



Advertisements' language processing by Polish-English bilinguals

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Abstract

The objective of the present research was to examine language processing in advertisements by Polish-English bilinguals. With reference to The Conceptual Feature Model (de Groot, 1992), experimental hypothesis stated that there would be a significant interaction effect for language and concept categories, showing significantly more associations for social and emotional categories in Polish, and significantly more associations for financial and work-related categories in English. Additionally, content analysis was performed to identify Polish and English language specific associations. The research involved 17 Polish native speakers who speak English as their second language. Participants completed two word association tasks in Polish and English languages. A two way ANOVA performed on language and concept categories showed non significant results for main effect for language, $F(1, 16) = 1.06$, $p > .05$, and for the interaction effect for language and conceptual categories, $F(1.77, 28.42) = .374$, $p > .05$. However, there was a significant main effect for conceptual categories, $F(1.3, 20.89) = 23.45$, $p < .05$. Results of content analysis was consistent with findings concerning main effect for conceptual categories. Since results did not support experimental hypothesis, potential explanations are discussed. Moreover, implications of present findings are provided in terms of advertising to Polish-English bilinguals in the UK.

KEY WORDS:	POLISH-ENGLISH BILINGUALS	CONCEPTUAL CATEGORIES	THE CONCEPTUAL FEATURE MODEL	LANGUAGE	ADVERTISING
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Introduction

Bilinguals constitute between 50 and 75 % of world's population, and the number of bilingual population is growing with the international expansion of communications and mass media (Baker, 2006). This means that advertisers may have to rethink current advertising practices of either leaving the advertising message in a second language or to translate it into first language of the receiver (Heredia & Altarriba, 2001). Why is that? Since bilingual individuals are able to communicate in two languages (Francis, 1999; 2000), researchers debate whether bilingual speakers store and access respective languages together or separately (Pavlenko, 1999). Some studies provide an evidence that bilinguals possess a single semantic store in which semantic representations are language independent (Costa, Miozzo, & Caramazza, 1999). This would mean that advertisements' messages in first or second language should be interpreted or connoted similarly in both languages. However, it has become more evident that translation-equivalent words do not have the same semantic representations in bilinguals (Kousta, Vinson, & Vigliocco, 2008), which means that advertisers may consider bilingual messages in their adverts. Several researchers argue that bilinguals who actively use both languages and participate in two cultures may perceive the world through the fusion of two different conceptual schemata or perceive the events in more enriched way (Cummins & Gulutsan, 1974; Okoh, 1980). Moreover, through experience in different cultural and linguistic environments, bilinguals may undergo conceptual changes resulting in creating new connotations or even entirely new meanings for words they know (Pavlenko, 2000). More importantly, however, bilingual experience may result in "greater diversity of associations to the same concept because it is situated in two different linguistic conceptual networks" (Lubart, 1999, p. 344).

This, in turn, leads to the argument of de Groot (1992) who claims that cognitive processing of bilingual individuals is different for respective languages. Her model of The Conceptual Feature Model explains that bilinguals have a shared semantic store, however, activated conceptual features are language dependent and subjectively define the meaning of the world. De Groot provides an example of different features that may be activated by a word "friend" and its Spanish equivalent "amigo," in which "friend" can be associated with the concepts as *McDonald's* and *honesty*, while "amigo" elicits concepts as *honesty* and *male* (Luna & Peracchio, 2004). Possible explanations of this difference are suggested by Grosjean and Miller (1994) who argue that words in first language and their translation-equivalent can be learnt and used in different contexts, bilinguals may lack specialized terms for certain topics or the discussion on certain topic may be simply considered inappropriate in the first or second language. Similarly, it has also been reported that ethnic communities experience life at home in their first language, whereas life at work, school or larger community is experienced in their second language (Noriega & Biel, 2008). Therefore, conceptual links can be stronger for either first or second language depending on the conversation topic such as home or shopping (Luna & Peracchio, 2004). This suggests that a key word in particular language may provide contextual cues, which in the result would activate concepts and features in one language but not in the other (Luna & Peracchio, 2004).

However, the level in which conceptual features will overlap or differ across languages may be moderated by concreteness and cognateness of the word pair (Ringberg, Luna, Reihlen & Peracchio, 2010). Firstly, tests of The Conceptual

Feature Model have shown that conceptual features among languages are shared more often in concrete rather than abstract words, as concrete words like “window” or “apple” have an exact translation across different language communities (de Groot, 1992). Abstract words, on the other hand, may not have the exact translation and may be acquired from contexts in which they are used. Since contexts may be culturally dependent, the conceptual features for abstract words will differ across two languages (de Groot, 1992). Secondly, cognate words (i.e. English “group” and Polish “grupa”) rather than non cognate (i.e. English “table” and Polish “stół”) will share more conceptual features across translation equivalents as they share similar meaning or look (de Groot, 1992). Since cognate words may have a common root of parent language such as Latin or Greek, the similar meaning may be preserved in different languages. Additionally, due to the fact that cognate word pairs sound or look alike in different languages, bilinguals may link a new word with the conceptual representation of the word in the first language assuming that both words have similar meaning (de Groot, 1992).

Moreover, The Conceptual Feature Model suggests that bilinguals show cognitive duality occurring when an individual possesses different cognitive schemata linked to the same word, respectively to the language in which the individual encounters the word (Luna & Peracchio, 2004). This results in the fact that individual's perception of reality is influenced by different cognitive schemata elicited by particular language. For instance, Larsen, Schrauf, Fromholt, and Rubin (2002) reported that when Polish immigrants to Denmark were asked in Polish about previous life experience, the answer was also given in Polish and it described an experience that occurred before the immigration. Conversely, when the question was made in Danish, the answer tended to be given in Danish and concerned an experience that happened in Denmark after immigration.

Furthermore, the cognitive duality may be manifested in two ways. Firstly, words are associated with particular categories of concepts like emotions or financial matters, as the meaning of a concept that was learnt first in the respective language becomes prototypical representation for this concept (Luna & Peracchio, 2005). Supportive evidence is provided by Luna and Peracchio (2004), who found in their research that bilingual Spanish-English subjects presented significantly more Spanish-related and emotional concepts in Spanish condition, but they presented significantly more technical concepts in English condition, while there was no difference for financial concepts. Supporting evidence is also provided by Noriega and Blair (2008), who researched Hispanic community in The United States. They examined whether the choice of language in an advert to bilinguals influences their thoughts in response to the advert. They found that advertisement in a first language elicited more self-referent thoughts about family, home and friends than the same advertisement in English. Furthermore, cognitive duality is also manifested when particular associations are activated for the word in the first language but not in the second, and vice versa (Luna & Peracchio, 2002, 2003). In their research, Luna and Peracchio (2004) identified language specific associations for Spanish and English languages in Spanish-English sample. For instance, they found that when word “size” was presented in Spanish it elicited associate of *sew* as this activity is linked with Spanish rather than English culture. On the other hand, when words as “kitchen” and “telephone” were presented in English they elicited associations as *microwave* and *dial* respectively, as technical associations are linked more with English rather than Spanish language (Luna & Peracchio, 2004). This suggests that both

manifestations of cognitive duality are related with each other as the activation of certain concept categories in one language (e.g. technical concepts), can be followed by activation of concrete associations (e.g. microwave).

Concerning presented literature, The Conceptual Feature Model may provide an insight of how different languages are processed by bilinguals. Moreover, this model can be applied in advertising and it can provide advertisers with better knowledge of how to target potential bilingual customers. However, up to this point the major part of research in this area has been focused on Hispanic community in USA and the results are mainly based on Spanish-English language pair (Luna & Peracchio, 2002; 2003; 2005; Noriega & Biel, 2008). General findings based on Spanish-English bilingual sample assume that when certain words in advertisement will be presented in Spanish, they should elicit associations concerning family, friends, home or homeland, in contrast to English words, which should be connoted with more external environment as work, finance or technical matters (Noriega & Biel, 2008).

However, since the model has been examined mainly on a one language pair, it may be questionable whether or not the same categories of concepts will be valid in different language pairs or whether the difference of elicited concepts across certain languages will be always significant. Therefore the present study will examine The Conceptual Feature Model in terms of a novel, Polish-English language pair, which has not been yet researched in terms of advertisements' language processing. The lack of such research is unclear, as in the year ending March 2010, Polish community has represented the most common foreign nationality in The United Kingdom, which creates a potentially prospective target market for advertisers (National Statistics, 2010). Hence, the research will focus on examining the categories of concepts and associations distinctive to Polish-English bilinguals, which may provide a deeper understanding of language processing in this language pair, as well as it may provide advertisers with clues how to target Polish-English bilinguals in the UK more effectively.

Therefore, accordingly to the notion of The Conceptual Feature Model (DeGroot, 1992) and manifestations of cognitive duality (Luna & Peracchio, 2004), first language should elicit more internal concepts as social and emotional matters, while second language associations should concern more external concepts as financial and work-related matters. Therefore, it is hypothesised that there will be a significant interaction effect for language and concept categories, showing significantly more results for social and emotional categories in Polish, and showing significantly more results in financial and work-related concepts in English. Additionally, as not only concept categories but also specific words may be activated in one language but not in the other, the content analysis will be performed to identify whether there are language specific associations in response to Polish and English languages.

Method

Design

Firstly, the study used a within subject design. Two independent variables were language and concept categories. Language consisted of two levels: Polish and English, which were respectively the first and the second languages for participants.

Concept categories consisted of four levels: social, emotional, financial and work. Categories used in the research were derived from LIWClite7 analysis and were in agreement with the theoretical background. Dependent variable was the number of particular concept associations respectively to the language. Data was analysed using 2 (languages: Polish and English) x 4 (word categories: social, emotional, financial and work) a two way ANOVA.

Secondly, a content analysis of provided words was conducted to identify language specific associations for both languages. The content analysis criteria were only partially adapted from Luna and Peracchio (2004) as the present research obtained smaller data set. As responses for particular key words were pooled across 17 participants, the analysis of 12 lists, or 6 (words) x 2 (Polish and English) lists, was performed to identify language specific associations (see appendix 1 for exemplary lists). To consider the association as Polish (or English) specific it had to meet the criteria of being mentioned by at least four more participants in Polish (or English) than in English (or Polish) condition. Concordance software was used to count the frequency of particular associations.

Materials

The word association task in Polish and English language versions was created with a tool SurveyMonkey (Survey Monkey, n.a.) and was posted online (see appendix 2 for English version of the task). Key words for the task were chosen from the list generated with Paivio, Yuille & Madigan Word List Generator (Paivio et al. Word List Generator, n.a.). Six random nouns, which were *car*, *street*, *baby*, *leader*, *winter* and *home*, was chosen from the generated list consisting of 50 nouns with high scores of K-F word frequency (M=100), concreteness (M=6.59), imagery (M=6.39) and meaningfulness (M=6.78) (see appendix 3). Nouns for Polish condition were translated into Polish with Oxford Essential Polish Dictionary (Oxford Dictionaries, 2010). Additionally, participants rated their general proficiency level of both languages on a six-point scale: "poor/fair/okay/good/very good/excellent," which was adapted from Noriega and Bail (2008, p. 7) (see appendix 4). Participant information sheet, consent form and debrief form were used in the research (see appendix 5). Moreover, LIWClite7 and Concordance, software for qualitative analysis, were used for data categorization and analysis.

Participants

Participants were either 3rd year or postgraduate students of Aberystwyth University, and were recruited through a snowball technique. To take part in the research, participants had to meet including criteria of being at least 18 years old, and being Polish native speakers with communicative English. To ensure the sample met minimal proficiency in both languages, participants were asked to take part in both Polish and English conditions of the task. Additionally, the results of rating scale of general proficiency in both languages showed that Polish language proficiency was reported as excellent by 76.5% of participants, while 52.9% participants reported their English as very good (see appendix 4). The sample consisted of 17 participants, in which 65% were females and 35% were males with a mean age of 24.

Procedure

Participants were assigned either to Polish-English session starting with task in Polish followed with task in English, or to English-Polish session starting with task in English followed with task in Polish. Tasks in both languages were conducted in one month apart periods to ensure that participants do not duplicate their answers in both languages. Sessions were conducted entirely in either English or Polish, including instructions, forms and the task itself. Links to the word association task in Polish and English were sent via email to participants. The first page of the task was participant information sheet and consent form, which required participants' confirmation of the understanding of these forms and the agreement to take part in the research. Otherwise, the participant was not able to continue the survey. The task required from participants to write down as many associations as they wanted with a maximum number of ten for each key word. When both, Polish and English tasks were completed, participants received an email with a debrief form.

Data analysis involved the translation of Polish responses into English. To verify the quality of translation and to improve the reliability and validity of research, back translation by independent individual was performed (see appendix 6 for the sample). Back translation involved translating collected words in Polish that have been already translated into English back to Polish. The independent individual was a professional Polish-English translator with a six year translating experience. Following that, original and back translated words were compared to find any inconsistencies before data categorization. Collected data was then categorized using LIWClite7 software (LIWC, n.a.), which indicated the number of social, emotional, financial and work associations in each data set provided by participants. Next, statistical significance was examined, which was followed with content analysis establishing language specific associations. Concordance software was used to count the frequency of associations with particular key words.

Results

Mauchly's test indicated that the assumption of sphericity had been violated for the main effect of concept categories $\chi^2(5) = 46.48$, $p < 0.05$, and for the interaction effect of language and concept categories $\chi^2(5) = 14.7$, $p < 0.05$. Therefore, degrees of freedom were corrected using Greenhouse-Geisser corrected estimates of sphericity ($\epsilon = .43$ for the main effect of conceptual categories, and $\epsilon = .59$ for the interaction effect of language and concept categories).

Table 1. Means and standard deviations of the number of associations elicited in conceptual categories in Polish and English languages.

Conceptual Categories	Polish language		English language	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Social	10.62	5.11	11.26	4.8
Emotional	15.96	8.51	17.58	9.81
Work	6.29	2.7	6.26	3.35
Financial	2.9	1.67	3.4	3.9

The results are illustrated in Table 1. The analysis of a two-way repeated measures ANOVA indicated a non significant main effect for language, $F(1, 16) = 1.06$, $p > .05$, and a non significant interaction effect for language and conceptual categories, $F(1.77, 28.42) = .374$, $p > .05$. However, there was a significant main effect for conceptual categories, $F(1.3, 20.89) = 23.45$, $p < .05$. Bonferonni pair-wise comparisons of concept categories indicated following results. Number of associations in social category was significantly higher at $p < .05$ than the number of associations in work and financial categories. Emotional category obtained significantly more associations at $p < .05$ than work and financial categories. The number of associations in work concept category was significantly lower at $p < .05$ than in social and emotional categories, but were significantly higher than results in financial category. Lastly, financial concept category showed significantly lower number of associations at $p < .05$ than social, emotional and work concept categories. Full results output is available in appendix 7.

Table 2. Language specific associations revealed in content analysis.

Word	Polish specific	English Specific
Car	Comfortable (4-0)* Traffic (5-1) Gridlock (4-0)	Fast (1-5) Drive (1-5)
Baby	Nappies (11-4) Laugh (5-1)	Smile (2-6)
Leader	-	-
Street	Traffic (13-5)	Cars (7-12) Walk (0-4)
Home	Stillness (5-0)	Room (2-7) House (1-5)
Winter	Ski (9-5) Sledge (10-2) Snowballs (5 -1)	Hot drinks (1-5) Fireplace (1-10)

**numbers in brackets represent the frequency of associations in Polish and English languages respectively.*

Moreover, the content analysis indicated a number of language specific associations (see Table 2). The findings of language specific associations were consistent with findings of those concerning concept categories showing more social and emotional associations rather than work and financial associations in both languages. For example, a key word “baby” presented in Polish and English elicited emotional associations of *smile* and *laugh* respectively, while a key word “winter” in both languages evoked associations connected with social concepts of spending leisure time like *ski* and *sledge* in Polish, and *hot drinks* and *fireplace* in English. The only word that did not result in language specific associations was “leader.”

Discussion

The experimental hypothesis stating that there would be significantly more results for social and emotional categories in Polish language, and significantly more results in financial and work concepts in English language was rejected. Since the results indicated that there was no main effect for language and there was no significant interaction effect for language and concept categories, the research did not support the notion of The Conceptual Feature Model, as in both, Polish and English language conditions similar number of associations in all concept categories were activated. Additionally, this is not in agreement with neither the previous research of Luna and Peracchio (2004, 2005), who concluded their research that cognitive duality seems to be driven with language, nor with results of Noriega and Biel (2008), who found more family, friend, home and homeland associations in first language and more work and financial associations in the second language.

Possible explanation of present results may be that The Conceptual Feature Model applies only to advanced bilinguals. When taking into account that present Polish-English sample were students who came to UK approximately 3 years ago, they might not have underwent the full process of linguistic assimilation, which, as suggested by Alba (1990), is slow and depends on intergenerational mechanisms. Similarly, participants' short experience in English linguistic environment has not allowed them to develop conceptual changes (de Groot, 2000). If taking into account that the previous pieces of research have been conducted on Spanish-English participants in USA, it can be argued that this sample has represented higher level of linguistic assimilation facilitated with much longer history of residence in USA, intergenerational mechanisms or the fact that life at home is experienced in Spanish whereas life outside home is experienced mainly in English (Noriega & Biel, 2008). As a result, the present sample of participants can be considered novice bilinguals, which is important taking into account study of Kroll and Stewart (1990) who examined how novice (i.e., speaking second language less than 2.5 years) and advanced (i.e., speaking second language more than 2.5 years) bilinguals learnt second language. Their findings indicated that novice bilinguals processed information accordingly to The Word Association Model (Potter, So, von Eckardt & Feldman, 1984) in contrast to advance bilinguals who followed The Conceptual Feature Model (de Groot, 1992). This, in turn, means that novice bilinguals, instead of having separate conceptual stores for respective languages, need to proceed the access to the meaning of a new word with the activation of the meaning of corresponding word in the first language (Potter et al., 1984). Therefore, as novice bilinguals are more likely to base a new word meaning on first language word equivalent, the same process may apply to schemata attached to a given word, which explains why the Polish-English sample did not produce main effect for language and interaction effect for language and concept categories. Therefore, the question whether the model is universal and applicable to other language pairs has still not been answered.

Moreover, alternative explanation for present findings suggests that culture might have been a mediating factor. In this sense, Polish-English sample might have provided very similar concepts in both languages due to the fact that Polish and English cultures resemble each other. However, the research of Wierzbicka (1985),

who examined speech acts in Polish and English languages, argues that Polish and English represent two different cultures. According to Wierzbicka (1985), Anglo-Saxon culture and language show respect of an individual and idiosyncrasy, stress the possibility of options and avoid authoritarian activities. On the contrary, Polish culture and language prefer authoritarian judgements and taking over decisions concerning future events. Hence, this may suggest that if the present research was replicated on Polish and English monolinguals, the results might have been more diverse and explicit. Potentially, such results could be used as a baseline for further research on Polish-English bilinguals.

However, the present study indicated significant main effect for concept categories. In other words, regardless of language, social and emotional concepts were elicited significantly more often than work-related and financial concepts. The explanation for the significant main effect of concept categories may stem from two factors. Firstly, novice bilinguals follow The Word Association Model (Potter et al. 1984); secondly, the first rather than the second language should elicit more associations of emotions (Luna & Peracchio, 2005), belongingness, family and friends (Bathia, 2000; Noriega & Biel, 2008). Therefore, as the first language in Polish-English bilinguals has elicited more associations with emotional and social concepts categories, similar categories have also been elicited in the second language due to the processing information accordingly to The Word Association Model. Furthermore, the same explanation applies to identified language specific associations as they (i.e. key word “baby” elicited *smile* in Polish and *laugh* in English) belonged to the same concept categories (i.e. emotions) in both languages. Consequently, this also supports the argument that the present participants may be considered novice bilinguals, and suggests that further research with a sample of advanced Polish-English bilinguals who live in UK longer or were born in UK would be needed to verify obtained results.

In spite of potential explanations, present findings might have also been influenced by study limitations. Firstly, as it was discussed previously, the short time of UK residency of Polish-English sample could limit the development of cognitive duality. Secondly, it is also difficult to objectively assess one's bilingual level. Researchers subjectively describe their participants as being “more or less fluent,” “somewhat more fluent” or “not balanced” (Heredia, 1997). Even present research used subjective self rating scale from “poor” to “excellent” to assess participant's bilingual proficiency. Therefore, an objective and universal test to assess a bilingual level should be needed to improve validity of further results, as present methods may not be precise enough to assess the level of bilingual proficiency not only within the sample, but also in terms of comparison results to other research. Thirdly, the study used concrete words in word association task, which share more conceptual features among languages than abstract words (de Groot, 1992), therefore the present results could be influenced with the stimuli used.

Therefore, as the present study may indicate that The Conceptual Feature Model does not apply to novice bilinguals, this has important implications for advertisers wanting to target Polish-English bilinguals in UK. The results suggests that at this point of linguistic assimilation Polish-English audience should be targeted with social and emotional appeals regardless of the language used. This would be in agreement with the argument that novice bilinguals would process language following The Word Association Model rather than The Conceptual Feature Model. On the other hand, the effectiveness of targeting Polish-English audience with the notion of The

Conceptual Feature Model can be more effective in a couple of years, when the characteristics of Polish-English bilinguals in UK will be more similar to those of Spanish-English population in USA. In other words, it is most likely that future generations of current Polish emigrants will be exposed to intergenerational mechanisms as well as they will be more likely to experience life at home in Polish, and life in larger community in English, which would facilitate cognitive duality. When such changes occur, advertisers can use the notion of The Conceptual Feature Model to obtain different levels of persuasiveness as one language may activate more persuasive connotations than the other (Noriega & Biel, 2008), to manipulate the message to achieve more favourable image of an advertised product in one or even both languages (Krishna & Ahluwalia, 2008) or to activate schemata that are present in one language but not in the other (Luna & Peracchio, 2004).

To conclude, the experimental hypothesis was not supported, which may indicate that The Conceptual Feature Model does not apply to novice bilinguals. Therefore, this interpretation suggests that second language experience of novice bilinguals is too short to show expected cognitive duality, which in turn limits implications of The Conceptual Feature Model in advertising. However, the results also indicated that regardless of language, novice bilinguals can be targeted with adverts presenting social and emotional appeals, as associations with those two categories are most likely to be elicited in both languages. Nevertheless, further research focusing on different language pairs and bilingual samples with different proficiency levels is needed to verify present findings.

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