DE GRUYTER
OPEN

DOI: 10.2478/topling-2015-0003

Slovak students' comprehension of English figurative idioms containing body parts

Elena Ciprianová – Marta Vrábelová
Constantine the Philosopher University in Nitra, Slovakia

Abstract
Figurative idioms constitute a large proportion of multi-word expressions in everyday language. Contrary to the traditional view of idioms as non-compositional units, numerous studies in cognitive linguistics show that most idioms are not arbitrary but motivated by conceptual metaphors and metonymies that provide a link between literal and figurative meanings. Familiarity with particular source domains and conceptual mappings is regarded as a source of idiom transparency. In this article, we report on a study in which 85 Slovak students participated. Their task was to guess the meanings of English idioms containing three body parts: the eye, the hand and the heart. These body parts are not equally productive metaphorical source domains in English and Slovak. The research results which we present indicate that different prominence of the source domains in students' mother tongue and the target language is one of the factors that influence idiom comprehension in a foreign language.

Keywords
Idiom, compositionality, source domain, body, metaphor, metonymy, comprehension

Introduction

The classic definitions of idioms stress semantic opacity as the main property of idiomatic expressions (Palmer, 1991). English idioms such as *kick the bucket, grease someone's palm, red herring, white elephant* are non-compositional in the sense that their overall meanings cannot be predicted on the basis of their components. The meanings 'to die', 'bribe someone' 'a clue intended to be misleading', 'a useless, troublesome possession', do not relate directly to the literal meanings of the individual constituent words. This type of idiom (called 'pure') cannot be broken down into smaller parts. In contrast, the meanings of elements of decomposable idioms, for example, *spill the beans, put one's cards on the table, take the first step,* are associated with the figurative meaning of the entire phrase. The relationship between the idiom components and the interpretation of idiomatic meaning is not then arbitrary. According to cognitive linguists, like Gibbs (1993) and Kövecses (2010), the presence of the particular metaphors in the conceptual system facilitates the interpretation of idiomatic expressions. The common assumption in cognitive linguistics is that decomposable idioms motivated by metaphors are easier to process and interpret by native speakers.

The main function of the metaphor is to structure understanding of abstract concepts in terms of more concrete ones. There is much experimental evidence that bodily and physical experience in particular play an important role in understanding figurative idioms because the knowledge of source domains is activated in the process of idiom interpretation (Gibbs and Wilson 2002; Gibbs, Lima and Francozo, 2004). The availability and the use of source domains are culture-dependent. Boers and Demecheleer (2001) have demonstrated in their study that if foreign idioms reflect a prominent source domain in students' mother tongue, they are able to infer their meanings more easily. The authors compared French and English metaphorical

idioms derived from food and sailing source domains on the basis of their productivity and found out that French students were more successful at guessing the meanings of English idioms based on food, which is a salient domain in their mother tongue, and provided fewer correct interpretations for the idioms from the domain of ships, which is more salient in the target language.

The human body can be considered a culturally universal source domain for metaphors and metonymies. Figurative idioms with body parts are ubiquitous in probably every language around the world. Yet, numerous cross-linguistic differences exist in the preference for source domains and the scope of these metaphors (Sharifian, Dirven, Yu and Niemeier eds., 2008). In Slovak, for example, the eye is the most common body part used in idiomatic expressions. Based on lexicographical research, Smiešková (1984) lists the following components of 901 somatic Slovak idioms: eye (123), head (75), tongue (69), hand (55), leg (53), heart (46). Soták (1989) gives a similar list of body-part terms in idiomatic usage: eye (183), head (182), hand (168), tongue (145), heart (115), leg (113). Both lists reveal that external body parts hold a more prominent position in Slovak figurative expressions than internal body organs. For instance, idioms with liver are almost nonexistent in Slovak, with the exception of an archaic and nowadays very rare idiom, *mať bielu pečeň* ('have a white liver', referring to a promiscuous woman). This is in sharp contrast to the widespread use of liver, for example, in Malay idiomatic language. English also contains more idioms with liver (e.g., *white-livered*, *hot-livered*, *liver-lipped*) than Slovak. In general, English exhibits different preferences for body-part nouns in idioms. Niemi et al. (2013) report that hand, heart, head, eye, foot and ear are the most frequently used body parts in English idioms. While in English hand and heart idioms predominate, the greatest number of Slovak idioms contain the lexeme eye. A more recent study (Baláková, 2001) provides 298 examples of eye phrasemes extracted from various dictionaries.

Taking Gibbs's claim about the role of conceptual structures in processing idioms and the results of Boers and Demecheleer's experiment pointing to the importance of productivity of source domains in understanding idioms as a starting point, we arrived at two research hypotheses. The aims of our research were to investigate the dependence of Slovak students' responses on the type of idiom and to test the hypothesis that guessing figurative idiom meanings drawing on a more salient source domain in their mother tongue would be easier for Slovak students than guessing the meanings of idioms associated with common source domains in the target language. We predicted that the responses of Slovak students would depend on the idiom type. Consequently, we *hypothesized that they would guess* the meanings of idioms containing 'eye' more correctly that the meanings of English idioms with 'hand' and 'heart'.

2. Method and data

Participants

A total of eighty-five advanced-level Slovak students of English at Constantine the Philosopher University in Nitra, Slovakia, participated in the study. They were second-year teacher and translation trainees.

Materials

We extracted twenty-one somatic idioms involving the nouns eye, hand and heart from several English dictionaries. Only idioms which do not have absolute equivalents in Slovak were chosen. In order to select English idioms of approximately the same level of transparency, we asked four native speakers of English to rate the idioms according to the degree of transparency. They rated the idioms on a 5-point scale from the most transparent to the least transparent ones. The idioms that turned out to be rated by native speakers as highly transparent (e.g. *there is more to something than meets the eye*) or non-transparent, that is very difficult to guess, (e.g. *here is mud in your eye, keep one's eyes peeled*), were not included in the study. The students were given a questionnaire which contained nine English idioms of medium transparency (average scores between 2.00 and 3.00.) in the following order: *in one's mind's eye (1), pull the wool over someone's eyes (2), turn a blind eye to something (3), show one's hand (4), change hands (5), keep one's hand in (6), somebody's heart sinks (7), lose heart (8), set one's heart on something (9).* The students first stated which of the idioms were 'known' and 'unknown' to them and then guessed the meanings of the given idioms. Previous studies indicate that the presence of context interferes with the interpretation of idioms' meanings

(Skoufaki, 2009). We wanted the students to rely only on idiom-inherent features in their guesses. For this reason the idioms were presented without any contextual clues. The students provided their definitions of the idioms in Slovak. They did not have any problems in understanding the component words in the idioms, so lack of lexical knowledge should not have prevented the students from interpreting the idioms' meanings.

After collecting the questionnaires, we coded the students' responses as 'known' and 'unknown'. Within the category of unknown idioms, which was the focus of our research, the code 0 was used for an incorrect answer, 1 for a partially correct answer and 2 for a correct answer. No answer was coded as 99. The dependence between the students' responses and the idiom type was statistically verified by the Pearson chi-square test and the correspondence between the three types of idioms and students' responses was shown by using correspondence analysis.

Since we were primarily interested in investigating the idioms whose meanings students tried to guess, the idioms identified as known were excluded from further statistical analysis. The data were processed in two ways. First, we created three contingency tables. The first table contained the independent variable 'idiom' with nine categories and the dependent variable 'code without known' (students' responses) with the categories 0,1,2,99. The second table included the independent variable 'type' with three categories (eye, hand, heart) and the dependent variable 'code without known'. The third contingency table comprised the independent variable 'type' and the new dependent variable 'code new' which had two categories: 0 (incorrect responses and no responses) and 1 (correct and partially correct responses). The dependence of all the pairs of variables was tested by a chi-square test of independence. Only the relevant results from the tables are presented in this article.

We hypothesized that the Slovak participants would guess the meanings of unknown eye idioms more correctly than the meanings of unknown hand and heart idioms. We assumed that the hypothesis would be confirmed if there was a significant difference between the average students' scores for eye idioms and the average scores for hand and heart idioms. The previously assigned codes were changed into scores: 0 for no and incorrect responses, 1 for partially correct and 2 for correct responses. Each participant obtained three average scores which were calculated by summing the score results for eye, hand and heart idioms and dividing the sum by the total number of unknown idioms within each idiom type. A non-parametric paired test – the Wilcoxon signed-rank test – was used to determine whether the difference between the average scores was statistically significant, because the normal distribution of difference between the average scores (eye – hand, eye – heart) was disturbed.

3. Results and discussion

All 85 participants completed the questionnaire with the nine body-part idioms. The total number of responses received was 765. Out of this number, there were 336 (43.9%) incorrect responses, 69 (9%) partially correct responses, 77 (10.1%) correct responses, 98 (12.8%) missing responses and 185 (24.2%) responses where the items were marked as known. The majority of incorrect interpretations included the idioms with hand (*show one's hand (4), change hands (5), keep one's hand in (6)*). The students correctly guessed the meaning of the idiom *pull the wool over someone's eyes (2)* most often**.** The idioms *turn a blind eye to something (3),* and *lose heart (8)* were marked as known most often. The students´ responses coded as 0, 1, 2, 99 and 'known' are displayed in Figure 1.

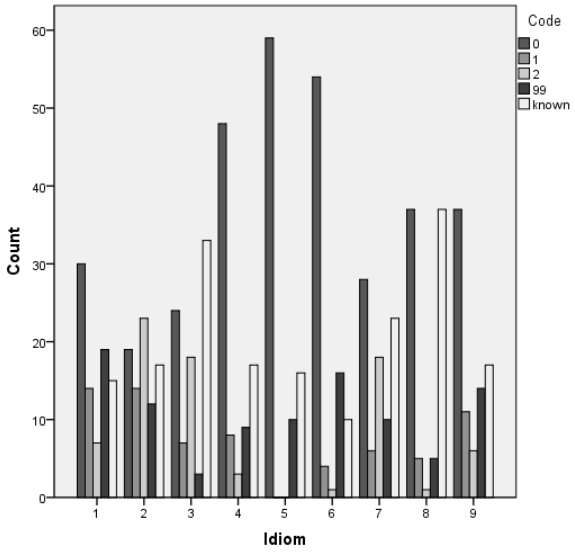

Figure 1. Students' responses to all the idioms in the questionnaire

In order to test the dependence between the nine idioms and students' responses we conducted a chi-square test. The value of the chi-square test of the independent variable 'idiom' and the dependent variable 'code' (students' responses) was χ^2 (32, N = 765) = 184.67 and it was significant (p = 0.00). The chi-square test showed that students' responses depended on the idiom type, χ^2 (8, N = 765) = 95.49, p = 0.00. The independent variable 'type' included three categories: *eye* (idioms 1,2,3), *hand* (idioms 4,5,6) and *heart* (idioms 7,8,9). The relationship between the variable 'type' and 'code' is shown in the correspondence map (Figure 2). We carried out a correspondence analysis to process the data from the contingency table because the statistically significant chi-square test value had indicated a correspondence between the categories of the two variables. The correspondence map shows that the students considered the idioms with heart to be known most often. They were more likely to guess the meanings of the idioms with eye and less likely to infer the meanings of the hand idioms.

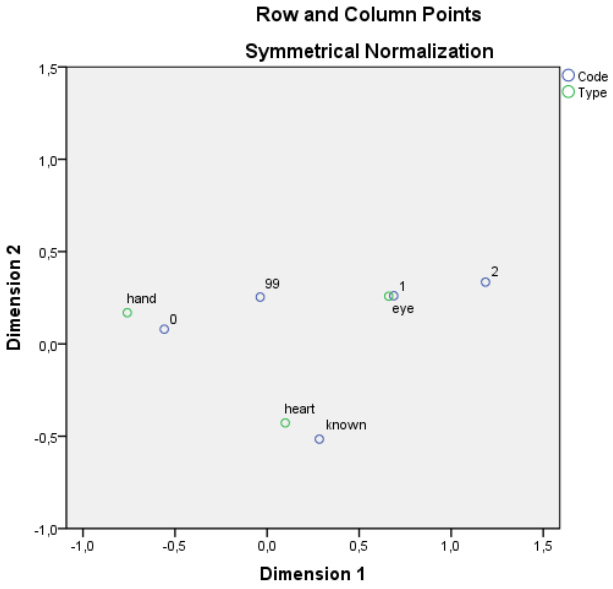

Figure 2. Correspondence map for the variables 'idiom type' and 'code' (students' responses)

After discarding the idioms coded as known, we examined the 580 remaining student responses. The dependence between the variables 'idiom' and 'code without known' (we excluded the students' responses marked as known), 'type' and 'code without known', 'idiom' and 'code new', as described in Part 2, was examined. Again, a chi-square test was used. All three p values of the chi-square test (χ^2 (24, N = 580) = 143.59, χ^2 (6, N = 580) = 76.83, χ^2 (8, N = 580) = 96.11) were 0.00 which means that the dependence of the above mentioned pairs of variables was proved. The contents of the three contingency tables for the variables are summarized below.

Response	Correct %	Partially correct %	Wrong %	No %	Unknown % (number of students)
in one's mind's eye	10	20	42.9	27.1	100 (70)
pull the wool over someone's eyes	33.8	20.6	27.9	17.6	100 (68)
turn a blind eye to something	34.6	13.5	46.2	5.8	100 (52)
Average (%)	25.3	18.4	38.4	17.9	
Total (%)	43.7		56.3		100 (190)

Table1. Students' responses to eye idioms

Response	Correct%	Partially correct %	Wrong %	No %	Unknown % (number of students)
show one's hand	4.4	11.8	70.6	13.2	100 (68)
change hands	0	0	85.5	14.5	100 (69)
keep one's hand in	1.3	5.3	72	21.3	100 (75)
Average (%)	1.9	5.7	75.9	16.5	
Total (%)	7.6		92.4		100 (212)

Table 2. Students' responses to hand idioms

Response	Correct%	Partially correct %	Wrong %	No %	Unknown % (number of students)
somebody's heart sinks	29	9.7	45.2	16.1	100 (66)
lose heart	2.1	10.4	77.1	10.4	100 (46)
set one's heart on something	8.8	16.2	54.4	20.6	100 (66)
Average (%)	14	12.4	57.3	16.3	
Total (%)	26.4		73.6		100 (178)

Table 3. Students' responses to heart idioms

The tables clearly show that the hand idioms were the most difficult to guess for the Slovak students. The participants interpreted most of these idioms incorrectly (average 75.9%), while they provided fewer wrong interpretations of the eye (average 38.4%) and heart idioms (average 57.3%). The students were most successful at guessing the meanings of the unknown idioms with eye. The percentage of correct responses for this idiom type was highest (average 25.3%). In contrast, the percentages of correct responses to hand (average 1.9%) and heart idioms (average 14%) were much lower. When we also considered partially correct responses as correct, the differences between the idiom interpretations were even more obvious (eye 43.7%), (hand 7.6%), and (heart 26.4%).

To test the research hypotheses we used a non-parametric paired test - the Wilcoxon signed-rank test – because the normality of distribution was rejected by the Shapiro-Wilk test of normality, for the difference between the average scores for the variable eye and the variable hand, $SW(80) = 0.92$, $p = 0.00$; for eye and heart, $SW(76) = 0.96$, $p = 0.02$. The average scores for each type of idiom are presented in Table 4.

	N	Minimum	Maximum	M	SD
Eye	81	0.00	2.00	0.6152	0.59076
Hand	81	0.00	1.00	0.0864	0.20935
Heart	79	0.00	2.00	0.3797	0.51053
Valid N (listwise)	73				

Table 4. Descriptive statistics of average scores for the idioms with eye, hand and heart

The letter N refers to the number of students who stated that they were unfamiliar with at least one of the three idioms within the particular type. A student who marked all three idioms as known was excluded from the analysis. Minimum refers to the minimum average score that students achieved for the particular idiom type. Maximum refers to the maximum average score. M is the arithmetic mean of the average score. SD – standard deviation – expresses variability of the average scores. The results of the Wilcoxon signed-rank test confirmed that the difference between the average scores for the variable eye and the variable hand, and the variable eye and the variable heart, was significant. The value of the test was $Z = 5.98$, valid $N = 80$, $p = 0.00$

for the pair of variables eye and hand, and $Z = 2.89$, valid $N = 76$, $p = 0.00$ for the pair eye and heart. The mean for the hand idioms (0.09) and the mean for the heart idioms (0.38) were lower than the mean for the eye idioms (0.62). The hypothesis that the Slovak students *would guess* the meanings of English idioms containing 'eye' more correctly than the meanings of English idioms with 'hand' and 'heart' was statistically confirmed.

The research results presented in the study support the cognitive hypothesis that the salience of the source domain facilitates understanding idioms in a foreign language. The Slovak students were less successful at guessing the meanings of figurative idioms associated with the domains more salient in the target language culture. At the same time, a significantly higher number of correct idiom interpretations were provided by the Slovak learners for the eye idioms derived from the most frequently used body-part source domain in Slovak.

We acknowledge certain limitations of the presented results. The study included only nine English idioms, which were interpreted by 85 Slovak students. In order to get a more detailed insight into the hypothesis about the impact of the salience of particular source domains on idiom comprehension, further research with a larger number of idioms and participants is needed.

Our research findings are in line with the results of the Boers and Demecheleer (2001) and Boers, Demecheleer and Eyckmans experiments (2004) that not only confirmed correlation between comprehending and remembering foreign idioms and recognition of the source domain by Flemish students but also corroborated the fact that fewer correct responses were provided for what they termed as 'culturally typical idioms' based on prominent source domains in English such as sailing, baseball, cricket, horse racing and gambling. Although other previous research studies (e.g. Gibbs, 1993) indicate that knowledge of the source domain and metaphorical mappings serve as a clue for interpreting idioms' meanings, there are other factors such as familiarity and literality of idioms that may influence the process (Titone and Connine, 1994).

The concept of familiarity refers to the frequency of idiom occurrence. We eliminated the effect of the familiarity factor on idiom comprehension by including only the idioms that the participants marked as unknown in the analysis. The variable of literality explored by Titone and Connine (1994) does not seem to have influenced interpretation success. The students achieved different scores for the idioms that have literal meanings in English. For example, many of the participants could guess the meaning of the idiom *pull the wool over someone's eyes* successfully, but they achieved low scores for all the literally interpretable idioms with hand.

We started from the premise that the transparency of the selected idioms stems from the conceptual metaphors and metonymies that underlie them. All the idioms used in the study can be linked to conceptual structures shared by Slovak and English speakers. The idioms within the first type instantiate the metaphor THE MIND HAS AN EYE and a subcategory of the central metaphor THE MIND IS A BODY (Lakoff and Johnson, 1999), NOT KNOWING IS NOT SEEING. The heart idioms are instances of THE HEART IS A CONTAINER FOR MENTAL STATES metaphor. The hand idioms are motivated by the metaphor LIFE IS A GAMBLE and metonymies THE HAND STANDS FOR THE ACTIVITY and THE HAND STANDS FOR THE PERSON. Since at the generic level all the above-mentioned metaphors and metonymies exist in both languages, we assume that the details and conventionality of metaphoric and metonymic mappings may have affected the success of idiom interpretation. However, the wrong or missing definitions of the idioms' meanings cannot be fully explained by negative mother-tongue interference. The most problematic appeared to be the idioms *change hands* (change owner), *keep one's hand in* (do something regularly so not to lose the ability to do it well) and *lose heart* (lose one's courage or confidence). Despite the fact that the idiom *change hands* has a very similar equivalent in Slovak *prechádzať z ruky do ruky* ('go from one hand to another'), none of the students were able to guess the meaning of this idiom and very few arrived at a correct interpretation of *keep one's hand in*.

The heart is conceptualized as the seat of emotions in Slovak but not as the seat of courage, which is a personal trait. The idiom *lose heart* is an example of a false friend. It resembles a Slovak idiom in form but differs in meaning. According to Krátky slovník slovenského jazyka, in Slovak *stratiť srdce* means to fall in love. Surprisingly, only two of the students assigned the idiom this meaning. The students often interpreted the

idiom as breaking up with somebody, or losing love or a loved person. It is more likely then that the low scores for the idiom *lose heart* could be due to a more conventionalized metonymy, THE HEART FOR THE LOVED PERSON and metaphor, THE HEART IS A CONTAINER FOR EMOTIONS.

Conclusion

To conclude, the same source domains generate different idiomatic expressions in these two languages. English and Slovak body idioms differ in terms of diversity and productivity. The lexicographical research reveals that hand and heart are the most frequently used body terms in English idioms, whereas eye and head are the most productive domains in Slovak. Given the limited scope of the research, the presented results provide tentative evidence that the salience of the source domain in the mother tongue and the target language is an independent variable that influences interpretation of unknown idioms by non-native speakers. The fact that the same conceptual metaphors and metonymies exist in both languages does not seem to guarantee better idiom comprehension. Our research results imply that not only productivity of the source domain but also cross-cultural variation in elaboration and degree of conventionality of conceptual metaphors and metonymies in each language interfere with interpreting idiom meanings in a foreign language.

References

BALÁKOVÁ, D., 2001. K výskumu somatických frazém s komponentom oko. Disputationes Scientificae Universitatis Catholicae, vol.1, no. 4, pp. 20 – 42.

BOERS, F. and DEMECHELEER, M., 2001. Measuring the impact of cross-cultural differences on learners' comprehension of imageable idioms. ELT, vol. 55, no.3, pp.255 – 262.

BOERS, F., DEMECHELEER, M. and EYCKMANS, J., 2004. Cross-cultural variation as a variable in comprehending and remembering figurative idioms. European Journal of English Studies, vol.8, no.3, pp. 375 – 388.

GIBBS, R.W., 1993. Why idioms are not dead metaphors. In: C. Cacciari and P. Tabossi, eds. Idioms: Processing, structure and interpretation. Hillsdale: Lawrence Erlbaum, pp.57 – 77.

GIBBS, R. W. and WILSON, N. L., 2002. Bodily action and metaphorical meaning. Style, vol. 36, no. 3, pp. 524 – 540.

GIBBS, R. W., LIMA, L. P. and FRANCOZO, E., 2004. Metaphor is grounded in embodied experience. Journal of Pragmatics, vol. 36, no. 7, pp. 1189 – 1210.

KÖVECSES, Z., 2010. Metaphor. A practical introduction. Oxford: Oxford University Press.

LAKOFF, G. and JOHNSON, M., 1999. Philosophy in the flesh. New York: Basic Books.

NIEMI, J., MULLI, J., NENONEN, M., NIEMI, S., NIKOLAEV, A. and PENTTILÄ, E., 2013. Idiomatic proclivity and literality of meaning in body-part nouns: Corpus studies of English, German, Swedish, Russian and Finnish. Folia Linguistica, vol. 47, no.1, pp. 237 – 252.

PALMER, F.R., 1991. Semantics. Cambridge: Cambridge University Press.

SHARIFIAN, F., DIRVEN, R., YU, N. and NIEMEIER, S., eds. 2008. Culture, body, and language: Conceptualizations of internal body organs across languages and cultures. Berlin, New York: Mouton de Gruyter.

SKOUFAKI,S., 2009. Investigating the source of idiom transparency intuitions. Metaphor and Symbol, vol. 24, no. 1, pp. 20 – 41.

SMIEŠKOVÁ, E.,1984. Názvy častí tela v lexikálnom zložení slovenských frazeologizmov. Kultúra slova, vol.18, no.3, pp.79 – 85.

SOTÁK, M., 1989. Slovný fond slovenských a ruských frazém. Bratislava: SPN.

TITONE, D.A. and CONNINE, C.M., 1994. Descriptive norms for 171 idiomatic expressions: familiarity, compositionality, predictability and literality. Metaphor and Symbolic Activity, vol. 9, no.4, pp. 247 – 270.

Author's address and contact details
Mgr. Elena Ciprianová, PhD.
Department of English and American Studies
Faculty of Arts
Constantine the Philosopher University
Štefánikova 67
949 74 Nitra
Phone: +421 37 6408 111
E-mail: eciprianova@ukf.sk

Doc. Marta Vrábelová, CSc.
Department of Mathematics
Faculty of Natural Sciences
Constantine the Philosopher University
Trieda A. Hlinku 1
949 74 Nitra
Phone: +421 37 6408 111
E-mail: mvrabelova@ukf.sk