Age factor in visual representation of meaning in EFL

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Abbreviations

PV	particle verb
L1	learners' first language
L2	learners' second language
EFL	English as a foreign language
TEFL	teaching English as a foreign language
CL	cognitive linguistics

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Abstract

The focus of this thesis is on the ways Croatian elementary and secondary school learners of English strategically construe the meaning of particle-verb (PV) constructions with particles *in* and *out* through visual representations. The participants were asked to represent the meanings of given PVs by drawing, which is considered to be a challenging task because learning through visualization is not particularly encouraged in Croatian schools. The aim of the research was also to detect possible differences in the participants' pictorial answers in relation to age and semantic nature of the verb. According to the results, all the participants, regardless of their age, relied mostly on the strategy of visual paraphrase in meaning construal. However, there were some instances, especially among older learners, of a successful analysis of PV components and figurative meanings, which points to the ability of EFL learners to perceive cognitive motivation behind meaning. This leads us to the conclusion that age factor has a major role in meaning construal through the pictorial mode and that metaphoric thinking, as well as introduction of visual instruction may help learners process PV constructions meaningfully and consequently facilitate their acquisition.

Keywords: *particle-verb construction, strategic construal, visual representation, age factor*

1. Introduction

The focus of this thesis are particle-verb (PV) constructions and visual representation of their meanings by Croatian EFL learners. In literature, this type of construction is described as a part of English grammar that is very difficult to grasp (Dagut and Laufer, 1985; Hulstijn and Marchena, 1989; Side, 1990; Laufer and Eliasson, 1993; Darwin and Gray, 1999; Kurtyka, 2001; Rudzka-Ostyn, 2003; Geld, 2011; etc.), especially for non-native speakers. This does not come as a surprise since experts themselves do not agree on a single, universal definition of this linguistic phenomenon (Darwin and Gray, 1999; White, 2012). PV constructions seem to be extremely complex because they pose a problem for theorists regarding their definition, for learners and acquisition, as well as for teachers. Darwin and Gray also discuss some other issues caused by PVs, such as methods of presenting that are often unhelpful and the fact that there is little effort in determining their frequency (1999, p. 66).

The confusion in linguistic circles mentioned above causes other difficulties in the field of TEFL. As Darwin and Gray (1999) underline in their study, if linguists tend to be confused when trying to define PVs, this inevitably leads to learners' and instructors' confusion as well. In teaching practice, these constructions, also called phrasal verbs, are represented as arbitrary and impossible to be analysed. Because of this, many instructors encourage memorizing lists of verbs often organized by the verb, which has little or no effect on acquisition and retention (Side, 1990). This approach results in further difficulties in learning and using PVs because learners perceive them as problematic and difficult, which causes overall avoidance in usage (Dagut and Laufer, 1985; Hulstijn and Marchena, 1989; Laufer and Eliasson, 1993; Liao and Fukuya, 2004; Yasuda, 2010; Becker, 2014). However, new research in cognitive linguistics have offered a new description of PVs as well as new insights in teaching and learning these verbs as cognitively motivated constructions.

The basis of the cognitive linguistics (CL) approach is the theory of conceptual metaphor introduced by Lakoff and Johnson in 1980, who argue that conceptual metaphors structure how people perceive, how they think and what they do (Littlemore, 2009, p. 95). According to Littlemore, they are thought to be acquired through experience, i.e. our physical interaction with the world (2009, p. 97). According to cognitive linguists, the leading semantic role of the PV is given to the particle, which carries "the conceptual representations of motion, space and physical relations" that "shape and motivate the foundation of cognition and thought" (Sadri and Talebinejad, 2013, p. 1310). Therefore, the new approach suggests that PV

constructions are not arbitrary and random, but are motivated and embodied, and can be analysed systematically and meaningfully. Experience and embodiment create necessary image schemas in speakers' minds. According to Farsani, Moinzadeh and Tavakoli, an image schema is the product of human perceptual interaction with real-world events and processes (2012, p. 498). This theory stresses the importance of visual elements when learning PV constructions, such as drawings, cartoons, gestures, etc.

In accordance with new approaches and theories in instructing and acquiring PVs, this study focuses on visual representation of meaning of English PVs, with special emphasis on differences related to age. The main interest is how important particular components of PVs are to non-native speakers when explaining the meaning of PVs, what strategies they use in their analysis and what are the differences in the participants' approach regarding the age factor.

2. Theoretical background

2.1. Particle-verb (PV) constructions

Ever since the focus of linguistic debate and research has shifted towards analysing even the most complex parts of English grammar, many linguists have dealt with explaining PV constructions, also called phrasal verbs, and finding the right definition of this linguistic phenomenon that causes so much trouble to experts, instructors and learners. The term phrasal verb appeared in the first half of the 20th century, but "the construction itself has attracted linguistic attention for the last 300 years or so" (Thim, 2012, p. 1). Thim (2012) stresses that the view of phrasal verbs as one of the most typical properties of English goes back to the middle of the 18th century, when Johnson described them in *A Dictionary of the English Language* as "a composition more frequent in our language than perhaps in any other, from which arises to foreigners the greatest difficulty". He also characterized them as "innumerable expressions of the same kind, of which some appear wildly irregular, being so far distant from the sense of the simple words that no sagacity will be able to trace the steps by which they arrived at the present use" (Johnson, as cited in Thim, 2012). Since then, there has been little agreement on the definition and even on the name of this construction.

Thim (2012) mentions different terms attributed to PVs in various sources, such as *verb-adverb combination, particle verb, verb-particle combination, discontinuous verb, merged*

verb, separable verb, two-word verb, separable compound, poly-word verb, etc. Many of these conspicuously accentuate the importance of the verb, but, as it will be proved later in this thesis, the particle is an important carrier of the construction's meaning and should not be treated as inferior to the verb. According to Thim, phrasal verbs are made up of a verb and a particle which is typically homonymous with an adverb or a preposition (2012, p. 10). These combinations can be highly polysemous and their meanings range from purely compositional to highly idiomatic (Thim, 2012, p. 11). A definition that had been standardized for a long time was the one given by Quirk et al. in 1985, according to which the term phrasal verb can be defined in two parts. Syntactically, it is a verb followed by a morphologically invariable particle that functions with the verb as a single grammatical unit. Lexically or semantically, the meaning of the combination cannot be predicted from the meaning of the verb and the particle in isolation (Quirk et al., as cited in Darwin and Gray, 1999). This is also proved by the fact that the verb does not have the same meaning when its particle is deleted or replaced, for example, *the plane touched down* is not the same as *the plane touched* (Darwin and Gray, 1999, p. 68).

Two similar definitions were offered by Celce-Murcia and Larsen-Freeman (1999) and Dirven (2001). Celce Murcia and Larsen-Freeman describe PVs as combinations of verbs and particles in which both parts contribute to the final meaning of the phrasal verb (1999, p. 425), while Dirven defines them as "combinations of verbs and prepositions, adverbs, or particles with a certain degree of idiomaticity, which means that the whole of the phrasal verb has a meaning which is more than the sum of its parts" (2001, p. 5). Regarding the syntactic features of the construction, Bolinger (1971) offered a number of tests for classifying PVs and deciding what exactly belongs to the category, for example, replacement of a particle-verb construction with a single-word verb, transitive PV constructions occuring in the passive voice, the particle placed before or after the direct object of transitive phrasal verbs, etc. (Bolinger, as cited in Darwin and Gray, 1999). Still, there are some exceptions to each test, which further contributes to the description of PVs as "fuzzy" and difficult to classify (Darwin and Gray, 1999, p. 71-75). Another syntactic analysis of PVs is explained by Rudzka-Ostyn, in which she distinguishes three categories: 1) verb + particle (e.g. *slow down, bring up*), 2) verb + particle + preposition (e.g. *come up with, be in for*), 3) verb + preposition (e.g. *refer to, depend on*) (2003, p. 1).

From the semantic point of view, PVs cause even more confusion because of the problem of analysability promoted by the traditional view according to which PVs are arbitrary and impossible to analyse. However, this approach is not acceptable anymore because words constantly get new meanings, PVs and many other words are polysemous and one word can

belong to several lexical classes (Evans and Tyler, 2004). These conclusions go along with the CL approach that stresses the dynamic nature of meaning and the reflection of human experience of the world in language. Also, according to CL, these expressions are highly motivated and their components contribute to the overall meaning. Therefore, they are not arbitrary and can be analysed. However, some constructions can be analysed more easily than others, so they show different degrees of transparency or idiomaticity. Celce-Murcia and Larsen-Freeman (1999) distinguish three categories of PVs in this regard: literal, aspectual and idiomatic. Similarly, Dirven (2001) also offers three categories: literal, transitional, and figurative. Literal PVs refer to combinations of a verb and a directional preposition, for example *stand up*. Aspectual PVs are combinations with a less transparent meaning, but it can still be inferred from the meaning of its constituents, for instance *clean up*. Finally, idiomatic PVs include combinations of a verb and a particle whose meaning cannot be inferred from the meaning of its parts, such as *put off* (Celce-Murcia and Larsen-Freeman, 1999, p. 432-433). Still, Thim argues that it is "not always possible to draw clear-cut distinctions" between the categories (2012, p. 13) and some linguists (Dirven, 2001; Lindner, 1981) place these constructions along a continuum of meanings from transparent to opaque.

The semantic properties, i.e. the idiomatic nature of many PVs have posed the biggest problem in dealing with this category. As already mentioned, PVs were traditionally considered to be not motivated and impossible to decipher by merely explaining their constituents' meanings. Because of this, the only approach to teaching and learning were (and still are in many formal contexts) lists or groups of verbs memorized by heart. However, cognitive linguists have been successfully "fighting" against this stigma and provided evidence that PVs can be learned systematically and are not at all arbitrary, but very much motivated. As proposed by Holme, "CL explores meaning not as grasped directly from the world but as conceptualised out of the way our bodies and minds shape our perceptions" (2012, p. 6). Cognition is embodied and this enables us to comprehend and make sense of abstract concepts by relating them to our physical experience (Littlemore, 2009, p. 9). Holme also argues that from experience image schemas are created in speakers' minds, which further leads to the creation of conceptual metaphors that help shape abstract meanings (2012, p. 38). According to Geld and Stanojević, cognition is reflected in language, therefore, speakers are able to analyse and systematically learn motivated, idiomatic expressions, such as PVs (2018, p. 25). Geld also stresses that lexical and grammatical elements are meaningful, and new meaning extensions characteristic of phrasal verb constructions are not arbitrary but cognitively motivated (2009, p. 24). Sadri and

Talebinejad argue that particles are not arbitrary but motivated by speakers' physical, social and cultural experience and this systematicity that is, in fact, motivated offers many benefits in EFL, such as understanding more profoundly the conceptual bases of particles' spatial scenes and the ways they are conceptualized by native speakers, acquiring PVs meaningfully and efficiently, as well as becoming more confident and less intimidated by PVs (2013, p. 1316). These and similar findings may have a great role in facilitating EFL instruction and learning, especially idiomatic language, such as PV constructions.

2.2. Particles and metaphoric extensions

As already mentioned, PV constructions are a combination of a particle and a verb in which both constituents carry important information about the composite whole, even though its meaning often cannot be inferred from the meanings of its separate parts. The term itself suggests importance of the particle as a semantically salient component. As Side (1990) argues, organizing PVs in teaching practice by the verb is an erroneous way of instruction that leads to confusion and unsystematic memorization without quality comprehension or retention. Instead, the author proposes that PVs should be organized by particles because the particle is crucial for the PV's meaning and in some cases carries more semantic weight than the verb (Side, 1990, p. 146). The importance of particles in PVs is also visible in Side's (1990) statement that when new combinations are formed, it is the particle that remains the same, while the verb changes, for example, *hold on* and *hang on*.

Since particles are seen as essential parts of PVs, it is necessary to analyse this category more thoroughly. According to Talmy (2000), the central condition for a word to be called a particle is that it is not being used as a preposition. The difference between the two, as explained by Geld (2011), is that a particle is semantically closer to the verb, while a preposition is linked to the noun that comes after it. Olson also argues that the particle in a PV looks like a preposition, but it is not since it is "semantically fused to the verb, and the meaning of the verb with its particle may be significantly different from the verb when it does not have a particle attached to it" (2013, p. 12). From the semantic point of view, particles are highly polysemous and their figurative senses are extended from their spatial senses through conceptual metaphors (Boers and Demecheleer, 1998). They can also be characterized as orientational metaphors connected to spatial orientations that are created by embodiment, i.e. the experiences of the human body, for example, up-down, in-out, front-back, etc. (Lakoff & Johnson, 1980).

Particles *in* and *out* that are used in this study are described by Geld as omnipresent and highly productive conceptual tools for mental structuring of space (2011, p. 61). When analysing the semantic properties of the two particles according to CL, Rudzka-Ostyn concentrates on the idea of container that she describes as "whatever surrounds a given entity", for example, a building, a room, a liquid, body, mind and so on (2003, p. 14). Supporting the thesis that particles' meanings lay on a continuum from literal to figurative, she offers some examples in order to illustrate the phenomenon of extended meaning of *in* and *out* (Rudzka-Ostyn, 2003, p. 14-58):

IN: 1) Being inside or entering a container: *We had a lovely swim in the swimming pool.*

2) Atmospheric circumstances as containers: *I hate walking in the rain.*

3) Time viewed as a container: *He did the work in no time.*

4) Sets or groups viewed as containers: *The terrorist disappeared in the crowd.*

5) Situations, activities, relations and circumstances as containers: *With so much smog in the air, it is difficult to breathe in deeply.*

6) Psychological and physical states, conditions, knowledge or attitudes viewed as containers: *Did you know that Mary is in love with John.*

OUT: 1) Entities moving out of containers: *They decided to throw out most of their old clothes.*

2) Eat or inviting to eat away from home: *I would like to ask you out to lunch.*

3) Sets, groups as containers: *Begin to sort out the problems you can do something about now.*

4) Bodies, minds, mouths are viewed as containers: *She reached out to greet us.*

5) States/situations are containers: *Straw hats are out of fashion nowadays.*

6) Non-existence/ignorance/invisibility also functions as containers: *Nobody knows as yet how the secret came out.*

7) Containers increasing to maximal boundaries: *Please, spread out the map on the table, it'll make it easier to find the place.*

These examples clearly show that there are systematic semantic networks of particles and are the proof that the phenomenon of extended meaning (where figurative meanings of a particle

derive from its literal, basic meaning) exists. Rudzka-Ostyn (2003) also includes imagery, such as diagrams or image schemas, as an important factor in facilitating the comprehension of metaphorical meaning by connecting it to prototypical meanings. According to White, metaphorical extension is crucial for understanding phrasal verbs (2012, p. 421). Therefore, these findings have a great impact on TEFL. Conceptual and orientational metaphors used in the examples above are crucial for teaching and learning English PVs. This has been argued by Kurtyka, who says that "mental visualization of orientational metaphors would help learners to process metaphorical extensions easily, that is, to expand literal meaning to metaphorical meaning, without merely memorizing the meanings" (Kurtyka, as cited in Yasuda, 2010, p. 251). The challenges and different implications regarding PVs in TEFL will be further discussed in the following sections.

2.3. PV constructions in TEFL

2.3.1. Challenges in learning

As already mentioned in the previous sections, particle-verb constructions are considered to be a demanding category not only for learners, but also for linguists and instructors in TEFL. The reasons for this are numerous and are constantly trying to be tackled in teaching theory, as well as practice. Such confusion, especially among non-native speakers, is largely due to PVs' complex semantic properties and high productivity, as well as language typology.

One of the first issues that should be addressed is the already discussed problem of expert agreement on the definition of PVs. This poses a great difficulty for all subjects involved in the process of learning and teaching. The main problem is the fact that PVs are composite wholes and it is not easy for foreign language learners to recognize semantic contribution of their components (Siyanova and Schmitt, 2007). Also, the traditional approach to teaching PVs has not been very helpful in this regard. Long lists of verbs that students have to memorize can only create wrong patterns or even fail to create any learnable pattern whatsoever (Side, 1990). The instruction of this category that has mostly been intuitively-guided and has been presenting it as unsystematic and arbitrary greatly influences learners' comprehension and motivation. As far as semantic characteristics are concerned, PVs are known to belong to different semantic categories that range from literal and completely transparent to highly figurative (Becker, 2014). Polysemy has been widely argued by linguists as one of the main reasons why learners

find PVs challenging (Side, 1990; Celce-Murcia and Larsen-Freeman, 1999; Jacobsen, 2012; Sjoholm, Morales, as cited in Karahan, 2015). Another reason mentioned by many experts dealing with the topic is that the category is extremely numerous, meaning that new combinations are being created all the time and these processes are often incomprehensible and random in the eyes of those speakers who do not have similar constructions in their L1 (Side, 1990; Darwin and Gray, 1999; Rudzka-Ostyn, 2003; White, 2012; Olson, 2013). However, Side argues that there are patterns in forming new PVs and there is a logic behind them because they are coined on the basis of the speaker's "unconscious" knowledge about the systemic functioning of PVs (1990, p. 147). Still, these connections may not be visible to non-native speakers because their languages do not function in the same way and they conceptualize prepositions and adverbs differently (Side, 1990).

Typological differences between L1 and L2 have been proven as another major setback in the acquisition of English PVs. "Languages are no more and no less 'logical' than each other in this respect. They are simply different. (…) They may categorize things differently, highlight different elements of a situation, look at them from a different angle, or look at them more closely" (Littlemore, 2009, p. 4). Some researchers have highlighted the fact that PVs are a characteristics of Germanic languages and are therefore difficult to grasp by those speakers whose languages belong to other language groups, for example, Hebrew (Dagut and Laufer, 1985; Laufer and Eliasson, 1993), Chinese (Liao and Fukuya, 2002), Italian (Von, as cited in Jahedi and Mukundan, 2014), Arabic and Russian (Siyanova and Schmitt, 2007), etc. Regarding the typology of languages, it is important to mention Talmy's (2000) classification of languages in verb-framed languages and satellite-framed languages. The difference between the two is that in verb-framed languages the meaning of a PV construction is expressed by the main verb and in satellite-framed languages it is expressed by the satellite (a bound affix or a free word). For example, English and Croatian are satellite framed languages, as can be seen in the following sentences:

1) The ship sailed in (to the harbour).

2) Brod je uplovio (u luku).

On the other hand, Italian is a verb-framed language and it does not possess PV constructions:

3) La nave salpò (nel porto).

It is important to address the case of Croatian prefixes that change the meaning of the verbs they precede and thus convey the meanings that are conveyed in English by particles in PVs. According to Geld, when prefixes have a particular lexical content, their meaning is considered relatively transparent, but when they are perceived as flexion, their meaning is viewed as abstract (2009, p. 12). Tabakowska (2003) says that prefixes are never semantically empty or redundant and they tend to reveal their old meanings even when they become semantically bleached through the process of grammaticalization. Geld offers these meanings of the Croatian prefix *u-* that corresponds to the English particle *in* (2009, p. 14):

1) 'to put something into something else' (as in e.g. umetnuti 'put in', unijeti 'bring in', ugraditi 'fit in', etc.;
2) 'go in' and 'go into something' (as in e.g. ući 'go in', uroniti 'dive in', uskočiti 'jump in', uploviti 'sail in', etc.;
3) 'join' (as in e.g. uključiti se 'join (in)', učlaniti se 'join', 'become a member')

Geld concludes that "Slavic languages, as opposed to Romance, often tend to express the core schema by the satellite facilitates learners' recognition of compositionality and the role of particle in English particle verb constructions" (2009, p. 15).

Going back to the learners' challenges in acquiring PV constructions, Side summarizes the reasons why learners do not like PVs and here are some of them (1990, p. 144-145):

1) There is a considerable number of verb-particle combinations that are often short and common (*make up, take up, take out, make out, put away, put out, put up, take away, make away,* etc.).

2) Many phrasal verbs are polysemous, for example *make up*.

3) The meaning of idiomatic phrasal verbs cannot be inferred from the meaning of its parts.

4) Teachers and course books usually offer definitions of phrasal verbs, which leads to students using the definition and not the PV (for example *receive* instead of *pick up*).

5) The particle is perceived as random. If the teacher asks 'Can anyone give me a phrasal verb meaning arrive starting with turn?', students may try to guess the particle by shouting random examples until one of them guesses the answer.

6) The students' L1 influences their ability to acquire phrasal verbs and to use them. For example, in Greece, radios are not turned 'up' or 'down' (as in English-speaking countries), but are 'opened' or 'closed'.

It has been proven that students often avoid using PV constructions due to previously mentioned difficulties. The phenomenon of "avoidance" was first discussed by Schachter in 1974, who characterized it as a learning strategy. Many researchers have dealt with the topic and have tried to explain reasons behind it (Dagut and Laufer, 1985; Hulstijn and Marchena, 1989; Laufer and Eliasson, 1993; Liao and Fukuya, 2002; Becker, 2014; etc.). It has been defined by Laufer and Eliasson as "one of the strategies learners may resort to in order to overcome a communicative difficulty" (1993, p. 36). Learners typically avoid structures in the target language that they perceive as difficult and instead use a simpler expression or the one that is more similar to their L1. According to Laufer and Eliasson (1993), it is important to underline that avoidance should not be used in the same context as ignorance because it still shows that the learner is aware of the structure and they willingly choose to use another instead. Hulstijn and Marchena have discussed that avoidance manifests itself on three occasions: when learners perceive the structure as different from their native language system (differences between L1 and L2), when they are afraid of making an error, which derives from similarities between L1 and L2, and when the form has specific semantic features (1989, p. 250). Furthermore, the authors stress that learners tend to avoid figurative PVs more than the literal ones (Hulstijn and Marchena, 1989, p. 251), which proves that avoidance appears depending on how difficult the PV is perceived by the learner. Laufer and Eliasson conclude that the best predictor of avoidance is L1-L2 difference (1993, p. 46). Some researchers have discovered that whether the learner will use a certain structure or not depends also on task type (Laufer and Eliasson, 1993) and proficiency in L2 (Liao and Fukuya, 2002). Taking everything into consideration, it is very important that teachers address learners' challenges and the notion of avoidance in acquiring PV constructions by using appropriate methods of instruction and materials that encourage quality comprehension and acquisition of the forms.

2.3.2. Teaching PV constructions

PV constructions are a very common property of the English language. They are numerous and new ones are constantly being created, they appear in all registers and are widely used by native speakers. In order to reach a certain level of language proficiency and to be able to communicate without major obstacles, second language learners should be taught these

constructions meaningfully. For many reasons, some of which have been mentioned in the previous section, students are facing great difficulties in the acquisition of PV constructions. Problems that arise are not only of linguistic or affective nature, but they also appear because of inadequate methods in teaching practice and unhelpful material provided by textbook authors. Some of the issues behind this that Jacobsen (2012) mentions are:

1) Conflicting definitions of PVs.
2) Teaching random phrasal verbs instead of those that are most frequent.
3) Presenting PVs' different meanings in L2 language books and dictionaries in a random order.
4) Uncertainty regarding the possibility of moving the particle in PVs.

Gardner and Davies have also stressed that traditional approaches "have often relied on isolated linguistic examples, teachers' intuitions, or random groups of phrasal verbs in language training curricula" (2007, p. 342). Teaching PVs has not progressed much, even though the need for utilizing a different approach based on the principles of cognitive linguistics has been recognized. As Lakoff and Johnson (1980) have first discussed, figurative language and metaphor are central in everyday life and human cognition. Therefore, it is crucial to master conventional figurative language as a part of the language learning process, especially because metaphors are culture-specific (Boers, 2000, p. 553). White (2012) argues that it is crucial for teachers to make students more aware of metaphor in general and of conceptual metaphors in the language they are learning. In his study he concludes the following:

> The conceptual approach to the instruction of phrasal verbs brings together elements of cognitive linguistics and sociocultural theory in a manner that promotes learner autonomy. (…) These tools are put to use as students conceptually motivate phrasal verbs that they and their classmates have collected outside the classroom. With attention to metaphorical extensions and the zone of activity, learners may use their own imaginations to reduce confusion over the seemingly arbitrary nature of verb + particle combinations, which are so often idiomatic and opaque (White, 2012, p. 432).

As already argued, language is motivated and embodied, so Holme (2012) believes that, since meaning derives from physical experience, embodied approaches to language teaching can make language more memorable. Therefore, he proposes movements, gestures, and physical imagery to be used in teaching abstract and figurative constructions. Yasuda (2010) proved in her study that the students who learned phrasal verbs through orientational metaphors had better results than those who memorized them. She arrived at the conclusion that it is essential to

explicitly teach students about orientational metaphors before they can acquire phrasal verbs (Yasuda, 2010, p. 264). Yasuda also claims that one of the main reasons why the importance of the use and the instruction of metaphor in TEFL has not been fully recognized is that many teachers still see metaphor as a poetic and literary device and therefore irrelevant to L2 learning (2010, p. 267). It cannot be stressed enough how much metaphor awareness is important for language education and acquisition, especially for processing PV constructions. Insights from cognitive linguistics have greatly contributed to the field of SLA and TEFL in this regard.

It is also important to mention Rudzka-Ostyn's (2003) approach to teaching and learning a foreign language which is based on the findings in the field of CL. In her book she encourages the use of image schemas that contribute to the meaning construal of PVs because of their importance in the way space and experience are structured through cognitive tools, i.e. metaphor and metonymy. In her schemas, she stresses the importance of representing both components in PVs because of their equal contribution to the overall meaning of the construction. One example of how she illustrates the conceptual metaphor ENTITIES MOVING OUT OF CONTAINER using the image schemas can be seen in Figure 1.

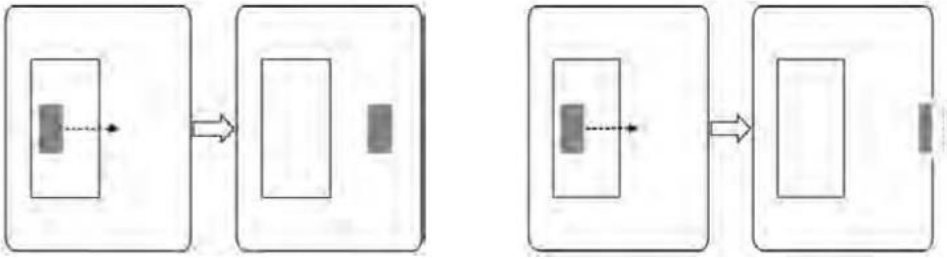

Figure 1 Schematic image of the particle 'out' proposed by Rudzka-Ostyn (2003, p. 14)

Kurtyka (2001) also highlights the importance of visualization in language learning and applauds the conceptual metaphor of the container. According to him, learners may acquire phrasal verbs more easily if they are given explanations and visual representations of meaning because this approach encourages visual processing and verbal associations, following the principle that "iconicity increases memorability" (Kurtyka, 2001, p. 46). As a result of CL influences, many researchers became interested in the effect of visualization in teaching and acquisition of PVs (Geld, 2009, Yasuda, 2010, White 2012, Farsani, Moinzadeh, Tavakoli, 2012, Oe and Alam, 2013, Sadri and Talebinejad, 2013, Rosso 2017).

Another fact introduced by Kurtyka (2001) that is worth mentioning is the division of teaching approaches in a) those that concentrate on the syntactic aspects, b) those that stress the

semantic contents of PVs, and c) those that emphasize both syntactic and semantic elements. The authors of the first approach focus on grouping PV constructions according to either the verb or the particle and this is popular in books whose aim is to prepare students for Cambridge Examinations in English (Kurtyka, 2001, p. 30-31). The authors of the second approach group PV constructions according to theme and it is used in textbooks for high-school students in Croatia (Rosso, 2017). Bronshteyn and Gustafson analysed some recent and innovative studies on pedagogy of PVs and concluded that collaborative work has higher results with either task than individual work and that learners use PVs in sentences more effectively after pictorial input or when drawing sketches and finding their own examples (2014, p. 95-96). Except for grouping PVs according to the particle, a strategy that has already been mentioned, Side proposes that learners use notebooks for phrasal verbs where each particle is on its separate page because creating meaningful patterns aids memory (1990, p. 151).

After a short analysis of around 20 TEFL textbooks in Croatian primary and middle schools, Geld and Stanojević (2018) come to some worrying conclusions. First, PV constructions are often omitted from textbooks and they only appear one by one throughout the texts without corresponding activities that would draw learners' attention to their existence. Secondly, PV constructions and figurative language in general are avoided in textbooks for younger learners, which cannot be accepted because a) PVs are very frequent and used in everyday language, b) the particle represents spatial relations the key component of a child's experience present from a very early age, c) introduction of PVs does not mean that they should be analysed in details by using metalanguage, but their choice has to be based on the learners' age and level of proficiency, d) systematic introduction of PVs can facilitate development and understanding of linguistic categories whose members are clearly conceptually connected (Geld and Stanojević, 2018, p. 143). Furthermore, Geld and Stanojević noted that textbooks not only neglect certain linguistic structures, but are also full of erroneous categorizations that create chaos and do not encourage meaningful conclusions (2018, p. 150). They advise instructors to ask questions and encourage their learners to make connections between between linguistic structures since these methods favour deeper processing, as opposed to mere memorization by heart. It is also important to allow students to develop their own meaning construal strategies because in this way the whole process becomes multimodal, the learners get more cognitively engaged and they discover answers by themselves (Geld and Stanojević, 2018, p. 155).

2.4. Strategic construal

Construal (of meaning) is a term invented and discussed by Langacker and it refers to the ability to perceive and express the objectively same situation in different ways:

> Meaning is not objectively given, but constructed, even for expressions pertaining to objective reality. We therefore cannot account for meaning by describing objective reality, but only by describing the cognitive routines that constitute a person's understanding of it. The subject matter of semantic analysis is human conceptualization, and the structures of concern are those that a person imposes on his mental experience through active cognitive processing (Langacker, 1987, p. 69).

Language directs attention to certain aspects of the entity in question, and reflects different viewpoints (Littlemore, 2009). One of the main conclusions of the Constructivist theory is that language is a consequence of experience, meaning that it does not precede experience. Constructivists address the question of connection between language and other cognitive abilities in language acquisition (Geld, 2006a). According to Geld (2006a), linguistic experience is a crucial part of the speaker's interaction with the surroundings and linguistic development depends on this interaction, i.e. on cognitive and affective characteristics of the speaker and socio-cultural surroundings. Based on this, the author relies in her study on the following premises: 1) knowledge of language arises from its usage, 2) language is inseparable from other cognitive abilities and other domains of knowledge, and 3) grammar is conceptualization (Geld, 2006a, p. 184).

Taking Langacker's term into consideration and having in mind that it refers to the speaker's L1, Geld (2006a) introduces the notion of construal in L2 and calls it strategic construal. The following definition is the author's translation from Croatian:

> Cognitive strategies that are used in acquiring and understanding another language (or, in short, strategic construal of meaning) are a universal cognitive potential realized through cognitive abilities that the individual develops through life and that constantly interact with language (L1). Any cognitive processing activated by L2 involves strategic conceptualization that relies on general cognitive abilities and the knowledge of language and the world (Geld, 2006a, p. 70).

The conclusion that can be drawn is that any cognitive experience is structured based on previous experience. Therefore, strategic construal also presumes active cognitive processing, but there are two differences. First, the experience is enriched by the knowledge of L2 and second, cognitive processing is often influenced by consciously activated processes that are a part of the speaker's cognitive potential (Geld, 2006b, p. 70). The graphic representation of the strategic construal theoretical framework is presented in Figure 2.

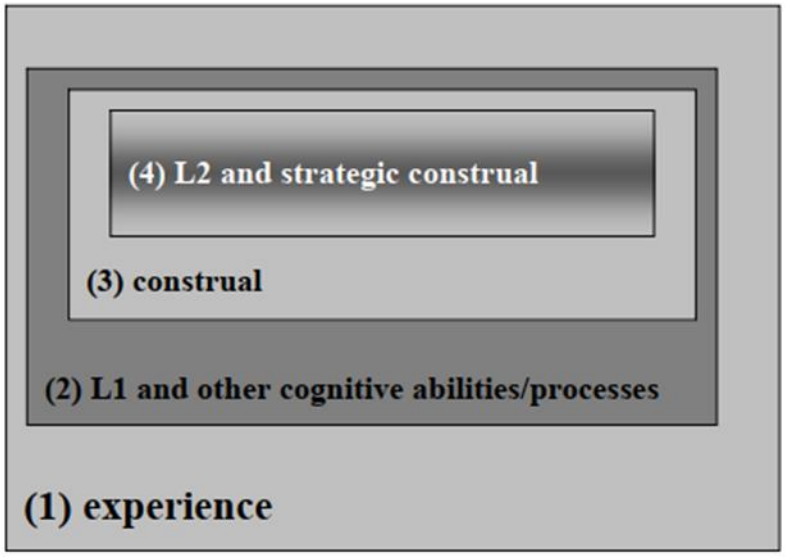

Figure 2 Integrated model of second language acquisition (Geld, 2009, p. 35)

As evident from Figure 2, language derives from experience and is closely linked to it, it is deeply connected with other cognitive processes, meaning construal is subjective and dynamic in its nature, and L2 and strategic construal are affected by the knowledge of the world, L1 and general cognitive abilities and/or processes, meaning by everything that comes before it.

When linguists and experts in the field of SLA started to shift their attention towards individual differences and learning strategies, they also focused more on the ways in which language and cognition are connected and function together (Geld, 2009). Geld (2009) argues that learning strategies depend on language internal and language external factors. She highlights the fact that there are certain cognitive strategies that are used in strategic construal (Geld, 2009, p. 7). In order to understand these notions better and employ the new findings in TEFL, the author conducted a research on the strategic construal of English PVs among Croatian and Mexican proficient learners. One of the topics that Geld was interested in was semantic determination, i.e. which constituents of a PV construction participants focus on when

dealing with its meaning. Semantic determination depends on the semantic weight of the verb and Geld (2009) differentiates between:

a) Grammatical or topological determination, in which the meaning of the particle overrides the meaning of the verb (the lexical part of the construction).
b) Lexical determination, where the meaning of the verb or the lexical part overrides the meaning of the particle.
c) Compositional determination, i.e. both components contribute to the semantic value of the whole structure.

Semantically, verbs can be divided into two categories. On one hand, *light* verbs, such as *go* or *take*, express basic meanings, they are highly polysemous and very frequent in everyday use. This could have a negative effect on learners' knowledge of their meaning and could result in imprecision (Geld, 2009). On the other hand, *heavy* verbs have meanings that are more restricted and therefore specific, for example *break*. As the results of the study showed, the semantic weight of the verb may influences semantic determination in a way that topological determination is more frequent with light verbs (since their meanings are often vague, participants rely on the particles' meanings), lexical determination occurs more often with heavy verbs (because of their restrictedness in meaning) and compositional determination is usually used with semantically heavier verbs.

Another factor that affects strategic construal (also highlighted in Geld's study) is the already mentioned Talmy's division of languages in verb-framed and satellite-framed. Spanish belongs to the group of verb-framed languages, that is, the core schema is expressed by the main verb, whereas Croatian is characterized as a satellite-framed language, even though in Croatian, the core schema can be expressed in both ways. The results showed that Croats did tend to use compositionality, while Mexicans used lexical determination more frequently.

In addition to the factors that have been discussed, Geld (2009) also focused on language proficiency and years of learning, connecting it with the type of determination and analysing their interrelatedness. Geld and Letica Krevelj (2011) have also found that more proficient learners more often rely on topological determination, i.e. they analyse the meaning of the particle and they comprehend the role of both constituents of PVs more often, meaning that they also use compositional determination. It is obvious that there are many factors in strategic construal that act together and, in Geld's words, "it would be scientifically irresponsible to tackle the question of English PVs and their meaning construction in L2 without acknowledging at least two major groups of factors shaping the nature of their construal" (2011, p. 69). These factors can be divided in:

a) language-internal factors regarding L2 (light/heavy verbs, the degree of informativeness of the particle) and language-internal factors regarding both L1 and L2 (verb-framed / satellite-framed languages);

b) language-external factors (general language proficiency, years of learning, an early start, continuity in learning, etc.).

Based on the findings of her study and the importance of all the factors that influence learners' strategic construal, Geld (2009) offers the following model:

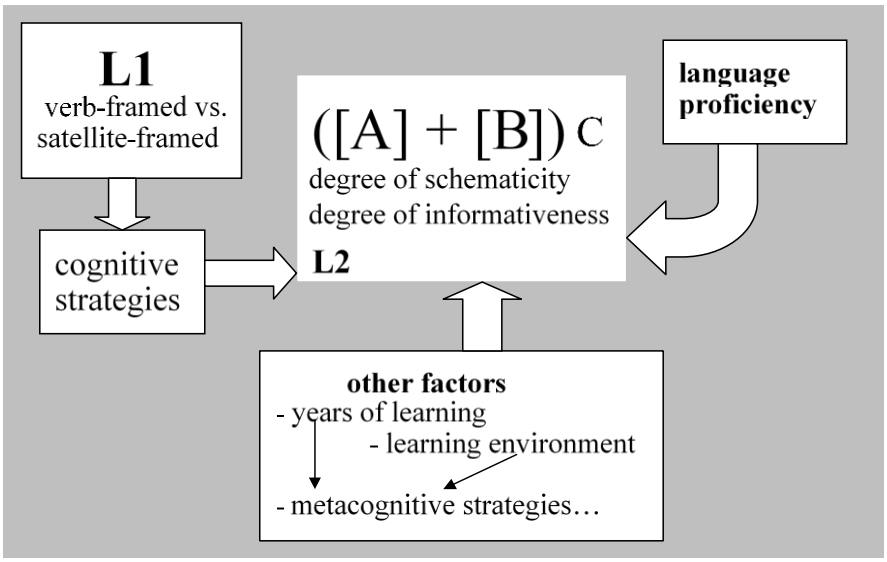

Figure 3 Factors affecting the strategic construal of PV constructions (Geld, 2009, p. 160)

Particle-verb constructions are presented by the formula ([A] + [B]) C, which suggests that the meaning of the whole structure (C) cannot simply be inferred from the separate meanings of the verb (A) and the particle (B). There are two factors regarding PV constructions: the degree of schematicity (whether the verb is light or heavy) and the degree of informativeness of the particle. Learner's L1 is also very important because "the semantic battle between the particle and the verb will depend on what kind of structures are favored in L1" (Geld, 2009, p. 160). Finally, there are numerous language-external factors that influence strategic construal of PVs (learner's proficiency, years of studying, environment, strategies, affective factors such as anxiety, etc.).

We will conclude this section about strategic construal by mentioning relevant findings regarding strategic construal of PVs with particles *in* and *out* (Geld, 2009, p. 104):

1) *Out* is more informative than in (with *out*, topological determination does not depend on the learners' proficiency).

2) Topological determination in PVs with *in* greatly depends on language proficiency (the reason for that may be that *in* is less informative than *out*, therefore, only proficient learners can perceive the semantic contribution of the particle).

3) In light verbs, with both *in* and *out*, compositionality greatly depends on proficiency (more proficient learners are generally more likely to include and analyse both components).

4) In heavy verbs, compositionality depends on proficiency only in PVs with *out*.

These findings also contribute to the conclusion that, when investigating strategic construal of PVs, it is necessary to consider the type of verb (light vs. heavy), particle type (degree of informativeness) and overall language proficiency (Geld, 2009).

2.5. Visual metaphor and the importance of imagery in TEFL

Since the focus of this thesis is visual representation of meaning, it is necessary to address important notions of pictorial representation, i.e. visual metaphor and images in TEFL. It is widely known that pictorial representation is not as easy to analyse as verbal instances because not many work has been done in this area and, according to Forceville (1996), there is no established code for analysing images. The importance of conceptual metaphor and figurative meaning in language, cognition and everyday life has already been discussed, so in the section that follows we shall discuss the basic characteristics of visual metaphor.

First, it is important to distinguish between visual and linguistic metaphor because the two systems of communication, linguistic and visual (symbolic), are not the same. Furthermore, visual metaphors are context-dependent, while in verbal metaphor abstract concepts can be represented verbally, which is much simpler. According to El Rafaie, visual metaphors, as opposed to verbal, are "implicit rather than explicit and they are often open to a wide range of possible interpretations, which depend on the attitudes and the level of knowledge of the reader" (2003, p. 91). The author also stresses that pictorial representation cannot present abstract entities without symbols and metaphors, meaning that "there exists a choice in the verbal mode that may not exist in the visual mode" (El Rafaie, 2003, p. 85).

Visual metaphors should be seen as the pictorial expression of metaphorical thinking (El Rafaie, 2003). As already discussed, "language learners are bound to be confronted with figurative discourse at various stages of the learning process" (Boers, 2000). In his study, Boers has proven the success of introducing visual metaphor into the classroom by concluding that those who received vocabulary notes organized along metaphoric themes showed greater

vocabulary retention than those whose notes were organized along functional or pragmatic lines (2000, p. 557). Kurtyka (2001) argues that mental visualization of metaphors, including PV constructions, helps learners to expand literal meanings to metaphorical through metaphorical expansions without the need to memorize them. Karahan also supports this view by saying that developing the skills of visualizing phrasal verbs by using metaphors may be of great help to learners "in recognizing, learning and retaining phrasal verbs longer" (2015, p. 81).

Experience and embodiment that have already been mentioned create image schemas in speakers' minds, so an image schema is the result of human perceptual interaction with the world. This visualization of abstract concepts has been underlined by cognitive linguists as an important way of interpreting, understanding and learning PVs. This is why images in textbooks and drawings that learners should be encouraged to do is crucial for PV constructions in SLA and TEFL. Brygida Rudzka-Ostyn (2003) and Andrzej Kurtyka (2001) have, among others, stressed imagery as an inevitable part of acquisition because it enhances storage and retention. White has showed strong support of this view by stating that "asking students to sketch drawings that include the zone of activity and metaphorical extensions might move learners toward a discovery of systematic relationships between the different senses of the phrasal verbs" (2012, p. 430). Farsani, Moinzadeh and Tavakoli have discussed the importance of picture-elucidation tasks in teaching and, according to them, the authors of textbooks include an abundance of pictures, cartoons and photos in their materials, but are not encouraging learners to "to grasp conceptual aspects of phrasal verbs through similar pictorial elucidations or informative illustrations of any sort", but, quite the opposite, believe that this method is futile when it comes to acquisition of PVs (2012, p. 499). They conducted a study in which they concentrated on integrating creativity and authenticity into the teaching of this category and their conclusion goes hand in hand with the previously mentioned CG beliefs:

> …a teaching/learning methodology drawing on channels other than purely linguistic ones such as drawings, visual representations, gestures, and the like can facilitate and improve not only the acquisition of a foreign language but also the retention of meaning and form through mental imagery and representation of verbal information (Farsani, Moinzadeh and Tavakoli, 2012, p. 504).

Khir (2012) discusses the use of PV constructions in cartoons and the possible teaching implications of this genre. They are used in advertisements and cartoons to convey double messages because of the possibility to confuse PVs' meanings (literal and figurative), a technique that provokes humor. In this case, there is usually an interplay of image and text where the text conveys one meaning and the image another. Still, the image is the main part

that actually brings "amusement" to the whole process (Khir, 2012, p. 110). The author gives several reasons why the use of images and cartoons could benefit the acquisition of PVs. First, they are used to represent concrete and authentic situations, therefore, students would comprehend them better and use them in real-life situations more easily. Second, due to their fun nature, they make learning fun and stimulate students to learn. Furthermore, the fact that their context is visual helps students to "memorize and recall such structures better than when they are merely presented as lists". Last, but not least, PVs in cartoons can help students perceive the ambiguity between their literal and figurative uses and the situations they are appropriately used in (Khir, 2012, p. 102).

Many other researchers have also become interested in the importance and use of images in TEFL, especially their presence in textbooks. Romney has noticed that the general impression among those interested in the topic (Bell & Gower, Goldstein, Hill, Prowse, Romney & Bell, Viney, as mentioned in Romney, 2011, p. 392) is that many images in course books do not seem to have a learning purpose, but are only decorative. According to the author, the publishers include a large number of images only to increase the text's attractiveness, but do not think of their pedagogical efficiency (Romney, 2011, p. 392). Hill, as cited in Romney (2011), makes a distinction between "useful" and "decorative" images in EFL textbooks and claims that 55% of them are purely decorative. According to the Romney and Bell's (as cited in Romney, 2011) study, 73% of the images in the texts they reviewed were decorative. Romney (2011) analysed three English textbooks used in Japan in order to determine the possible learning functions images play in the texts and found that 82% of the images in the course books surveyed in the study fulfilled at least one of the learning functions offered by Levin (1981, as cited in Romney, 2011, p. 393). However, Romney stresses that "just because the image fulfills one of Levin's (1981) functions does not mean that it will contribute to learning" (2011, p. 396). Therefore, the teachers' role is very important because they can activate this "passivity" by drawing attention to images or preparing tasks related to them and in this way also activate their learning function (Romney, 2011, p. 397).

Even though visual representation has been recognized as crucial for the understanding of PV constructions, what Barthes claimed in 1964, seems valid today as well: "we are still, and more than ever, a civilization of writing, writing and speech continuing to be the full terms of the informational structure" (Barthes, 1964, p. 38). Geld and Stanojević (2018) conclude that learners still rely mostly on text than image when analysing PVs and find it difficult to draw those verbs whose meanings are closer to the figurative pole of the continuum, while they have

less problems in describing them with words. Their study shows that participants find visual representation tasks meaningful, but the avoidance of drawing could be a consequence of individual and often affective factors (Geld and Stanojević, 2018). Furthermore, learners are simply not used to drawing since this activity is rarely encouraged after primary education, not to mention the already discussed fact that language materials favor decorative illustrations that facilitate understanding, but do not affect deeper processing of meaning. Also, visual representation has limitations as opposed to the linguistic mode, especially when it comes to representing abstract entities because it depends on symbols. Therefore, learners tend to use linguistic representation as their primary method of analysing meaning, while image plays a secondary role (Geld and Stanojević, 2018).

Visualization is an important part of learning a foreign language because images and drawings can encourage deeper processing of meaning and favor meaningful acquisition and retention. It is an important part of the learning process because of its potential to make the material easier to memorize and it also includes another modality, which is argued to be a great facilitating factor (Geld and Stanojević, 2018). According to Geld and Stanojević, drawing tasks are not to be understood as a static representation of meaning, but as a process that allows representation of strategic construal of meaning, therefore, it is crucial to encourage learners to be mentally active and think about what they are drawing and what the integration of the given PV construction's components represents (2018, p. 138-139). Still, textbooks do not encourage learners to employ these methods and completely neglect images that would favor conceptually motivated connection of text and image, deep processing and multimodality (Geld and Stanojević, 2018, p. 142). However, the problem has been recognized and, hopefully, authors will consult different research and move in the direction of meaningfully included imagery, along with teachers who should employ various visualization methods in and outside the classroom.

2.5. Cognitive development in late childhood and adolescence

The focus of this study was on the ways learners strategically construct the meaning of given PV constructions through visual representations, as well as possible differences in their strategies in relation to their age. Having this in mind, it is important to give some basic information about cognitive development, particularly that of late childhood and adolescence, given the fact that the participants in this study belonged to those categories.

Cognitive development is defined by McInerney (2006) as the development over time of the ability to think and reason, and to understand the world in which we live. People's cognitive growth is continuous and it changes throughout their whole lives. As the child grows older, its cognitive capacities increasingly differentiate. McInerney (2006) underlines the importance of the process of conceptualization, through which children start to categorize things into different categories, which further reduces the complexity of the environment, permits the child to recognize objects, helps the person learn the use of objects and reduces the necessity for constant learning because people use their past experiences in order to relate new objects and their uses to them. Piaget (as cited in McInerney, 2006) describes language acquisition as an indicator of cognitive development and maturity and also as a facilitator for further cognitive growth. According to him, there are four major stages of intellectual development: 1) sensorimotor (birth – 2 years), 2) preoperational (2 – 7 years), 3) concrete operational (7 – 12 years), and 4) formal operational (12 – 15 years). Since the participants of this study were 13 and 17 years old, their cognitive development was at the formal operational stage, but some differences that will be discussed later were still expected in their results.

In the formal operational stage, individuals can explore hypothetical situations, as well as think propositionally, in a scientific way and about abstract entities independent of the context. A person who arrives at this stage of development possesses combinatorial logic, which means that they are able to combine different elements systematically in order to test their hypotheses. This leads us to the presumption that the participants of the study would analyse separate components of PV constructions in their strategic construal and visual representation. Except for combinatorial logic, other cognitive characteristics of this stage are propositional thinking, meaning that individuals are able to work on a problem through statements formed in one's mind; proportional thinking, which implies that in this stage children acquire the concept of ratio and proportion that they can use in solving problems; and hypothetical reasoning, referring to the ability to distinguish between the structure and the content of an argument and argue hypothetically (McInerney, 2006). Taking these characteristics into consideration, it is possible to expect that participants aged 13 and 17 should be able to analyse and describe both components of PVs, as well as perceive cognitive motivation behind their meanings. What is left to discover are the differences in the younger and the older participants' strategies used in visual representations of these constructions.

3. The study

3.1. Aim

The general aim of this qualitative research was to investigate and analyse strategic construal of English particle-verb (PV) constructions among Croatian primary and secondary school learners. Since previous studies on this topic conducted by Geld (2006b, 2009, 2011) had dealt with adults' and more proficient learners' construal, the goal of this particular research was to obtain an insight into the strategies used by younger learners (13-year-olds and 17-year-olds) in construing the meanings of 10 PVs with particles *in* and *out*. The strategies that were in the focus of the study were related both to text and image, but the main subject of this research was the visual part of the participants' answers. The reason for this was the fact that there had not been much research on the use of images and pictorial representations in TEFL, especially in terms of productive tasks. Moreover, the focus was on establishing possible differences in the visual strategic construal of PVs in question between 13-year-old and 17-year-old learners. Taking this into consideration, the following research questions emerged:

1) How is the meaning of PV constructions with particles *in* and *out* construed through visual representations by younger learners?
2) What are the differences in visual representation of meaning in relation to age?

3.2. Instrument

The instrument used in this research was an abbreviated version of the questionnaire taken from Geld (2009) and it consisted of 10 PV constructions with particles *in* and *out*. The original questionnaire consisted of 20 particle-verb constructions with semantically light and heavy verbs, each followed by one of its meanings. Since young learners have shorter attention span and due to time restrictions, 10 out of 20 PVs were chosen, without examples, but still containing both categories of verbs (heavy and light). The constructions were followed by meanings in English (one for every PV) and their translations in Croatian because of younger participants' lower proficiency levels (see Appendix).

Particle-verb constructions used in the questionnaire were in particular order so as not to repeat the same verb or particle immediately one after another:

1) *go in* ('become hidden')

2) *put out* ('injure your back, shoulder, hip, etc.')

3) *cut in* (‘interrupt somebody’s conversation’)

4) *break out* (‘to escape’)

5) *take in* (‘understand or absorb something’)

6) *go out* (‘stop burning’)

7) *put in* (‘interrupt’)

8) *cut out* (‘stop doing something’)

9) *break in* (‘wear something until it is comfortable’)

10) *take out* (‘go out socially with somebody’)

3.3. Sample and procedure

The sample consisted of two groups of Croatian learners of English as a second language (N=81). One group consisted of 34 7th grade elementary school learners (13 years old) from two different classes and the other group consisted of 47 3rd grade secondary school students (17 years old), also from two different classes. They attended two schools situated in Zagreb, Croatia. It is also important to mention that the elementary school learners had the same English teacher, while the secondary school learners had two different teachers of English and this might have influenced their approach to the task, as well as their answers. The study was conducted in the academic year 2018/2019.

The participants’ task was to explain why or how the parts of each particle-verb construction given in the questionnaire produced the provided meaning. Learners were given written instruction in Croatian at the beginning of the instrument, as well as additional oral instruction before the start. The time available for the task was 45 minutes (the usual duration of one session in Croatian schools). Due to their language proficiency level, the participants could ask for further clarification and select the language (English or Croatian) they wanted to use in their verbal answers. The majority of younger participants (elementary school students) opted for Croatian, whereas most secondary school learners used English in their answers, which is not surprising since their proficiency levels were quite different. The same happened in instances where their drawings assumed the nature of comics or cartoons.

During the task completion the participants differed considerably with regard to how they approached the task. First, the secondary school learners’ reactions and behavior varied

greatly depending on who their English teacher was, which also influenced their natural group dynamics. One group did the task eagerly and needed all the time allocated for the task. It was obvious that they were enjoying the task, with few exceptions who did not understand the instructions at first. The other group was quite different because not all of them wanted to participate and many finished much earlier compared to their peers in the first group, which might indicate that they did not put as much effort in the task (with exceptions, of course). Some participants in this group were even openly rebellious and refused to accept provided definitions of PV constructions. They insisted that the provided meaning did not belong to the PV in question. This indicates that they learned a particular meaning of PVs and could not accept other meanings, which supports the claim that PVs polysemous nature results problematic for learners. As far as primary school learners are concerned, they were visibly confused by the task, saying that they had never encountered anything like it, especially when being asked to draw. This reaction underlines even more the under-usage of illustrations and visual learning in general in Croatian schools. The atmosphere was mostly that of confusion and uncertainty, but as soon as they got some reassurance from the researcher, they took the task more seriously and made the necessary effort. This affective part of the research is important because it might have influenced the participants' answers and the overall results.

The data obtained consisted of 724 verbal and 721 pictorial answers, i.e. 1445 answers (out of possible 1620). It is important to mention that a relatively large number of questions (175), textual or pictorial, remained unanswered. Several students systematically avoided one of the two (or both) types of answers. Even though the research included both verbal and visual mode of construal, the focus of this thesis is on the latter. There were 3 stages of the analysis: 1) the strategies used in visual representations of PV's meanings were analysed, 2) the role of the participants' age on their drawings was determined, and 3) the interrelation of the participants' age and the semantic nature of the verb was examined.

3.3.1. Visual representation – terminology

In order to analyse the participants' pictorial answers, the coding system that had been introduced by Geld (2009) was modified and used in coding the data. Two groups of categories were established: a) the category of semantically meaningful answers, b) the category of no answer (0) or misconception (MIS). Here are the categories and codes used in the analysis of visual representation of meaning:

1) INT L – integration of figurative meaning and lexical component (the illustration conveys the idiomatic meaning of the PV in which the literal meaning of the verb is incorporated)

2) INT T – integration of figurative meaning and topological component (the combination of the idiomatic meaning of the PV and the literal meaning of the particle are combined into one illustration)

3) INT LT – integration of figurative meaning and lexical and topological determination (both the figurative meaning of the PV and the literal meaning of both components are visible in the illustration)

4) VP – visual paraphrase

5) LIT1 – literal topological component (the illustration of the literal meaning of the particle)

6) LIT2 – literal lexical component (the illustration of the literal meaning of the verb)

7) CMP – compositional meaning (the literal meaning of both the verb and the particle are contained in the illustration)

8) MIS – misconception (the illustration is unrelated to the meaning of the PV construction or it fails to represent anything coherent)

Let us consider the examples for each category analysed:

1) INT L (integration of figurative meaning and lexical component)

The example in Figure 4 represents the integration of figurative meaning and the lexical component of the PV construction *cut in* (‘interrupt somebody’s conversation’). The literal meaning of the lexical component *cut* (lexical determination) is illustrated by scissors that are “cutting” a line between two people and the figurative meaning of the whole VP is presented by these two people talking and their conversation metaphorically represented by the line that is being cut.

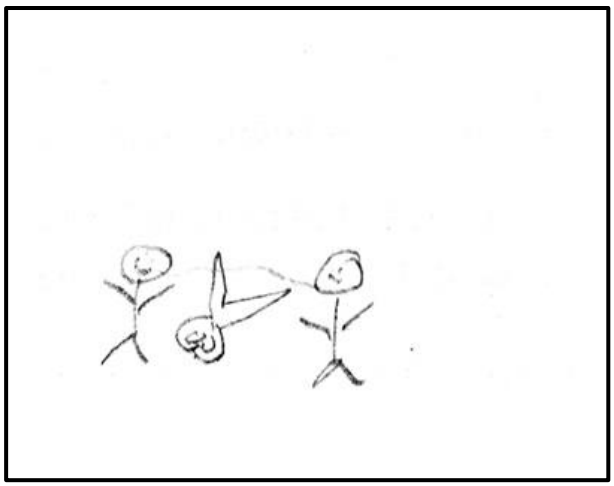

Figure 4 PV *cut in* 'interrupt somebody's conversation'

2) INT T (integration of figurative meaning and topological component)

Figure 5 exemplifies integration of figurative meaning and topological component and it refers to the PV construction *put out* ('injure your back, shoulder, hip, etc.'). The literal meaning of the particle (topological determination) is visible in parts of the spine being "out" of their normal order. The particle is even more stressed by using language in the illustration that draws attention to the topological component *out*, as opposed to *in* and the way human spine is supposed to look like. The figurative meaning of the construction is depicted by the spine itself and its parts being dislocated, which implies injury.

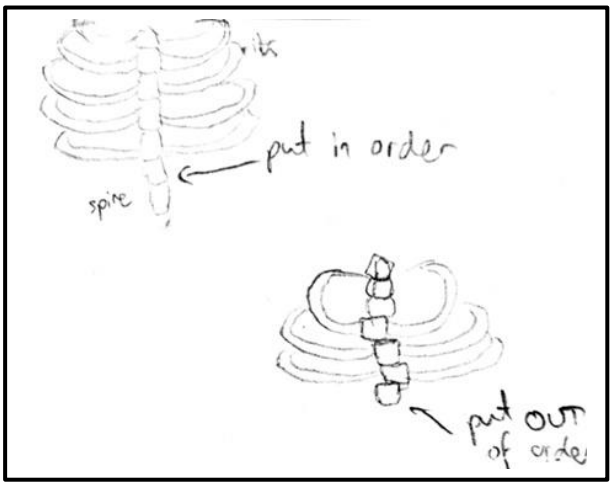

Figure 5 PV *put out* 'injure your back, shoulder, hip, etc.'

3) INT LT (integration of figurative meaning and lexical and topological component)

The example of the INT LT category is showed in Figure 6, which represents the PV *take in* (‘understand or absorb something’). In this drawing, it is obvious that the participant took into consideration the figurative meaning of the construction, because a person absorbing information into their brain is illustrated, and the literal meaning of both lexical (the person’s hand taking and putting information into the brain) and topological (the arrow below the word “info” showing that it is going inside the person’s head) component. The conceptual metaphor activated in this visual representation is Rudzka-Ostyn’s (2003) PARTS OF BODIES ARE CONTAINERS.

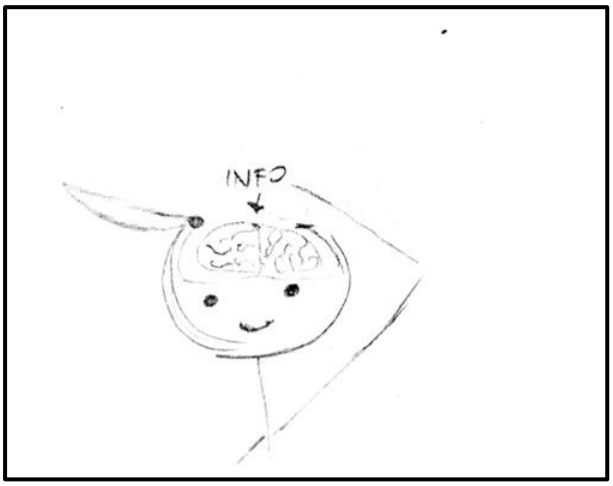

Figure 6 PV *take in* ‘understand or absorb something’

4) VP (visual paraphrase)

The visual paraphrase of the metaphorical meaning of the PV *go out* (‘stop burning’) is illustrated in figure 7. This means that no literal components are explicitly depicted in the drawing. There is a candle that is not burning anymore, but it is obvious that it stopped burning not long ago because of smoke that is still present in the air above it. It is also interesting how the participant included the affective note into the representation (the candle is sad).

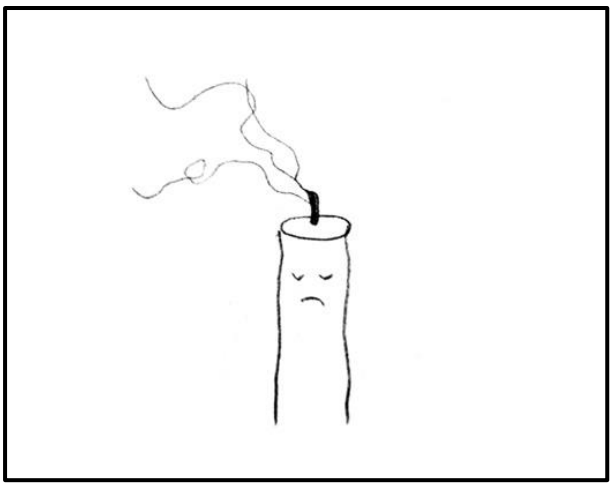

Figure 7 PV *go out* 'stop burning'

5) LIT 1 (literal topological component)

In Figure 8, the PV construction *break out* ('to escape') is illustrated by using the category of literal topological determination because only the literal meaning of the particle is shown through the symbol of an arrow which points to the outside of the building, i.e. the container. Neither the figurative meaning of the constructions nor the literal meaning of the lexical component can be inferred. It is important to mention that the participant activated Rudzka-Ostyn's (2003) conceptual metaphor *BUILDINGS ARE CONTAINERS.*

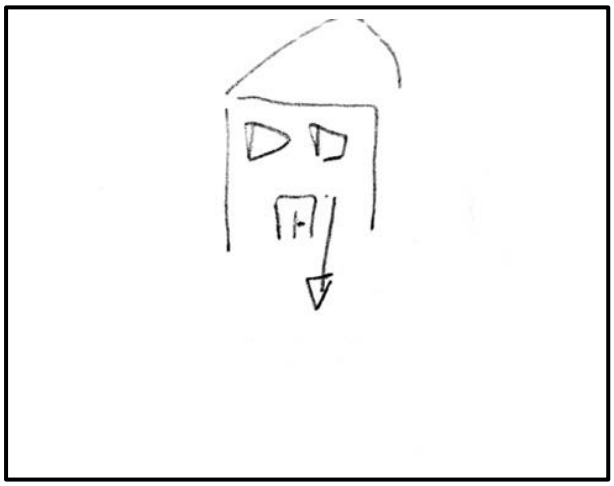

Figure 8 PV *break out* 'to escape'

6) LIT 2 (literal lexical component)

The category of literal lexical component is depicted in Figure 9. The drawing illustrates the PV construction *cut out* (‘stop doing something’), but there is no figurative meaning of the PV visible in this visual representation. Also, there is no literal meaning of the particle, but only of the verb *to cut*, which is visible from the act of cutting a candle in half with scissors. Since the visual mode has its limitations, the participant tried to depict the action in progress by showing its two points in time: the beginning and the end.

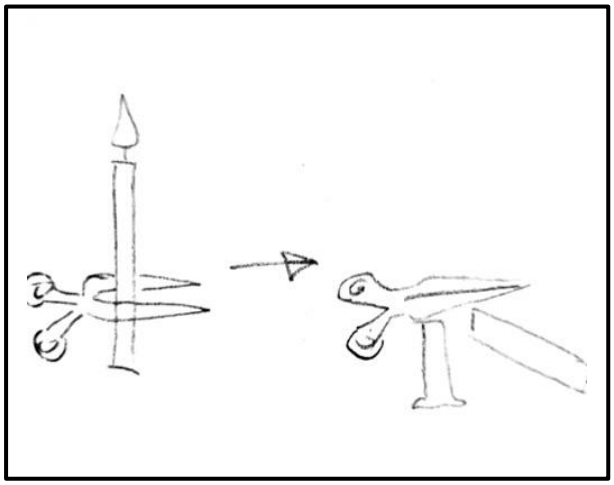

Figure 9 PV *cut out* ‘stop doing something’

7) CMP (compositional meaning)

Figure 10 exemplifies the category of compositional determination of the PV *break out* (‘to escape’). The literal meaning of both topological and lexical component is depicted in the illustration. The drawing shows a hole whose form is quite irregular and therefore evokes the notion of having been made by using some kind of force (by being broken), which implies the literal meaning of the verb *to break*. Moreover, the meaning of the particle *out* is illustrated by five arrows facing different directions and opposite of the hole, i.e. pointing outside. There are no signs of the visual representation of the PV’s figurative meaning.

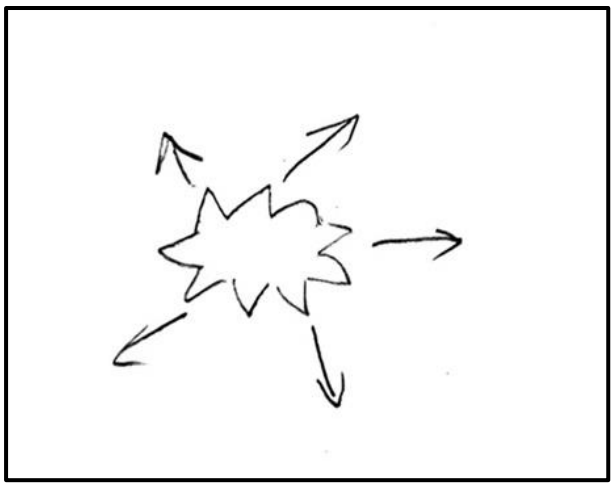

Figure 10 PV *break out* ‘to escape’

8) MIS (misconception)

The category of misconception is exemplified in Figure 11 and it shows the illustration of the PV *cut in* (‘interrupt somebody’s conversation’). In this case, the analysis of the representation in terms of literal components of the PV (the verb *to cut* or the particle *in*), compositional determination or its figurative meaning was not possible because the participant did not depict any of these components. It is even impossible to determine what exactly is illustrated, except for three question marks, meaning that almost nothing coherent is present in the drawing.

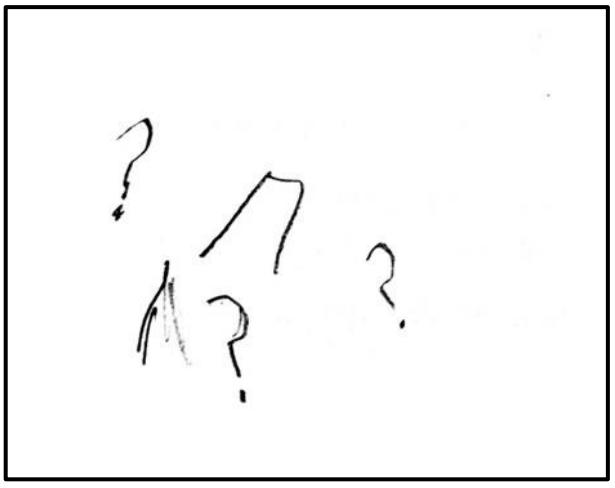

Figure 11 PV *cut in* ‘interrupt somebody’s conversation’

3.4. Results and discussion

3.4.1. The frequency of the eight categories of answers in the whole sample (N=81)

The first step after coding the data was to determine the frequency of the categories in the whole sample. The category that was used the most was visual paraphrase (VP 40%). The second most frequent category was integration of figurative meaning and the topological component (INT T 13%). The frequencies of all the categories are shown in Table 1 and Figure 12. However, if the categories of integration of metaphorical meaning of the PV and one (or both) literal component (INT L, INT T, INT LT) are taken into consideration, their sum (34%) is not that far from the visual paraphrase (VP 40%). This means that a considerable number of participants (around 1/3) used this strategy, i.e. they considered the figurative meaning of the whole construction while also paying attention to its individual components. This means that they recognized the motivation behind it by analysing one of its separate parts and were able to explain it.

Table 1 Frequency of categories in visual representations of meaning in the whole sample

IMAGE (TOTAL)	**721**
INT L	72
INT T	94
INT LT	78
VP	292
LIT1	24
LIT2	27
CMP	57
MIS	77

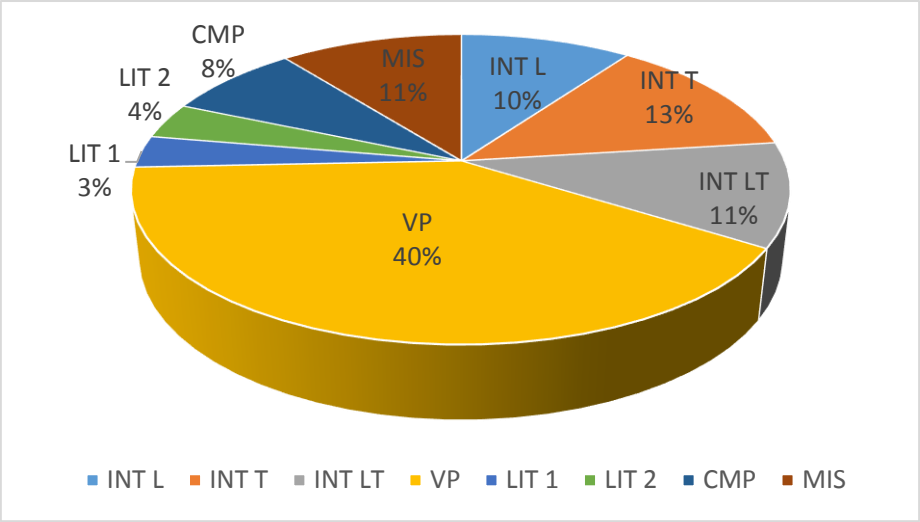

Figure 12 Frequency of categories in visual representations of meaning in the whole sample

These results show that Croatian learners of English are able to analyse PV constructions in terms of semantic contribution of their components and are able to perceive the cognitive motivation behind their figurative meanings. In doing so, they also use different strategies of meaning construal. What is more, the participants were able to decompose and analyse PVs to some degree, even though they had not received any explicit instruction on how to do so. These findings support the basic premise of cognitive linguistics according to which language is motivated, form and meaning are interconnected, and speakers of languages construct meaning by activating a number of cognitive processes, including conceptual metaphor.

3.4.2. The frequency of the eight categories of answers in younger participants

As it can be seen in Table 2 and Figure 13, the most frequent strategy employed by 7th graders was visual paraphrase (VP, 53%), which was followed by integration of figurative meaning and one of the two components (INT T 12% and INT L 10%). Younger participants showed that they were able to single out at least one component of the construction along with representing its figurative meaning when construing the PVs' meanings. However, there was a considerably high percentage of drawings that were incoherent or unrelated to the meanings of PV constructions in question (MIS 16%). Another interesting finding is that they used the strategy of compositionality in only 3 drawings (CMP 1%).

Table 2 Frequency of categories in visual representations of meaning in younger participants

IMAGE (YOUNGER)	**294**
INT L	30
INT T	34
INT LT	13
VP	155
LIT1	4
LIT2	9
CMP	3
MIS	46

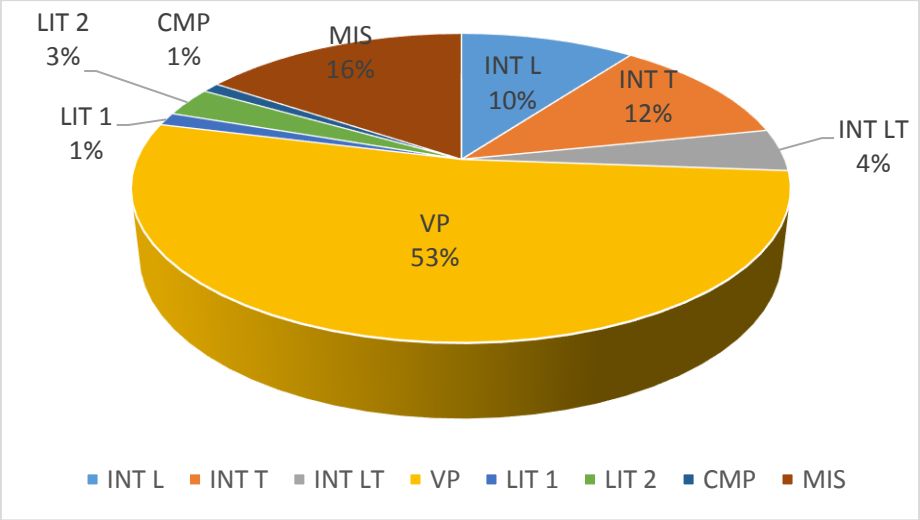

Figure 13 Frequency of categories in visual representations of meaning in younger participants

3.4.3. The frequency of the eight categories of answers in older participants

The most frequent category of answers in the group of secondary school learners was also visual paraphrase (VP 32%), as shown in Table 3 and Figure 14. This category is followed by drawings representing integration of figurative meaning and both lexical and topological component (INT LT 15%) and integration of figurative meaning and topological component (INT T 14%), immediately followed by compositionality (CMP 13%). By employing different strategies, older learners showed great sensibility in the analysis of both components of the constructions, their integration with the overall meaning of the PV and motivation behind it.

Table 3 Frequency of categories in visual representations of meaning in older participants

IMAGE (OLDER)	427
INT L	42
INT T	60
INT LT	65
VP	137
LIT1	20
LIT2	18
CMP	54
MIS	31

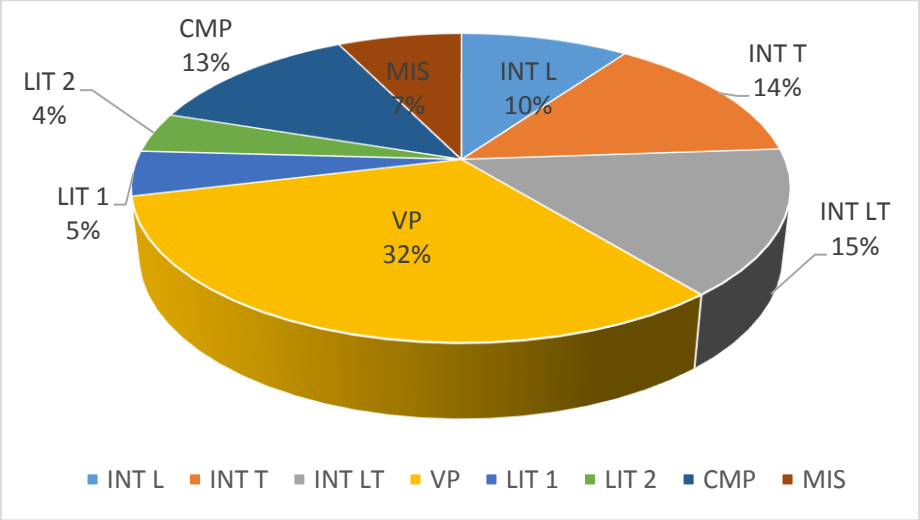

Figure 14 Frequency of categories in visual representations of meaning in older participants

3.4.4. The role of age

From the data that was discussed in the previous sections it is possible to draw some interesting conclusions regarding the role that the participants' age is likely to have on the strategies used in their visual representations of meaning. As it can be seen in Figure 15, there are some similarities as well as some important differences between the two age groups. Both younger and older learners rely mostly on the category of visual paraphrase (VP) when trying to represent the PV constructions' meaning through the visual mode. Both groups seemingly activate the same strategies to analyse separate parts of PVs along with visual paraphrase (VP), i.e. INT L, INT T, LIT1 and LIT2. Still, they vary greatly in their employment of the categories

of integration of figurative meaning and both components (INT LT) and compositionality (CMP). The answers by 17-year-old participants fall under both of these categories (INT LT and CMP), as opposed to those by 13-year-old students who do not give much attention to the analysis of separate particles or verbs. Also, when looking at both groups in their separate analyses, younger learners tend to present the meanings of PV constructions through visual paraphrase (VP) at the great expense of other categories. On the other hand, older learners, even though mostly relying on the same strategy as younger participants (VP), in many cases employ other strategies as well (INT LT, CMP), which is a sign of higher proficiency. Another difference is that 7th graders did not provide an acceptable answer in a large number of cases (MIS), while high school students tried to complete as many tasks as possible. Moreover, compositionality (CMP) is a much more frequent strategy in the group of older learners than in the group of younger and less proficient participants.

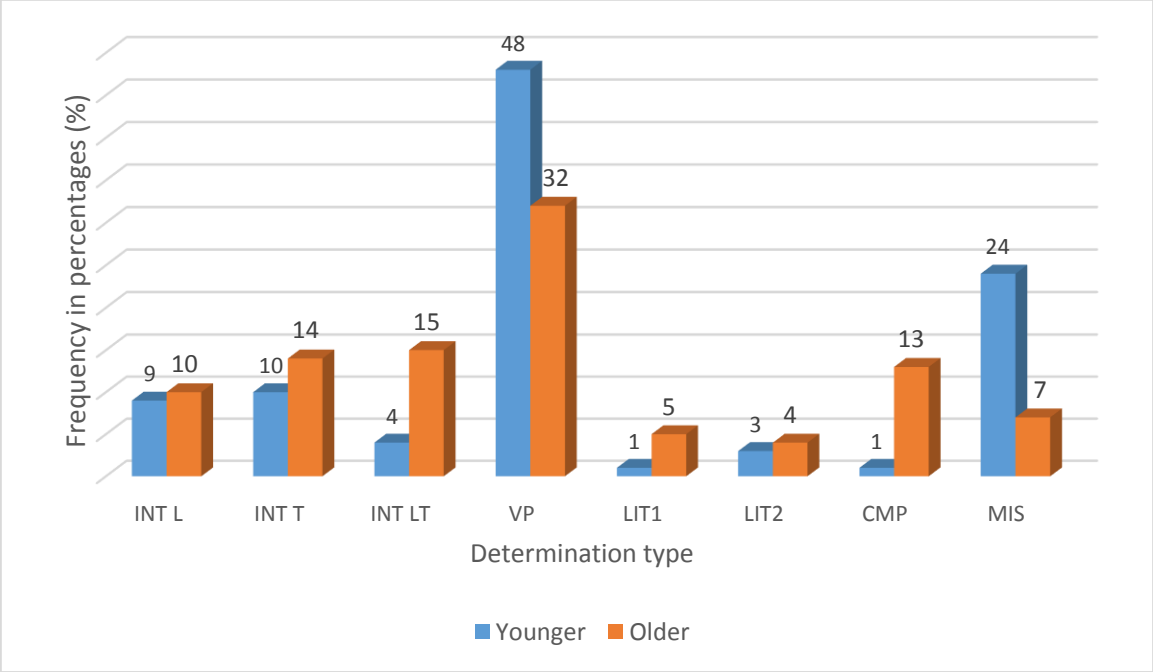

Figure 15 The role of age

Even though all the participants employed the strategy of visual paraphrase (VP) in representing the meanings of most PV constructions, they were also able to analyse their components separately and in this way they showed that they were conscious of language motivation and processes in meaning construal. As expected, more proficient learners (high school students) relied more on compositionality (CMP) and focused on both the particle and the verb, showing that both components contribute to the overall meaning of the construction.

On the other hand, less proficient learners aimed to demonstrate that they understood the meaning without focusing on the importance of individual parts. Also, visual paraphrase helped younger learners to create a scenario and provide a context for the construction in order to explain it better. This is, in fact, how they learn at school. They created images that looked like illustrations in their textbooks and used conventional symbols and familiar situations. On the other hand, decomposing and analysing separate parts of constructions, as well as paying attention to the topological part of the construction, is a sign of higher language proficiency level. Therefore, it is no surprise that these strategies were used much more by secondary school students. Their drawings reflect the stages of the well-known theory of cognitive development, since 17-year-olds showed a greater ability of thinking abstractly and propositionally, while 13-year-olds did it in a much lesser degree.

It is important to stress that the visual mode has its restrictions and this is probably the reason why most participants used visual paraphrase (VP) in their drawings. They were able to perceive cognitive motivation of PV constructions, especially because there are instances in which they successfully analysed both of their parts, as well as figurative meanings of PVs. The reason why they did not employ this strategy more often might be related to the fact that visual metaphors and illustrations need to be more specific than verbal answers and they need to provide more information (for example, if we say "a man in a uniform", in drawings it is impossible not to specify what kind of uniform and if it is a police officer, a soldier, a fireman, etc.). Abstract concepts are more easily presented in a textual way than through illustrations. It is also worthy to mention that drawing is not very much encouraged in Croatian schools, as opposed to writing, especially after elementary school, and it might be a challenging task for learners to resolve a problem or interpret something visually. This is also connected to the fact that most images in EFL textbooks have a decorative function and do not encourage learners to think about linguistic meaning in relation to imagery. The reasons discussed in this paragraph may account for the fact that a relatively high number of answers belong to the category of misconception (MIS), especially in younger participants' answers.

3.4.5. The relationship between age and the semantic nature of the verb

Along with the age factor in visual representations of meaning, it is also important to include another factor regarding the nature of the verb because the strategies that were used might have been influenced by whether the lexical component was heavy or light. The instrument contained four PVs with semantically heavy verbs (*cut* and *break*) and six

constructions with verbs that are semantically light (*take*, *go* and *put*). Figure 16 shows that, regardless of the semantic nature of the verb, younger learners used visual paraphrase the most, with light verbs as the leading category (VP 58%), which is not surprising because their meanings are not as restricted and can be vague or abstract compared to heavy verbs. This is why 13-year-olds relied on visual paraphrase in order to create a particular context for the constructions containing light verbs that seemed more figurative. Also, primary school learners used the strategies of integration of figurative meaning and topological or lexical component more with PVs containing heavy verbs (INT T and INT L, both used in 15% of the cases). The reason behind this may be the fact that heavy verbs' meanings that could be represented through the strategies of INT T and INT L are limited. This was not the case with light verbs because of their schematicity and vagueness that usually represent a problem in translating meanings into a visual medium. Both categories of verbs provoked almost the same number (23% for heavy and 18% for light verbs) of incoherent answers or those unrelated to the constructions' meanings (MIS). From this data emerges that the semantic nature of verbs has some role in the strategies of meaning construal among younger participants.

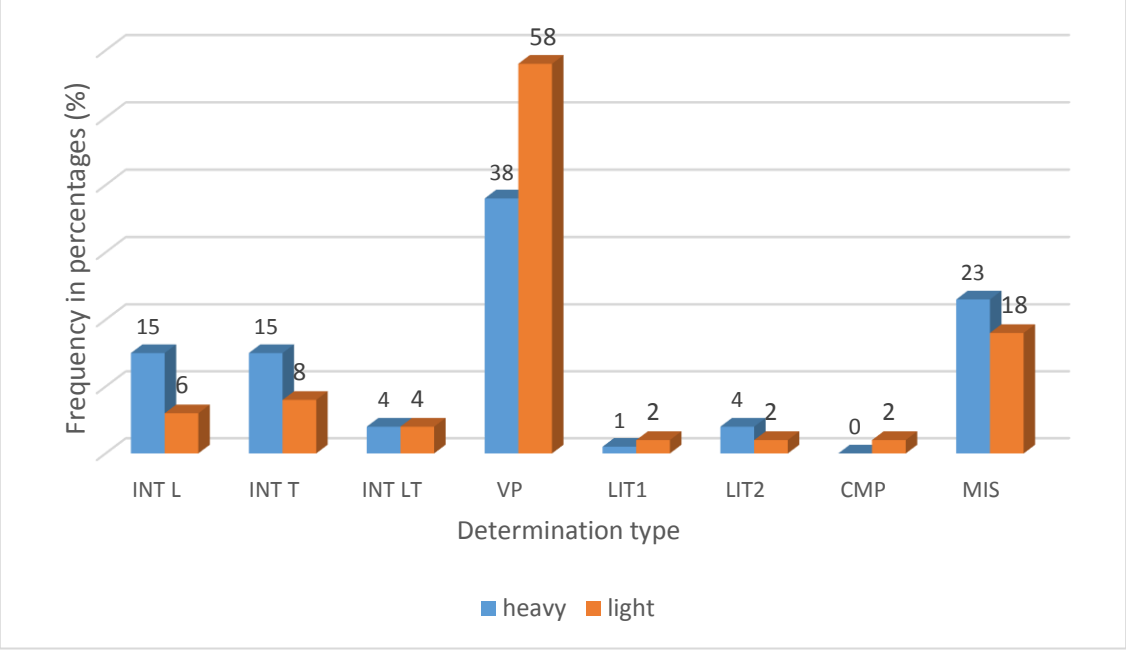

Figure 16 The relationship between the semantic nature of the verb and the types of answers in younger learners

As visible in Figure 17, secondary school learners also rely on visual paraphrase more often when representing constructions with semantically light verbs (VP 36%) than those with heavy verbs (VP 27%). Integration of meaning and lexical component, as well as the strategy of literal lexical determination, was used more with heavy verbs (INT L 14% and LIT2 7%) as

opposed to light verbs (INT L 7% and LIT2 2%). Contrary to that, integration of figurative meaning and topological component and literal topological component were both used more with semantically light verbs (INT T 15% and LIT 1 6%) as opposed to heavy verbs (INT T 12% and LIT1 3%). When compared to the previous research, this is not surprising because when presented with PVs containing light verbs, whose meaning is more vague and imprecise, learners tend to rely on the meaning of the particle and when facing PVs containing heavy verbs, learners rely on the meaning of the verb.

However, these differences seem to be rather small. Still, they may support previous findings that lexical determination occurs more often with heavy verbs, while topological determination appears mostly with verbs that are semantically light. Compositionality (CMP) was equally used in depicting PVs with both semantic categories (15%), and misconceptions (MIS) also appeared in the same number of cases for both verb categories (7%). These results suggest that the nature of the verb does not play a major role in the older learners' strategies of visual representation of meaning.

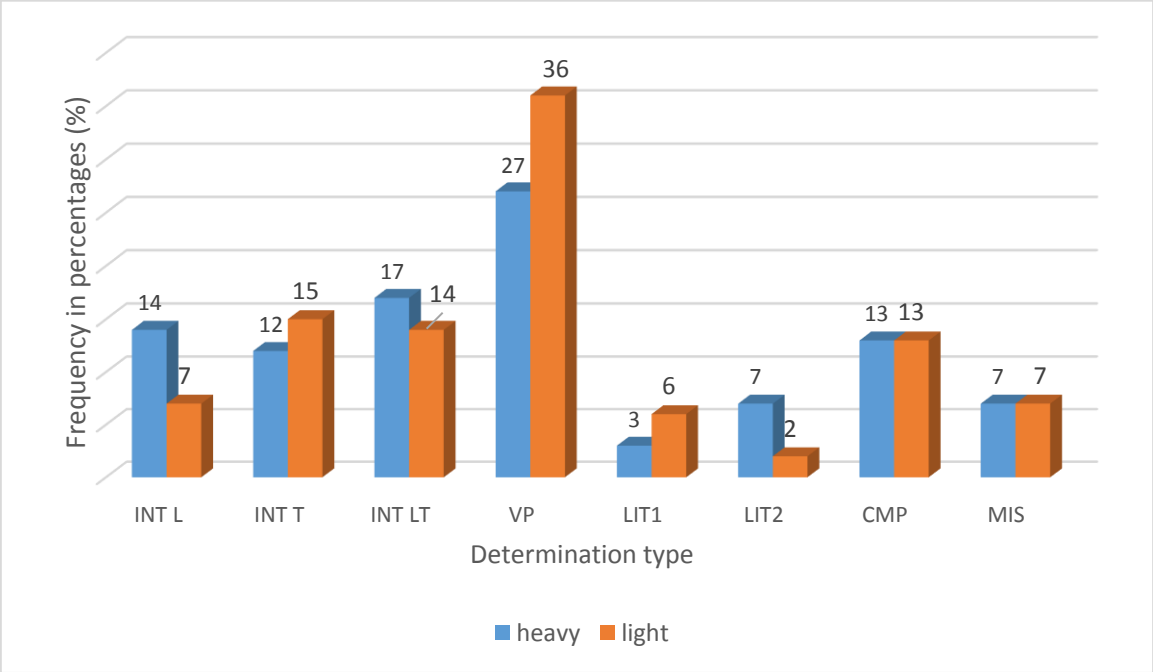

Figure 17 The relationship between the semantic nature of the verb and the types of answers in older learners

Figures 18 and 19 show the relationship between participants' age and the types of answers provided for PVs containing semantically heavy and semantically light verbs. Both age groups used the strategies of integration of meaning and lexical or topological component in an almost equal number of cases with heavy verbs (15% younger, for both INT L and INT T; 14%

and 12% older, for INT L and INT T, respectively). When it comes to light verbs, 17-year-old participants opted for topological determination more often than the younger group. This is not surprising considering the fact that we may assume higher proficiency in older learners. There was a big difference between the two groups regarding integration of figurative meaning and both topological and lexical component (INT LT) with heavy verbs, as well as in the number of misconceptions (MIS) with both semantic categories. Older participants employed the strategy of integration of figurative meaning and topological and lexical component (INT LT) much more with both light and heavy verbs than younger learners who, as opposed to the first group, provided much more incoherent drawings (MIS). Elementary school students also used more visual paraphrases (VP) with PVs regardless of their semantic nature. Compositionality (CMP), as a sign of a higher proficiency level, was mostly used by secondary school learners with both verb categories. According to the results discussed so far, the nature of the verb does not play a very important role in the visual representation of meaning, whereas the age factor has shown to be much more important in strategic construal of meaning.

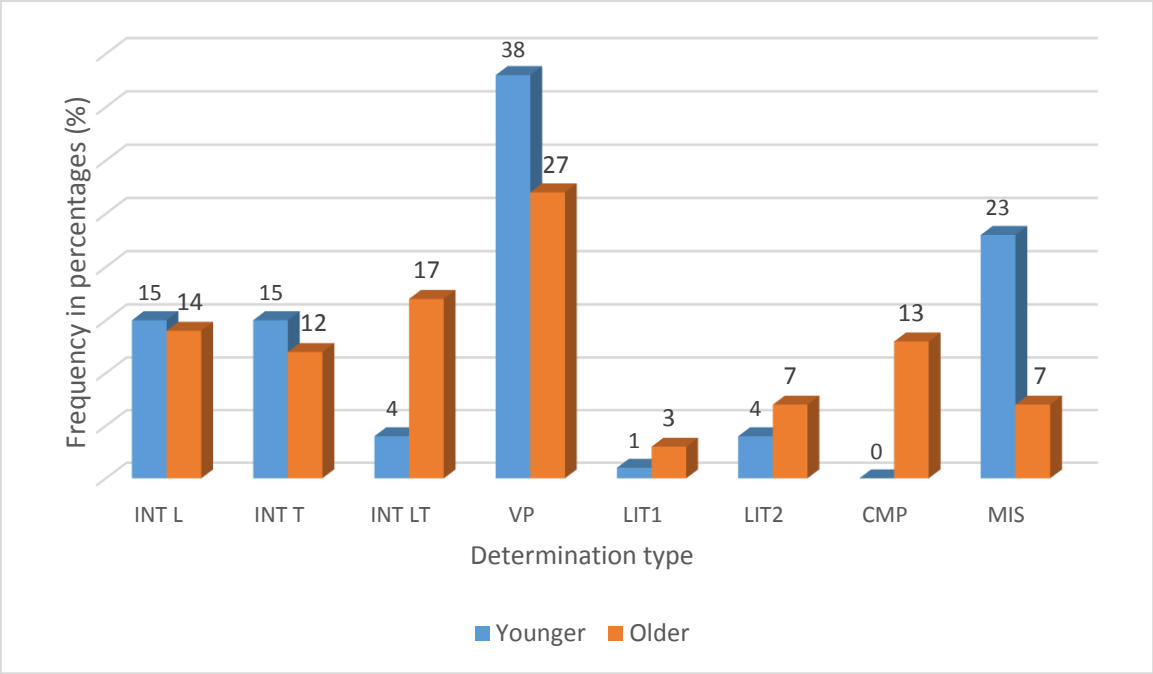

Figure 18 The relationship between age and the semantic nature of the verb – heavy verbs

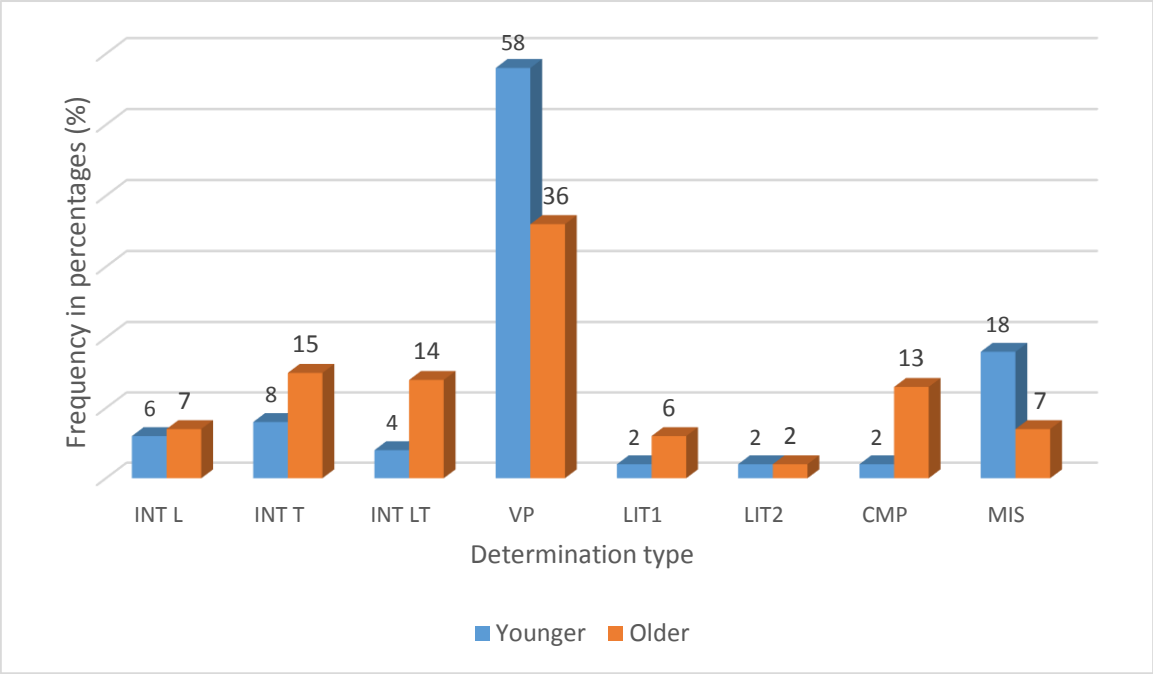

Figure 19 The relationship between age and the semantic nature of the verb – light verbs

4. Conclusion

The focus of this study was on the ways Croatian elementary and secondary school learners of English strategically construe the meaning of 10 PV constructions with particles *in* and *out* through visual representations, as well as possible differences in their strategies in relation to their age. The analysis also included another factor that could have influenced the participants' answers and that is the semantic nature of the verbs. The aim was to investigate what strategies learners of different age would use in their drawings, i.e. what parts of PV constructions they would find the most salient in their representations, as well as with what semantic verb group these particular strategies would co-occur. Particle-verb constructions are considered to be very complex and challenging for non-native speakers, but Croatian learners proved to be able to perceive cognitive motivation behind their meanings, i.e. the connection between the form and the meaning, and analyse them in terms of their separate components. However, the participants did have some difficulties with the pictorial mode of representation. This may be related to the lack of visual learning in schools and the under-use of quality illustrations in textbooks that would encourage strategic thinking, as well as better acquisition and retention. The findings of this research can be summed up as following:

1) The strategy that was used the most in visual representation of meaning in both age groups was visual paraphrase (VP 43%), which can be ascribed to the difficulty in expressing oneself through drawings as a consequence of insufficient instruction through images.
2) The sum of combinations of PVs' figurative meaning with one (or both) of its literal components (INT T, INT L and INT LT 34%) also shows a relatively high percentage that is not that far from visual paraphrase (VP 40%), which means that the participants recognized the motivation behind PVs' meanings by analysing their separate parts and were able to explain it.
3) Older learners paid much more attention than the younger ones to both the analysis of PVs' separate parts (compositionality, CMP) in their drawings, and other strategies of meaning construal, such as integration of figurative meaning and the PVs' components (INT LT, INT T, INT L). These differences in meaning representation and reasoning seem to be a clear sign of a higher level of proficiency.
4) Younger learners relied mostly on visual paraphrase (VP) as their strategy in depicting PVs with a lot less attention paid to other types of representation, probably as a result of their lower proficiency level.

5) The semantic nature of the verb plays a role in the strategic meaning construal through visual representation among younger participants, whereas it is less important for older learners' strategies of meaning construal.

In conclusion, the age factor is crucial in the use of different strategies of meaning construal through visual representations. The participants showed the ability to analyse the complex phenomenon of particle-verb constructions in a meaningful way. Even though the pictorial mode has its limitations and the participants relied mostly on the strategy of visual paraphrase, in many cases they still included at least one of the components into their analysis and their representations of meaning. The findings of this study prove that the visual mode could be used to facilitate and encourage better understanding and retention of PV constructions. This conclusion supports the already discussed and accepted claim that multimodal processing and learning is extremely beneficial in foreign language learning. Visualization is very important for maximizing students' learning potential and the approach that would include teaching PVs in a cognitively motivated way with the use of drawings could be very useful. However, since there is no universally established way of analysing drawings and not much research has been conducted in this area, there is still a need for more detailed studies of this type that would include participants of different age groups, as well as with different L1, and provide results that would be more specific.

5. Appendix 1: The instrument (first page)

Ime i prezime: _____

Dob i razred: _____

UPUTA

Pred sobom imate listu od deset fraznih glagola (npr. *look for* – tražiti) s ponuđenim značenjima.

Vaš zadatak je pogledati glagol i pokušati objasniti riječima što u tom fraznom glagolu „gradi“ njegovo ponuđeno značenje. Prilikom pisanja odgovora možete se poslužiti i hrvatskim jezikom.

Zatim to isto pokušajte prikazati crtežom unutar kvadratića.

1) GO IN (become hidden) – sakriti se

_____

_____

_____

_____

_____

_____

2) PUT OUT (injure your back, shoulder, hip, etc.) – ozlijediti određene dijelove tijela, npr. rame, leđa, itd.

_____

_____

_____

_____

_____

_____

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Sažetak

Cilj ovog rada bio je istražiti načine na koje hrvatski učenici engleskog jezika koji pohađaju osnovnu i srednju školu strateški konstruiraju značenja engleskih fraznih glagola s česticama *in* i *out* koristeći vizualne metode. Zadatak je bio prikazati značenja zadanih fraznih glagola crtežom, što je sudionicima predstavljalo velik izazov jer se učenje kroz vizualizaciju naročito ne potiče u hrvatskim školama. Cilj istraživanja bio je također otkriti moguće razlike u slikovnim odgovorima sudionika koje su se mogle javiti pod utjecajem čimbenika kao što su dob ili semantička priroda glagola. Rezultati su pokazali da su se svi sudionici, bez obzira na dob, uglavnom oslanjali na strategiju vizualnog parafraziranja značenja. Međutim, bilo je i slučajeva uspješnog analiziranja zasebnih komponenti fraznih glagola i njihovih figurativnih značenja, osobito među starijim učenicima, što upućuje na sposobnost govornika kojima engleski nije materinski jezik da prepoznaju kognitivnu motivaciju značenja. To dovodi do zaključka da dob ima značajan utjecaj na konstruiranje značenja fraznih glagola vizualnim metodama i da bi metaforičko razmišljanje, kao i uvođenje vizualnog poučavanja, moglo pomoći učenicima da smisleno analiziraju engleske frazne glagole i time olakšati njihovo učenje.

Ključne riječi: *frazni glagoli, strateško konstruiranje, vizualne metode, dob*