предикторами мовної тривожності, все ж опосередковано через них можуть здійснювати певний уплив на рівень сформованості поведінкової тенденції іноземних студентів до зволікання.

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CALENDAR

INTERNATIONAL PSYCHOLINGUISTIC RESEARCH EVENTS

14th International Internet Conference
Psycholinguistics in a Modern World
Host institution: Hryhoriy Skovoroda Pereyaslav-Khmelnytskyi State Pedagogical University
Deadline for submitting abstracts: October 1, 2019
Location: Pereyaslav-Khmelnytskyi, Ukraine
Start Date: 24–25th October, 2019
Contact: Nataliya Kharchenko
E-mail: psycholing.elab@gmail.com
URL: http://psychling.phdpu.edu.ua

12th International Congress of International Society of Applied Psycholinguistics ISAPL
New Perspectives in Psycholinguistic Research: Language, Culture, Technologies
Host institution: University of Rome Tor Vergata
Deadline for submitting abstracts: July 31, 2019
Location: Rome, Italy
Start Date: 4-6th June, 2020
Contact: Leonor Scliar-Cabral
E-mail: 12isapl.congress.org@gmail.com

Ninth International Conference: Voices of Creativity and Reason in ELT
Host institution: Purkyne University
Deadline for submitting abstracts: July 31, 2019
Location: Ústí nad Labem, Czech Republic
Start Date: 17 – 18th October, 2019
Contact: Christoph Haase
E-mail: christoph.haase@ujep.cz
URL: https://sites.google.com/site/challengesnine/

Workshop on Early Language in Neurodevelopmental Disorders - NeuroD-WELL
Host institution: University of Lisbon
Deadline for submitting papers: August 23, 2019
Location: Lisbon, Portugal
Start Date: 8th November, 2019
Contact: Sonia Frota
E-mail: labfon@letras.ulisboa.pt
URL: http://labfon.letras.ulisboa.pt/NeuroD-WELL/index.html

Psychology of Language Learning (4) - PLL4
Host institution: Cape Breton University, Sydney, Nova Scotia, Canada
Deadline for submitting abstracts: September 15, 2019
Location: Sydney, Nova Scotia, Canada
Start Date: 24–28th June, 2020
Contact: Peter MacIntyre
E-mail: pll4.conference@gmail.com
URL: https://www.iapll.com/pll4

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95