

## Metaphor awareness as a facilitator of lexical retention in Polish secondary school EFL classrooms

Świadomość metafor jako czynnik wspomagający zapamiętywanie słownictwa  
na lekcjach języka angielskiego jako obcego wśród uczniów szkół średnich

**Abstract:** This study has examined whether enhancing learners' metaphor awareness could improve the retention of idiomatic expressions in Polish L2 English learners. Sixty-nine students from two secondary schools divided into four groups participated in the study: one experimental ( $n = 20$ ) and one control ( $n = 21$ ) from School 1 and one experimental ( $n = 15$ ) and one control ( $n = 13$ ) from School 2. During instruction, the control groups received vocabulary notes with items organised along functional lines, e.g., *to describe acute and sudden anger*. The experimental groups received vocabulary notes with the same items, but organised under the headings of conceptual metaphors, e.g., *anger as fire*. All of the groups were tested twice immediately after the instruction and a month later. The immediate post-instruction test showed that there was a significant difference between the experimental and control groups from School 1. Yet, no such result was observed in School 2. The delayed post-test revealed no statistically significant difference between groups in either of the schools. These results suggest that enhancing metaphor awareness of students can lead to improved short-term retention of idioms, but a single instance of metaphor-based instruction is not enough to offer long-term effect on vocabulary learning.

**Key words:** metaphor awareness, language teaching, English as a foreign language, secondary school learners

**Abstrakt:** Niniejsze badanie miało na celu sprawdzenie, czy zwiększenie uczniowskiej świadomości metafor może poprawić zapamiętywanie wyrażen idiomatycznych przez polskich uczniów szkół średnich uczących się języka angielskiego jako języka obcego. W badaniu wzięło udział 69 uczniów z dwóch szkół średnich, podzielonych na cztery grupy: jedną eksperymentalną ( $n = 20$ ) i jedną kontrolną ( $n = 21$ ) ze Szkoły 1 oraz jedną eksperymentalną ( $n = 15$ ) i jedną kontrolną ( $n = 13$ ) ze Szkoły 2. Podczas zajęć grupy kontrolne otrzymały słowniczki z wyrażeniami opisanymi w sposób funkcjonalny, np. *by opisać gwałtowny i nagły przypytyw gniewu*. Grupy eksperymentalne otrzymały słowniczki z tymi samymi wyrażeniami, ale wyrażenia z ich słowniczków zostały przypisane do kategorii opisanych przy użyciu metafor pojęciowych, np. *gniew jako ogień*. Wszystkie grupy zostały przetestowane dwukrotnie – bezpośrednio po zajęciach, w trakcie których uczyły się słownictwa, oraz miesiąc później. Test bezpośrednio po zajęciach wykazał istotną różnicę między grupami eksperymentalną i kontrolną ze Szkoły 1. W Szkole 2 nie zaobserwowano podobnego wyniku. W odroczonej teście nie stwierdzono statystycznie istotnych różnic między grupami w żadnej ze szkół. Wyniki te sugerują,

że zwiększenie uczniowskiej świadomości metafor może prowadzić do lepszego krótkoterminowego zapamiętywania idiomów, pojedyncza sesja zwiększająca uczniowską świadomość metafor nie wystarczy jednak, aby zapewnić długotrwały efekt w nauce słownictwa idiomatycznego.

**Słowa kluczowe:** świadomość metafor, nauczanie języka, język angielski jako język obcy, uczniowie szkół średnich

## Introduction

Understanding and remembering the meanings of idioms can be problematic to students. The traditional way of teaching idioms simply instructs students to commit various idiomatic expressions to memory, which makes it difficult for them to recall these idioms long-term (Gutiérrez Pérez, 2016). This approach to teaching idiomatic expressions is particularly concerning, given that idioms are commonly used in everyday communication (Shan, 2020) and are crucial for fostering interactions between people (Sinclair, 2011). Under the assumption that idiomatic language is random and arbitrary, learning by heart may have seemed like the only available solution for memorising idioms. However, the more contemporary understanding of the Conceptual Metaphor Theory has moved on from that assumption. The suggestion that phrasal verbs, idioms and words used figuratively can be explained through conceptual metaphors allowed for the development of new strategies that simplified the learning of parts of language that previously were perceived as unteachable (Boers, 2011). The beneficial effect of using cognitive metaphors for foreign language vocabulary acquisition was verified in research (Boers, 1997; Boers & Demecheleer, 2011; Csábi, 2004; Littlemore, 2002). Through the application of cognitive theories to EFL teaching, the researchers were able to show how these theories supported learners in learning idioms, verbal phrases, metaphorical expressions and polysemies (Barcelona, 2001; Csábi, 2004; Dirven, 2001; Kecskes, 2000; Kövecses, 2001; Kurtyka, 2001; Liao & Fukuya, 2004; Queller, 2001). The contributions of Frank Boers are especially noteworthy. Boers' seminal study on metaphor awareness and its application to foreign language vocabulary instruction (2000) has shaped subsequent research in this area. The teaching techniques he proposed, grounded in Conceptual Metaphor Theory, continue to inform metaphor-based instruction practices today. While Boers' original study focused on short-term vocabulary acquisition and retention gains among Dutch secondary-school learners of English as a foreign language (EFL), the present study seeks to re-examine his approach within the context of Polish secondary-school EFL learners. Its aim is to determine whether the method he proposed remains effective when applied in a different linguistic and cultural environment. Furthermore, this study extends Boers' work by exploring the long-term effects of metaphor-based instruction, assessing participants not only immediately after instruction but also one month later.

## Conceptual Metaphor Theory in Teaching

The understanding of metaphor has evolved significantly over time. Beginning with Aristotle's *comparison theory*, metaphor was considered a linguistic ornament that used

the name of one thing to stand for something else in order to enhance vividness (Gao & Meng, 2010). Later on, during the 1st century A.D., a Roman rhetorician Quintilian was able to further develop the *substitution theory*, which views metaphor as a replacement of one expression with a different expression (Gao & Meng, 2010). The 1930s saw the introduction of Ivor Armstrong Richards' *interaction theory*. Richards noticed that language appeared to heavily rely on metaphors. His suggestion was that metaphor is not just a literary device, but a way of thinking (Gao & Meng, 2010). From this point onward, metaphor research took a more cognitive approach, the culmination of which was the publishing of *Metaphors We Live By* by George Lakoff and Mark Johnson in 1980. As such, to think of metaphors as mere rhetoric devices or figures of speech would be an archaic take on the matter (Gutiérrez Pérez, 2016).

In the course of their work, Lakoff and Johnson observed that people's choice of conceptual domains while using metaphorical language was not random. Since people would invoke specific conceptual domains to describe particular concepts, it appeared that some kind of system was guiding their choice (Lakoff & Johnson, 1980, p. 7). It was dubbed the *metaphor system*. Lakoff and Johnson recognised two experiential domains within the metaphor system – the *source domain* and the *target domain*. The source domain is more concrete and easier to visualise, whereas the target domain is more abstract. Source domains provide a conceptual and experiential basis through which target domains can be described, making it easier to understand them (Lakoff & Johnson, 1980). This association between the two domains is known as the *conceptual metaphor*. It is a metaphor because of the conventional association of one domain with the other domain and it is conceptual, rather than solely linguistic, as the motivation for the creation of those metaphors is found at the level of conceptual domains (Evans & Green, 2006). People do not just speak in metaphorical terms. They also think in metaphorical terms, meaning that linguistic expressions are just reflections of already existing conceptual associations (Lakoff & Johnson, 1980, p. 6). Conventionally, conceptual metaphors are described using the 'A is B' formula similarly to the schematic form established 2,000 years ago, but this is just a shorthand. Conceptual metaphors are actually a series of discrete conceptual relations shared by a number of distinct roles that can be identified within the source and target domains. Those metaphorical links are known as correspondences or mappings. The way in which conceptual metaphors work is by mapping roles from the source domain onto the target domain (Evans & Green, 2006). In the example of *HAPPY IS UP*, the term 'HAPPY' represents the target domain. It is a broad, abstract, and subjective concept. Each person has their own idea of what constitutes happiness. In comparison, 'up' is much simpler to imagine. Everyone is aware of the idea of vertical orientation and something being up or above something else. Expressions, such as *be on cloud nine*, *be over the moon*, *be in high spirits*, *be in seventh heaven* and *be on top of the world* are just different iterations of this metaphor.

Another major contribution from Lakoff and Johnson was the discovery that conceptual metaphors have *experiential basis*. They are all grounded in the everyday interactions between people and the world (Lakoff & Johnson, 1980, pp. 15–21). This claim is illustrated in (1):

- (1) a) The price of shares is *going up*.
- b) She got a *high* score in her exam.

Expressions in (1) are evidence for the metaphor QUANTITY IS VERTICAL ELEVATION. In these sentences there is a conventional reading related to QUANTITY. (1a) refers to an increase in share prices, whereas (1b) refers to the result of an exam that is represented using a numeral quantity. The lexical items used in both of these expressions literally refer to the concept of VERTICAL ELEVATION, but the reading of each of these examples remains conventional. If that is the case, then it would mean that at the conceptual level QUANTITY and VERTICAL ELEVATION are correlated with one another. This correlation between QUANTITY and VERTICAL ELEVATION is a frequent part of people's everyday experience. An increase in height is usually accompanied by a rise in the amount of something. For instance, by pouring water into a glass one can observe an increase in the height of the water which is directly proportional to the increasing quantity of water (Evans & Green, 2006, p. 296). Lakoff and Johnson suspected that those kinds of correlations present in people's daily experiences are the starting point for the formation of associations at the conceptual level which are then reflected in the linguistic examples. Conceptual metaphors are always at least partially motivated by and grounded in experience (Lakoff & Johnson, 1980).

This non-arbitrary nature of metaphor serves as the primary principle of Cognitive Semantics (Gibbs, 1994). If conventional figurative expressions are motivated, rather than arbitrary, it opens up a possibility to apply this principle to foreign language acquisition in order to form alternative learning strategies that go beyond blind and random memorisation (Boers & Demecheleer, 1998). Boers (2000, p. 563; 2011, p. 228) summarises the rationale for introducing the Conceptual Metaphor Theory to the second language classroom with the following tenets:

1. Drawing students' attention to the metaphoric nature of L2 phrases lends concreteness to figurative expression, which was shown to have a positive effect on vocabulary learning. Primarily on account of concrete items being stored twice, verbally and non-verbally. Additionally, concreteness can promote mental imagery, and associating vocabulary with images can, in turn, make that vocabulary easier to remember.
2. Many idiomatic expressions can be traced back to a common source domain. As such, they can be presented as belonging to the same category and grouped together, for instance, under the headings of shared conceptual metaphors, or as Boers (2004, p. 211) calls them, metaphoric themes. Organised vocabulary – and generally any vocabulary that is integrated into a larger network – is easier to recall than vocabulary that was arbitrarily put together into a random list.
3. Learners who are made aware of the conceptual metaphors underlying various idioms, phrasal verbs and figuratively used words ought to be better-equipped for coming up with the meanings of unfamiliar L2 figurative phrases than those who only have contextual clues to rely on. In this way, learning becomes more insightful. For instance, asking students to independently work out the meaning of figurative expressions involves deep cognitive processing and forces them to extend their cognitive efforts to accomplish that goal. The involvement of deep cognitive processing was shown to raise the likelihood of memory storage.

However, these strategies can only be effective once students' *metaphor awareness* has been enhanced. The present study adopts a definition of metaphor awareness based

on Boers (2004, p. 211), who associates metaphor awareness with the awareness of how pervasive metaphors are in everyday language. He further connects it with an ability to understand metaphoric themes, as well as the ability to recognise how rhetorical expressions are driven by metaphoric themes and how source domains are influenced by them. Finally, Boers links metaphor awareness to an understanding of how culture influences metaphoric themes and to recognising cross-linguistic differences in how these themes are expressed.

Students with enhanced metaphor awareness have a heightened ability to identify metaphors and understand their role in language. This awareness involves not only recognising how metaphors are created but also acknowledging that they exist in all languages. Language learners with metaphor awareness can identify metaphors in various forms, such as verbal metaphors (e.g., "*kill* these boring hours"), nominal metaphors (e.g., "Love is *a journey*"), adjectival metaphors (e.g., "be in *low* spirits"), and adverbial metaphors (e.g., "*ups and downs* in life") (Gao & Meng, 2010, p. 113).

Building on the work of Boers (2000), this study seeks to replicate his experiment in order to compare the results of his original study conducted with Dutch secondary school students, who Boers suspected might have benefited more from metaphor awareness raising activities due to their native tongue's close relation to English and see how Polish secondary school students, whose native tongue is not as closely related to English, would fair in comparison. Furthermore, independently of Boers' experiment, this study wants to establish whether a single instance of metaphor awareness enhancing activities will have a continued effect on vocabulary retention over a longer span of time.

## Previous Research

A number of studies have investigated the effects of metaphor-based instruction on figurative vocabulary learning. These studies typically involve an experimental group which receives instruction grounded in Conceptual Metaphor Theory, and a control group which is taught using more traditional or conventional methods.

Gao and Meng (2010) studied the impact of metaphor awareness raising on vocabulary acquisition and retention among sixty-four Chinese university students whose native language was Mandarin. Their English proficiency was classified as either low, intermediate, or advanced. The students were divided into two groups for each proficiency level. The experimental group received instruction where English vocabulary was taught by highlighting the underlying metaphors, often using conceptual groupings, such as argument is war, to help students understand abstract words. The experimental group was also provided with visual aids and had the metaphors explained to them. The control group, by contrast, learned the same vocabulary through traditional rote memorisation, dictionary definitions, and sentence examples without any reference to metaphors. The study used pre-tests, immediate post-tests, and delayed post-tests to measure vocabulary acquisition and retention. Results showed that the metaphor-based instruction significantly improved both the retention of vocabulary in the intermediate and advanced experimental groups, but not in the low-proficiency experimental group.

Samani and Hashemian (2012) studied the effect of conceptual metaphors on idiom learning among sixty Iranian EFL learners, all native Persian speakers with an intermediate level of proficiency. The students were assigned to either an experimental group, which learned idioms through identifying and exploring conceptual metaphors, or a control group, which was taught idioms using typical instruction methods such as direct translation, example-based practice, and sentence-level usage drills. The metaphor-based instruction involved categorising idioms based on their underlying metaphors, for instance IDEAS ARE FOOD, EMOTIONS ARE FORCES and encouraging learners to make connections between idioms and their metaphorical roots. The findings showed that the metaphor-based approach led to better idiom comprehension, deeper learning, and improved recall compared to traditional instruction.

Kömür and Çimen (2013) explored the use of conceptual metaphors in teaching idioms to forty-six Turkish EFL learners. These students, all native speakers of Turkish with an intermediate English proficiency level, were placed into two groups. The experimental group was taught idioms by grouping them under conceptual metaphors like ANGER IS HEAT or HAPPINESS IS UP. Instruction included conceptual analysis, visuals, and discussion of metaphorical meanings. The control group, however, was taught idioms in the traditional way, through direct translation into Turkish, dictionary definitions, and example sentences, but without any mention of metaphorical connections. Post-test results showed a clear advantage for the experimental group in both idiom comprehension and retention.

Tsitoura (2022) investigated the effect of teaching grounded in the Conceptual Metaphor Theory on metaphor awareness among thirty-two EFL learners in the second grade of junior high school in Greece. Participants were randomly assigned to an experimental group and a control group. Over three 45-minute sessions, the experimental group received explicit instruction in the Conceptual Metaphor Theory. They learned about conceptual metaphors (e.g. MORE IS UP / HAPPY IS UP / SAD IS DOWN, ANGER IS FIRE), source-target domain mapping, and the experiential grounding of metaphors. The control group read texts containing metaphorical expressions and underlined them, guessed unfamiliar expressions from the context, but received no explicit instruction about the theory behind metaphors. At post-test, which included multiple-choice and sentence-completion tasks involving both familiar and novel metaphoric expressions, the experimental group significantly outperformed the control group.

The findings of these studies are promising, since research into the use of metaphor in educational contexts highlights its significant presence in academic discourse, particularly within lectures and university-level instruction. Academic texts are known for featuring a notably high proportion of metaphorically-used words. For instance, metaphors accounted for 18.5% of academic writing, compared to 16.4% in news texts, 11.7% in fiction texts, and only 7.7% in conversational texts (Steen et al., 2010, p. 8). Complementary findings from a separate study of university lectures revealed that metaphors comprised 10–13% of what was said during the studied lectures (Low, Littlemore & Koester, 2008, p. 440).

Beyond its role in academic texts and lectures, metaphor also serves multiple functions in the classroom itself, including classroom management, concept explanation, and emotional engagement. In British primary school classrooms, for example, metaphor was not only employed to teach content but also structured teacher–student interactions. A discourse

analysis showed that metaphor was instrumental in managing classroom routines, introducing scientific ideas, giving feedback, and maintaining group cohesion (Cameron, 2003).

Additionally, L2 learners often produce language that feels overly literal and lacks the figurative nuance characteristic of native speakers. This tendency, described as *textbook literalness*, dominates second language speech patterns (Danesi, 1995, p. 4). To explain this phenomenon, the notion of *L2 conceptual fluency* was introduced. It refers to the learner's ability to internalise the cognitive and metaphorical patterns typical of native speakers. Achieving this kind of fluency involves understanding how the target language encodes meaning through metaphorical reasoning, rather than relying on conceptual structures from their first language (Danesi, 1994, p. 454). Achieving full communicative competence in the L2 requires a shift away from L1-based conceptual frameworks toward those embedded in the L2 (Saaty, 2016, p. 50).

Given the central role of metaphors in achieving L2 fluency and their integral presence in educational discourse, identifying effective strategies for facilitating the learning of idiomatic expressions becomes a paramount concern.

## Methodology

In both his 2000 and subsequent research (Boers, 2001; Boers, 2004, Boers & Lindstromberg, 2008), Boers confirmed the effectiveness of his method and defined its expectations and limitations. Based on his findings, there does seem to be some merit to the idea of enhancing learners' metaphor awareness for the purposes of teaching idiomatic expressions. With that in mind, this study intends to teach idioms following the framework of conceptual metaphors to secondary school students to test the following hypotheses:

1. Conceptual metaphors can be successfully applied to teaching idiomatic expressions.
2. The application of conceptual metaphors can positively impact the retention of newly acquired idiomatic expressions.
3. Following the intervention, the experimental group differs from the control group.
4. A single instance of metaphor awareness enhancing instruction is not enough to provide long-term expansion of the studied idiomatic expressions.

The purpose of this section is to describe the methodological framework of the study. It presents the participants, materials, and procedures used in the experiment, including an explanation of the data collection and analysis methods applied to test the research hypotheses. This section ends with a presentation and a discussion of the results.

## Participants

Sixty-nine 18- to 19-year-old secondary school students (mean age = 18.2 years) participated in the study. The participant demographics is presented in Table 1:

**Table 1**  
*Participant demographics (N = 69)*

| School   | Number of participants | Age             |
|----------|------------------------|-----------------|
| School 1 | 41                     | 18–19 years old |
| School 2 | 28                     | 18–19 years old |

The students were sampled from two different technical schools and were all attending fourth grade. All of the participants were native Polish speakers. For participating in the study, they received a small gift. To assess participants’ background information, they were administered a questionnaire. The questionnaire asked the students about their age, gender, duration of English instruction, their last semester’s English grade, their native tongue and whether they spoke any other foreign languages besides English. Each participant provided informed written consent at the start of the study. The final sample included sixty-nine students. Six additional students were tested but excluded from the final sample for not being native Polish speakers ( $n = 6$ ). The participants were divided into four groups; one control group and one experimental group from each school.

The control group from the first school (Control 1) included twenty-one students, three females and eighteen males, while the experimental group (Experimental 1) consisted of twenty students, one female and nineteen males. The analysis of the students’ responses to a background questionnaire showed that the groups were similar in terms of the duration of English instruction (Control 1 mean = 12.6 years, range = 9–16 years; Experimental 1 mean = 12.3 years, range = 11–14 years) and the last semester’s English grade (Control 1 mean = 4.00, range = 2–5; Experimental 1 mean = 4.15, range = 3–5), as well. Both groups from the first school had been taught by the same teacher, were following the same coursebook and were taught English at the same proficiency level. The groups differed, however, in terms of the foreign languages spoken by the students. In the control group, twelve (46.2%) students spoke Spanish, eight (30.8%) German, two (7.7%) Japanese, two (7.7%) spoke no foreign language other than English, one (3.8%) spoke Korean and one (3.8%) spoke Italian. In the experimental group, nineteen (90.5%) spoke German, one (4.8%) spoke Greek and one (4.8%) reported not knowing any foreign language other than English.

The control group from the second school (Control 2) consisted of thirteen students, six males and seven females, and the experimental group (Experimental 2) comprised fifteen students, two males and thirteen females. The two groups from the second school turned out to be similar with regard to the duration of English instruction (Control 2 mean = 12.0 years, range = 9–14 years; Experimental 2 mean = 11.8 years, range = 10–14 years) and the last semester’s English grade (Control 2 mean = 3.46, range = 1–5; Experimental 2 mean = 3.53, range = 2–5). Both groups were following the same coursebook, were taught English at the same proficiency level, and had been taught by the same teacher. Once again, the groups differed with respect to the foreign languages they were able to speak. In the control group, six (33.3%) students spoke German, five (27.8%) knew no other foreign languages aside from English, three (16.7%) spoke Spanish, two (11.1%) spoke Russian and one (5.6%) spoke Korean. In the experimental group, nine (60%) students spoke no other foreign languages aside from English, three (20%) spoke German and three (20%) spoke Russian.

## Materials

The stimuli used in the study were developed by Boers (2000, pp. 554–557). They were all presented to students on separate sheets of A4 paper, beginning with a short text *Managing the emotions*. The text was based on Goleman's *Emotional intelligence: Why it can matter more than IQ* (1995, pp. 62–72) and was shortened for teaching purposes. The text included thirteen idiomatic expressions, italicised in the text, which were meant to illustrate the metaphors THE BODY IS A CONTAINER FOR EMOTIONS and ANGER IS A HOT FLUID IN A CONTAINER. Further stimuli included separate vocabulary notes for the control groups and the experimental groups, which students from each group had to learn. Both types of notes included the same eighteen idioms, but the vocabulary note for the control group had idiomatic expressions organised along the “functional” lines with lexical items divided into those which are used to describe *acute and sudden anger*, *anger as a process*, *angry personalities* and *the way angry people speak*. The notes given to the experimental group had the idioms organised under the headings of shared metaphoric themes, which included *anger as a hot fluid in a container*, *anger as fire* and *angry people as dangerous animals*. The idioms found in the vocabulary notes were related to the metaphors evoked by the text *Managing the emotions*. The purpose of the text was to make the students think about these metaphors as they studied the expressions included in the notes they received. The last stimulus included a cloze test with ten gaps that the learners had to fill in with the vocabulary listed in their vocabulary notes. Both groups had to complete the same cloze test. The materials are shown in Appendix 1.

## Procedure

The procedure adapted for the present study was based on the procedure developed by Boers (2000, pp. 554–557). The students were first instructed to thoroughly read the text *Managing the emotions* and were given five minutes to complete this task. Once five minutes had passed, they were handed their respective vocabulary notes. The students were asked to study the idiomatic expressions found in their notes for ten minutes. During the process, they were not restricted to any one specific way of memorising the vocabulary, i.e. students were allowed to supply their learning with a variety of techniques that they found suitable. For instance, there were students who would draw pictures related to the idioms, others would write down more difficult parts of the idioms multiple times, and some would even write in the air using their fingers. After 10 minutes of studying students were invited to participate in a controlled discussion. The discussion lasted fifteen minutes and pertained to anger and conflicts. The questions asked of students included: *Is it easy to make you feel angry?*; *What's the angriest you've ever been?*; *If you feel angry, do you stay angry for long?*; *How do you handle it when someone is angry and directs their anger at you?*; *Would you be angry if someone you trusted revealed your secret to others?*; *Would you be angry if your friend group made plans to go somewhere and they excluded you from their plans?*; *Would you be angry if your significant other forgot about your anniversary?*; *Would you be angry if someone ghosted you without giving an explanation?* The students' vocabulary notes were not removed at that stage and they were encouraged

to try to incorporate the idioms from their notes into their answers during the discussion. The last step of the procedure took place following the discussion when the students were asked to complete a ten-gap cloze test using the idioms included in their respective notes. They were given ten minutes to include as many answers as possible in each gap. Points were awarded solely for instances where the targeted vocabulary from the vocabulary notes was correctly used and accurately spelled.

At all stages of the procedure, the students were urged to ask for clarification should they encounter any unfamiliar vocabulary in either the text they were asked to read at the beginning of the class, in the notes that they received, or the text of the cloze gap test they had to fill in with the studied vocabulary.

A month later, the students were tested again. They had to complete the same cloze test and were not given a chance to revise the previously studied idioms. The results of this post-test, as well as the results of the first test they took a month prior, were then used to calculate whether there was a statistically significant difference between the results of the experimental and the control groups. To determine whether the difference between the tested groups was statistically significant, *Jamovi*, a statistical software for data analysis and testing, was used to conduct Mann–Whitney U tests for independent samples. The results were considered to be statistically significant if the *p*-value < .05.

Results

Following the procedure, the participants were first tested immediately after completing metaphor awareness raising exercises. A comparison of test results between control and experimental groups showed that students from the experimental group in School 1 (*M* = 3.80, *SD* = 2.24) achieved a higher mean score from their tests than students from the control group (*M* = 2.48, *SD* = 1.57). In contrast, the control group from School 2 (*M* = 1.15, *SD* = 1.14) scored, on average, higher than the experimental group (*M* = 0.53, *SD* = 0.64) (see Table 2).

Table 2  
Test results

| Group    |              | <i>N</i> | <i>M</i> | <i>SD</i> | <i>SE</i> |
|----------|--------------|----------|----------|-----------|-----------|
| School 1 | control      | 21       | 2.48     | 1.57      | 0.342     |
|          | experimental | 20       | 3.80     | 2.24      | 0.501     |
| School 2 | control      | 13       | 1.15     | 1.14      | 0.317     |
|          | experimental | 15       | 0.533    | 0.640     | 0.165     |

Note. *N* – sample size; *M* – mean; *SD* – standard deviation; *SE* – standard error of the mean

The results of the independent samples *t*-test showed that there was a statistically significant difference between the scores of participants from School 1. Students who received notes organised along metaphoric themes performed better than students whose notes

were organised along pragmatic lines ( $p < .05$ ). No statistically significant difference was found between the control and experimental groups from School 2 ( $p > .05$ ) (see Table 3).

**Table 3**  
*Independent samples t-tests for test results*

| Group         | t-value | p-value | MD      | 95% Confidence Interval |          |
|---------------|---------|---------|---------|-------------------------|----------|
|               |         |         |         | Lower                   | Upper    |
| School 1 test | 132     | 0.039   | -1.00   | -2.00                   | -5.62e-5 |
| School 2 test | 65.5    | 0.117   | 2.25e-5 | -4.84e-5                | 1.00     |

Note. MD – mean difference

One month later, the participants completed a follow-up test. Consistent with the initial results, the experimental group in School 1 achieved a slightly higher mean score ( $M = 1.80$ ,  $SD = 1.40$ ) than the control group ( $M = 1.57$ ,  $SD = 1.54$ ), whereas in School 2, the control group ( $M = 0.46$ ,  $SD = 0.77$ ) continued to outperform the experimental group by a small margin ( $M = 0.26$ ,  $SD = 0.59$ ) (see Table 4).

**Table 4**  
*Post-test results*

| Group    |              | N  | M     | SD    | SE    |
|----------|--------------|----|-------|-------|-------|
| School 1 | control      | 21 | 1.57  | 1.54  | 0.335 |
|          | experimental | 20 | 1.80  | 1.40  | 0.313 |
| School 2 | control      | 13 | 0.462 | 0.776 | 0.215 |
|          | experimental | 15 | 0.267 | 0.594 | 0.153 |

Note. N – sample size; M – mean; SD – standard deviation; SE – standard error of the mean

The results of independent samples *t*-tests, however, showed no statistically significant difference between the groups from either of the schools ( $p > .05$ ) (see Table 5).

**Table 5**  
*Independent samples t-tests for post-test results*

| Group         | t-value | p-value | MD       | 95% Confidence Interval |         |
|---------------|---------|---------|----------|-------------------------|---------|
|               |         |         |          | Lower                   | Upper   |
| School 1 test | 187     | 0.538   | -4.56e-5 | -1.00                   | 1.000   |
| School 2 test | 86      | 0.504   | 6.61e-5  | -7.64e-5                | 2.74e-5 |

Note. MD – mean difference

When considering the results of both schools collectively, the experimental group ( $M = 2.40$ ,  $SD = 2.38$ ) achieved a slightly higher mean score than the control group ( $M = 1.97$ ,  $SD = 1.55$ ) during the initial testing. In contrast, the post-test results were nearly identical, with the control group obtaining a mean score of 1.15 ( $M = 1.15$ ,  $SD = 1.40$ ) and the experimental group a mean score of 1.14 ( $M = 1.14$ ,  $SD = 1.35$ ) (see Table 6).

**Table 6**  
*Collective test and post-test results*

| Group        |           | <i>N</i> | <i>M</i> | <i>SD</i> | <i>SE</i> |
|--------------|-----------|----------|----------|-----------|-----------|
| Control      | Test      | 34       | 1.97     | 1.55      | 0.265     |
|              | Post-test |          | 1.15     | 1.40      | 0.239     |
| Experimental | Test      | 35       | 2.40     | 2.38      | 0.402     |
|              | Post-test |          | 1.14     | 1.35      | 0.229     |

*Note.* *N* – sample size; *M* – mean; *SD* – standard deviation; *SE* – standard error of the mean

While minor differences were observed between the test and post-test mean scores, the overall comparison between the control and experimental groups revealed no statistically significant difference ( $p > .05$ ) (see Table 7).

**Table 7**  
*Independent samples t-test for the collective test and post-test results*

| Group        | <i>t</i> -value | <i>p</i> -value | <i>MD</i> | 95% Confidence Interval |         |
|--------------|-----------------|-----------------|-----------|-------------------------|---------|
|              |                 |                 |           | Lower                   | Upper   |
| Control      | 570             | 0.764           | –4.81e-5  | –1.00                   | 1.000   |
| Experimental | 589             | 0.939           | –6.17e-5  | –3.57e-5                | 3.85e-5 |

*Note.* *MD* – mean difference

**Discussion**

The present study aimed to evaluate the impact of metaphor awareness-raising activities on learners’ ability to remember newly learned figurative expressions, replicating and extending the work of Boers (2000) in a Polish secondary school context. Specifically, it examined whether organising vocabulary notes along metaphorical themes would lead to better retention compared to the more traditional note organisation based on functional use of the idioms, and whether a single instance of metaphor awareness raising instruction would grant long-lasting results.

The initial test results indicated a modest benefit of metaphor-enhanced instruction in School 1. The experimental group, which received metaphor-based instruction,

outperformed the control group with a statistically significant difference ( $p < .05$ ). This aligns with Boers' (2000) findings, supporting the notion that metaphor awareness can enhance initial acquisition of idiomatic expressions. Conceptual metaphors can be successfully applied to teaching idiomatic expressions. In contrast, the results from School 2 revealed no such advantage for the experimental group. In fact, the control group performed slightly better, though the difference was not statistically significant. These differing outcomes may have resulted from the students from School 1 being more engaged with the classroom activities or from having overall greater proficiency than the students from School 2, even though the students from both schools have studied English for a similar length of time.

One month later, post-test results showed a general decline in mean scores across both groups. While the experimental group in School 1 continued to show slightly higher scores than the control group, and School 2 control group again slightly outperformed its experimental counterpart, none of these differences turned out to be statistically significant ( $p > .05$ ). The initial advantage noticed in the experimental group from School 1 did not persist over time, meaning that a single instance of metaphor awareness raising exercises is not enough to provide long-term expansion of learners' vocabulary. Repeated or integrated metaphor instruction might be necessary to achieve better retention of the studied vocabulary.

When consolidating the data across both schools, the experimental group had a slightly higher mean score on the initial test compared to the control group, but this difference was not statistically significant. Likewise, post-test results across all participants showed virtually identical mean scores between groups, further indicating that the instructional method did not produce lasting differences in vocabulary retention.

These findings partially replicate Boers' (2000) results. While his study reported a more pronounced benefit from metaphor-based instruction among Dutch learners, the effect in this study was less consistent. One possible explanation may lie in the linguistic distance between English and Polish. Boers hypothesised that closer relationship between English and Dutch may have facilitated metaphor recognition and comprehension, thereby enhancing retention. Polish learners, whose language is more distantly related to English, may not benefit as strongly from metaphor awareness due to greater cross-linguistic differences.

The divergent results observed between the experimental groups in this study differ from the results achieved in earlier studies (Gao & Meng, 2010; Kömür & Çimen, 2009; Rahmani & Hashemian, 2012; Tsitoura, 2022; Yasuda, 2010), where the experimental groups consistently outperformed the control groups. The only exception to those findings was reported in Gao and Meng (2010). According to that study, the experimental group, consisting of students identified as low-proficiency based on their performance on the English proficiency level classifying exam conducted as part of their college entrance exams, demonstrated effectiveness comparable to that of the control group. This points to the possibility that the English proficiency of students from School 2 in this study may have been lower than what would typically be expected based on their educational level at the time of data gathering.

## Conclusion

This study investigated the impact of metaphor awareness-raising activities on vocabulary retention among Polish secondary school learners of English, aiming to replicate and extend Boers' (2000) seminal work in a different linguistic and cultural context. The findings provide partial support for the beneficial role of metaphor awareness in facilitating initial vocabulary acquisition, as demonstrated by the statistically significant advantage observed in the experimental group from School 1 during the immediate post-instruction test. However, this advantage was not sustained in the delayed post-test, and no significant effects were found in School 2, where the control group even slightly outperformed the experimental group.

These mixed results suggest that while metaphor-based instruction may enhance early, post-instruction lexical retention, particularly for learners with sufficient language proficiency, a single exposure to metaphor awareness raising instruction is unable to guarantee a lasting vocabulary retention. The discrepancy between the two schools' outcomes further indicates that learner proficiency, motivation, and classroom engagement can have an effect on the efficacy of metaphor awareness raising techniques. Moreover, the linguistic distance between Polish and English can result in an impacted transferability of indirect language in comparison to, for instance, Dutch, a language more closely related to English than Polish.

The present findings emphasise the need for repeated, integrated metaphor instruction. Teachers should not limit their understanding of metaphors to being poetic, literary devices. There are tangible benefits to be found in metaphor-based instruction. Considering that metaphors and language are intimately intertwined, choosing not to engage students' metaphoric thinking can make it much more difficult to teach them idiomatic language.

The study was not without its limitations. The primary limitations concerned the sample size, which could have been larger; limited prior research involving Polish students; and that the proficiency of the students was assumed rather than concluded based on the results of a standardising test.

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## Appendix

### Managing the Emotions

People manage their emotions in different ways, depending on their personality and the culture they live in. In western culture, for instance, crying is usually seen as a sign of weakness, especially for men. Research has shown, however, that *crying it out* makes people feel better. So perhaps we should encourage our children to wear their hearts on their sleeves more often. It has become a widely accepted idea that, instead of *bottling up* the emotions, one should *ventilate* one's emotions once in a while. One should *blow off steam* in order to avoid sudden *explosions*. However, one emotion may prove to be an exception: anger. In fact, ventilating anger is one of the worst ways to *cool down*: *outbursts* of rage typically *pump up* the arousal, leaving people feeling more angry, not less. When people *blow up* at the person who has provoked their anger, their rage not only peaks during the outbursts, but the angry mood is also prolonged. After reaching their *boiling point*, these people keep *fuming* much longer. A far more effective way of managing anger is to *simmer down* first, and then, in a more constructive manner, confront the person to settle a dispute. Imagine that someone pushes you aside in a crowd. Your first thought may be 'How rude!' That reflex may then be followed by more negative thoughts: 'He could have hurt me! I can't let him get away with that!' Then, should someone else behind you bump into you because you have slowed down, you are apt to *erupt* in rage at that person too. Now imagine a more positive line of thought toward the man who pushed you aside: 'Maybe he had a good reason, such as an emergency.'

English has a lot of expressions to describe anger. Some of these are very common: She's angry. He's mad at you. To make your language more varied, other expressions can be used to specify the kind of anger:

*anger as a hot fluid in a container*

anger welled up inside me

I was boiling with anger

she was all steamed up

she erupted

simmer down!

she flipped her lid

I was fuming

she blew up at me

*anger as fire*

an inflammatory remark

adding fuel to the fire

he kept smouldering for days

she was breathing fire

she exploded

he's hot under the collar

*angry people as dangerous animals*

he has a ferocious temper

don't snap at me!

he unleashed his anger

don't bite my head off!

English has a lot of expressions to describe anger. Some of these are very common: She's angry. He's mad at you. To make your language more varied, other expressions can be used to specify the kind of anger:

*to describe acute and sudden anger*

she exploded

he unleashed his anger

she erupted

she flipped her lid

*to describe anger as a process*

anger welled up inside me

I was boiling with anger

he was fuming

I kept smouldering for days

simmer down!

she was all steamed up

an inflammatory remark

adding fuel to the fire

*to describe angry personalities*

he's hot under the collar

he has a ferocious temper

*to describe the way angry people speak*

she blew up at me

don't bite my head off!

don't snap at me!

she was breathing fire

Fill in the gaps with one word each. Sometimes there may be more than one option. In that case, try to come up with as many possibilities as you can.

Last month was my parents' wedding anniversary. A week before the anniversary my mother already suspected that my father had forgotten about it, since he hadn't asked her if she wanted to do anything special for that occasion. After all those years my father should really have known better, because he had learned from experience what a \_\_\_\_\_ (1) temper my mother has. But I felt that he deserved another lesson and I decided not to remind him of the anniversary. Days before that fatal day I could already notice my mother's anger \_\_\_\_\_ (2) up inside her. I tried to tell her to \_\_\_\_\_ (3) down, because

my father might still remember after all. But he didn't, and as the day of the anniversary approached, mother was getting all \_\_\_\_\_ (4) up. On the morning of the day itself, my father left for work as usual without mentioning the wedding anniversary. Mother almost \_\_\_\_\_ (5) her lid. She had clearly reached her \_\_\_\_\_ (6) point and she kept fuming all day. To make matters even worse, father was late that evening. By the time he got home, mother was ready to explode. And when he finally got home at 8 pm without as much as a present for her, she \_\_\_\_\_ (7) her anger. 'You inconsiderate selfish oaf!' she \_\_\_\_\_ (8) at him. My father looked baffled. 'I know I'm a bit late, but that's no reason to bite my head off,' he mumbled. I felt this was the perfect time to make my contribution to their marital bliss. I took the expensive bottle of champagne that I had bought and offered it to them, congratulating them on their wedding anniversary. For my mother this, of course, added \_\_\_\_\_ (9) to the fire. My father, who looked absolutely embarrassed now, made a desperate attempt to make up by taking her out for dinner at her favourite restaurant, but even so she kept breathing fire all night. He ended up buying several uninspired presents and a bouquet of roses the next day to make her cool down, but she kept \_\_\_\_\_ (10) for weeks.