The Impact of Contextualization on EFL learners' Comprehension of Metaphors from Relevance Theory Perspective

[1]Mehrdad Erfanian Jalali*
[2]Elaheh Sadeghi Barzani

Abstract: In second language acquisition, EFL learners need to develop both linguistic and conceptual proficiency to grasp metaphoric expressions. Understanding metaphors in second language acquisition is complex and influenced by various factors. According to Relevance Theory, comprehension involves the search for the most relevant interpretation of an utterance by means of a mechanism known as processing effort. Metaphors are seen as a way to create cognitive effect by mapping concepts from one domain (source domain) onto another (target domain). This study followed a mixed, cross-sectional design (qualitative-quantitative analysis). The present study aimed at identifying what role context plays in EFL learners' understanding of metaphors and took eight sessions to complete. To this end, in each session, 10 metaphors were given to 30 Upper-intermediate EFL learners who were selected based on convenience sampling. The EFL learners were required to guess the meaning of the metaphors after reading a text from Mark Twine's short stories. Then, the learners were provided with contexts including the same metaphors in the first phase. The results of the t-test indicated a significant difference between understanding of contextualized and decontextualized metaphors (p value = 0.000; $P < 0.05$). In facing with novel metaphors, EFL learners tend to resort to context as they had no access to any other sources. The findings of the study imply that context is a key element to provide cognitive effect for the interpretation of metaphors since contextual clues satisfy expectation of relevance.

Keywords: Cognitive Effect, Context, Contextual Clues, Processing Effort

Introduction

Using metaphors in languages is so prevalent that there is hardly a conceivable situation where the interlocutors in a language do not utilize metaphors in their communication. This important fact also necessitates a careful consideration for teaching metaphors in a way that facilitates their interpretation for learners when facing such linguistic entities.

Lakoff and Johnson (1980) were among the first scholars who reiterated the close link between human cognition and his use of metaphors, pointing that even one can consider human cognition to be basically metaphoric in nature. Lakoff and Johnson proposed the *conceptual metaphors* stating that our perceptions and understanding of the world is made possible through a unique link between two apparently unrelated concepts in which the mind seeks for the semantic relation between the components of a metaphor. Through mapping concrete domain into abstract one through metaphor-formation, the conception of abstract concepts by mind is made possible.

As metaphors are pragmatic element by nature, one theory which has provided some new perspective for their interpretation is Relevance Theory. Provided by Wilson and Sperber (1995), the main problem addressed by Relevance Theory in particular is how metaphors are understood and how an audience fills the gap between the linguistic code of an utterance and the speaker's intended meaning.

[1]Lecturer of TEFL and Translation (Corresponding Author), mehrdad.erfanian75@gmail.com; University of Applied Science and Technology, Tehran, Iran.

[2]Assistant Professor of TEFL, elahesadeghi20@yahoo.com; English Department, Islamic Azad University, Isfahan (Khorasgan) Branch, Isfahan, Iran.

The present study aims at studying the way such meanings are interpreted by EFL learners in the light of Relevance Theory.

Literature Review

Due to the pervasive role of metaphoric thinking in human mind, varied number of scholars in the fields as diverse as linguistics, stylistics and philosophy have had important contributions to the field of studying the nature of metaphors. On the right place of metaphors in language use, Hagoort and Levinson (2014) believe that the gap between literal and non-literal meaning can be best understood by paying attention to the role that metaphors play in the meaning-making process. Griffin et al. (2006) believe that hearers utilize implicit knowledge to make sense of metaphors. Also, Fowler and Hodges (2016) believe that all aspects of pragmatic meaning in language work properly by means of contextual clues in language. There are also researchers who believe that cognitive mechanisms in human mind play the key role in constructing meaning through metaphors (Cameron 2003; Wilson & Carston, 2006; Semino 2008; Gibbs and Cameron 2008; Kövecses 2010). Similarly, Sperber and Wilson (2005) state that a distinction between semantic-pragmatic borderline is central to an understanding of what metaphors do in a language. Meanwhile, they believe that such a distinction coincides with saying-implicating categorization.

Elsewhere, Goatly (2007) states that the metaphors used in a language are part of the cultural and ideological constructs in the society where that language is used. Yet, a basic question is how human mind attends to metaphors and how it is able to decode the message conveyed by them. Fine et al. (2005) reiterate that metaphors serve as a device to put into order the subjective real-world experience of human in its social context. Elsewhere, Cameron (2010) states that metaphors serve as a pathway to discover the way speakers think, which is mostly not as straightforward as expected.

There are a number of approaches to the explanation of metaphoric mechanisms in language use which are sometimes completely opposing to each other. One of the extremist proposals about metaphors was given by Gibbs (1994) who adopted a cultural approach to the study of metaphors and rejected creative expression of ideas in metaphors. Adopting a cultural perspective, he noted that metaphors emanate and are produced from conceptual stereotypes shared by speakers in a social and cultural context. In other words, Gibbs (1994) does not believe in a separate processing mechanism for the interpretation of metaphors, but believes that language system treats metaphors as individual lexeme units. Metaphors as units of abstract thought help us make practical sense of our real-world experiences.

Another trend in explaining metaphors comes from pragmatics, especially from Gricean perspective. According to Grice (1975), there are three stages for interpreting metaphors: Firstly, language users form a literal understanding of the utterance, which is then matched to the context of use and the users, knowledge of the surrounding world. If the literal interpretation is not logical in that situation, a non-literal interpretation shall replace the former literal one. Grice's explanation of non-literal language including metaphors is based on flouting the quality maxim of the cooperative principles. According to him, first the reader/listener accesses and rejects the literal interpretation of a metaphor. Then he looks for a more appropriate non-literal one. In fact, in interpreting metaphors, the language users face flouting the maxim of quality which commands the speakers not to say anything which they know to be false. (Grice (1975). However, a basic question is that why should audience go through a process of first flouting a maxim and then adopting a new interpretation of a combination of words in a metaphoric expression, since such a process may take more time and also is not economical in language use.

Wilson and Sperber's (1995) Relevance Theory provides an alternative explanation for the way language is comprehended by language users. According to them, relevance comes from the formation of cognitive effects as a result of the processing of the input available to cognition. Wilson and Sperber (1995) reiterate that any cogent pragmatic theory should provide an account of how the audience of a message interprets speech or any other form of linguistic input. Relevance Theory tries to explain how

we use cognitive resources when we recognize that someone has openly produced an act of intentional communication.

According to Relevance Theory, there is a trade-off between processing effort and cognitive effect in interpreting a message. As the processing effort increases in amount and intensity, it yields less cognitive effect (Wilson &Sperber, 2004). Relevance Theory reiterates the existence of opposite relationship between processing effort and cognitive effect not only for literal language, but also for non-literal one including metaphors (Wilson & Carston, 2006). Elsewhere, Wilson and Sperber (2004) define the concept of relevance in a more meticulous manner by introducing the concept of positive cognitive effect and implications. By positive cognitive effect, they mean whatever changes occurring in our viewing the world.

Meanwhile, as a moderate view on cognitive processing in the interpretation of figurative language, Tendahl and Gibbs (2008) deny any systematic relationship between processing effort and cognitive effects in the interpretation of metaphors by language users. However, they admit the existence of consistency between Relevance Theory and many of the findings in psycholinguistics on the comprehension of metaphors.

Although some work has been done in the field by Wilson and Carston (2006), the role of context in metaphor interpretation has not been thoroughly studied separately in the light of Relevance Theory. In other words, the basic question that arises is about the role of relevance and context in determining the meaning of metaphoric expressions in a language. The present study has tried to investigate the role of context in providing clues in the formation of implicatures and explicatures of metaphoric language, especially in reading a text by second language learners of English.

Research Question: Does contextualization have any impact on the Iranian EFL learners' comprehension of metaphors?

Methodology

Design of the Study

The present study follows a mixed, cross-sectional design (qualitative-quantitative analysis). After the researchers investigated the processing effort involved in dealing with metaphors, qualitative design based on interview was used. Also, for assessing cognitive effect, quantitative analysis was applied based on statistical analysis of the collected data of the tests used in the study.

Participants

The present study was done on one group of 30 EFL learners of English as a second language at upper-intermediate level in one of the language learning centers (Kish Language Institute) in the Iranian capital, Tehran. The study participants were of both genders (mixed groups) between 25 and 35 years of age. The coursebook material which the learners were passing was New Headway, book 4. Meanwhile, the course was based upon communicative language teaching approach and the target of the learners was achieving communication skills in English mostly for continuing education abroad or immigration. To know more about the context of the study participants, they attended the class 3 times a week, each session taking one and half hour. The course teacher was a non-native speaker of English. The activities in the class were mostly based on the course material and the exercises were those in the coursebook and not much further. The class activities were mostly oral accompanied with audio material for input of the new language material.

Instrumentation

Oxford Placement Test (OPT), Standardized in 2004

OPT was used to make sure of the homogeneity of the selected participants of the present study. To this end, an OPT test was administered to 100 EFL learners in Kish Language Institute, Tehran, out of which 30 intermediate EFL learners were selected (one SD above and below the mean).

An Extract of Mark Twain's Classic Short Writings

The study was conducted in eight sessions and in each session, a text containing metaphoric language was used to expose the study participants to metaphors. The text was chosen from one of the works of Mark Twain's (1883) classic short writings entitled Life on the Mississippi. This story consists of 60 short stories from which eight stories were selected for eight sessions.

Two Tests of Metaphor Comprehension

For eight sessions, one test for de-contextualized, isolated metaphors and one for the same metaphors in text were designed and made by the researchers. Each test consisted of 10 items. The validity of the tests was approved by two experts from language and translation, University of Applied Science and Technology, Tehran, Iran. Furthermore, the tests were reliable due to Cronbach's alpha between .78 and .85. Each session, the researcher administered the decontextualized test first and consecutively the text (one story from Life on the Mississippi was given to the learners. And finally, the contextualized test was given to the learners to see if dealing with text had any significant effect on the learners' comprehension of metaphors.

Oral Interview for Collecting Qualitative Data

Another instrument for data collection was a semi-structured interview (with five predetermined questions) with the participants to check the ways they went through the process of disambiguation and also the ways through which they could access the clues present in the text to achieve the true meaning of metaphors.

Procedure

Following the sampling procedure for selecting the study participants, 10 metaphors were selected from the text mentioned above (A young Boy's Ambitions). To collect data from the study participants, two tests were developed based on the 10 selected metaphors. In the first test, the 10 metaphors extracted from the story were given in separate sentences to the study participants, for which they had to answer questions related to the meaning of those metaphors. For the second step of our investigation, the original text of the story from which our metaphors were extracted was given in a comprehension test in which the study participants were supposed to answer questions about the meaning of the same 10 metaphors. Following these two tests, the data collected from the two tests were statistically compared through t-test statistical procedure. Meanwhile, an interview was conducted to see how the participants could comprehend the meaning of the metaphors based on the contextual clues and how they went through the process of disambiguation for understanding the metaphors of our investigation.

Result

The following is the result of the interview conducted to seek the processes the study participants went through for the interpretation of metaphors in the text. To avoid the interview-based transcriptions, the authors present the results from their own perspectives.

In the case of the metaphor "burning to be clown", the verb "burn" creates the expectation of a change of state in a person's mood with feelings like desire or excitement. For this metaphor to be easily interpreted by the reader, the context of the story which is mostly about a young boy's ambition to be a boat pilot in the geographical context of Mississippi bank makes the formation of the real meaning of the metaphor possible. The findings of the interview showed to us that for extracting the meaning of this metaphor, the reader's mind starts to process the meaning of the whole phrase "burning to be clown" and tries to find a logical relationship between the verb "burn" and the infinitive of purpose "to be clown". Up to this point, there will be a contradiction between the verb "burn" (which semantically connotes the idea of demolition and being destroyed as a result of an event like catching fire or the related consequences thereof) and the verb "to be" (which basically connotes the idea of existence and being alive rather than being dead). In the de-contextualized situation, the processing effort spent by most participants, did not result in the formation of the exact meaning of the metaphor, this means 6 out of 10 metaphors were responded wrong. The source of deviation for extracting the meaning of the verb "burn" was that the study participants could not find any relation between "burn" and the noun "clown". This even led to some odd interpretation in the de-contextualized exposure of this metaphor in the first phase: *A clown who could do firework in the circus*. However, the result of the interview with study participants showed that the contextual factors came to play when the metaphors were presented to the study participants in the context. For instance, in the original text of the story, the writer talks about hope: "Now and then, we had a hope that ..." The positive idea conveyed by the verb "hope" serves as a clue to decrease the load of processing effort resulting from semantic contradiction emanating from the mismatch between the verb 'burn" and the phrase "to be a clown". The decrease of processing effort naturally ends in a further achievement in the level of cognitive effect manifesting itself in the comprehension of the exact meaning of the whole metaphoric phrase "burning to be clown". Also, the study participants stated that further clues to lead the readers to the exact meaning of the metaphor "burning to be clown" were "...we had transient ambitions" which appeared in the text just a clause before the place of occurrence of our metaphor. However, the procedure of cognitive processing does not stop at this point; the reader keeps up with the achieved interpretation of the metaphor until no clues in the following parts of the text challenges that interpretation and nothing in the text contradicts the reader's expectation of relevance.

In another case, the story includes the metaphor "drowsing in the sunshine". Logically, the concept behind "sunshine" and "drowse" are in contradiction to each other, and as the result of the first test shows, the meaning of the whole phrase could not be easily deduced by the research participants when it was presented to them out of context. However, as it was mentioned by the study participants in the interview, the events in the city following the situation described by sunshine served as clue to make it clear that the metaphor aimed to picture a stagnant and at the same time silent and peaceful state of affairs in the harbor city before the arrival of the steamboat. The result of the interview showed that the turmoil and hustle and bustle of the town described by words and phrases like "clatter" serves as the key contextual clues for the correct interpretation of the metaphor when it is presented in the context.

Another metaphor of the text is the phrase "a film of smoke". The results of the interview showed that most of the study participants could not recognize the meaning of the metaphor because the word "film" was misleading for them. In two cases, the study participants even stated that they thought there was a movie related to smoke or smoking. However, in the context of the story, most of the study participants could understand that a film of smoke means a line of steamboat smoke visible from the riverbank when the steamboat appeared in the horizon. One of the clues for disambiguation in the original text was the phrase "above one of the remote points". Also, the verb "appears" following the metaphor could help the readers get a better understanding of the pragmatic meaning of the metaphoric phrase "a film of smoke":

"Presently, a film of smoke appears above one of the remote points."

Another metaphor of our study extracted from the text of the story "A young boy's ambition" was the metaphor "quick eye". In the test of the metaphors out of context, 7 out of 10 participants made a mistake in recognizing the exact meaning of the metaphor. However, the results of the test for the metaphors following contextualization shows that 9 out of 10 study participants could recognize the

exact meaning of the metaphor. The source of deviation in the first test (metaphors out of their context) was the meaning of the word "quick" which refers to the speed of movement. However, such meaning cannot match the whole phrase "quick eye" which refers to the eyes' sharpness. The exact meaning of the phrase was recognizable by the study participants through the contextual clues provided by the text. One such clue was "A negro wagon driver famous for his quick eye and powerful voice, lifts up the cry: S-T-E-A-M-B-O-A-T C-M-I-N-G." This phrase showed to the study participants that quick eye was a privilege for the wagon driver to be the first to know of the steamboat approaching the harbor. Therefore, quick eye could most probably mean sharp eye rather than an odd feature like speediness which is most likely meaningless and odd for eyes.

The next metaphor of our test was the metaphor "furious wagons". In the test of metaphors in isolation, none of the study participants could recognize the meaning of the metaphor. However, 21 out of 30 of the study participants could understand the exact meaning of the metaphor when it was presented in the context. The result of the interview with the study participants showed that clues in the text such as "The clerks wake up". Also, the verb "follows" after the metaphor "furious wagons" which can be interpreted in a relevance relationship between the events and developments following the arrival of the steamboat.

The next metaphor in our investigation was "fasten their eyes". No participants in the first test could recognize the meaning of the metaphor when it was presented in the context. However, in the second test (the test of the same metaphors in contextualized situation), most of the study participants could understand that the metaphor means to focus their eyes on the coming steamboat. The result of the interview showed that in the de-contextualized situation, most of the study participants thought that *fasten their eyes* meant *to shut their eyes*. However, it was discovered in the interview that the context provided by the text made the meaning of the metaphor clear to the readers. The most important contextual clue was the sentence in which the metaphor appeared:

"The people fasten their eyes on the coming boat as they would on a wonder they are seeing for the first time."

The clause *they are seeing for the first time* makes it clear that the participants' guess for meaning the metaphor as *closing their eyes* was a wrong interpretation and a deviation from the exact meaning of the metaphor. Furthermore, as the whole context provides information about the great desire of the whole city to wait for the steamboat, interpreting the metaphor "fasten their eyes" as *closing their eyes* would totally contradict the expectation of relevance that the people should be looking at the boat with much attention and surprise after ling time of waiting. Also, the climax of the story which is manifested in the arrival of the steamboat necessitates an enthusiastic welcome by the town-people who have spent the whole day in a dull stance fused with hopes to see the steamboat again, which is going to bring life to the city. All this information is provided merely at the contextual level, which makes the understanding of the metaphor possible based on the principle of meeting the readers' expectation of relevance emanating from the overcome of cognitive effect over processing effort.

The next metaphor of our investigation was the metaphor "undeserving reptile" which was used by the writer to describe a character of the story. The result of our interview showed that out of the context, the phrase *undeserving reptile* can have a variety of meanings ranging *from a reptile which does not cost so much* and *a person who is so worthless that we can think of him as being a reptile.* However, the text provides enough context to help the reader conclude that the person is described as reptile by the writer to show that the boys of town hated that person as a reptile is usually hated because it is a sly animal. The clues provided by the text make the use of the word reptile relevant since its interpretation is facilitated by these sentences:

"That boy had been notoriously worldly."

"There was nothing generous about this fellow."

"We loathed him."

Another metaphor in our study was "lapse into silence". 8 out of 10 of our study participants could guess the meaning of the metaphor correctly. However, in the second test (contextualized metaphors), the number of those who could guess the meaning rose slightly from 8 in the first test to 9 in the second one. This again shows that context could play a role to make the meaning of the metaphor more lucid. Particularly, the writer compares the situation of the town boys with that of the young captain (the person described as reptile). The writer gives a background for two relatively successful boys in town, adding that:

> *"... but the day of their glory was over now. They lapsed into humble silence."*

Another metaphor in our text was "princely salary", which means a high salary. The comparison between the tests for contextualized and de-contextualized tests did not show any difference of performance in the task of comprehending the meaning. This can be explained by the fact that this metaphor is so clear that the study participants could easily guess the metaphor to mean a salary like that of the royal family, which clearly means a high salary. All the participants of our study could understand the meaning of this metaphor in the first test (metaphors out of the context).

In the case of the metaphor "A cold shoulder", in the first test, 5 of the study participants could recognize the meaning. However, in the second test, 8 of the study participants could answer the question on interpreting this metaphor correctly. The result of the interview showed that in the cases the participant could not recognize the meaning of the metaphor in the first test, they formed deviating meanings such as *a state of hopelessness* or *a state of inactivity*. However, when presented in the context, the more study participants could recognize the exact meaning of the metaphor. The interview showed that the contrast between the words "inquire" and "but" in the following sentence served the most in clarifying the meaning of the metaphor.

> *"Meekly I went aboard ... and humbly inquired for the pilots, but got only a cold shoulder and short words."*

As the second part of the study, we tried to statistically compare the difference between contextualized and decontextualized interpretation of metaphors in terms of cognitive effect. The results presented in Table 1 reveal that in case metaphors are contextualized, their comprehension happens more successfully.

The statistical analyses of the two tests showed the following results:

Table 1

Comparing Means of Scores of the Two Tests

	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig.(2-tailed)
				Lower	Upper			
Pair Var1 & Var2	- 0.73333	0.78492	0.14331	-1.02643	-0.44024	- 5.117	29	0.000
*P <0.05								

Considering the fact that the t-observed of the result of our test is 5.00 which is more than t-critical (2.00), a remarkable difference between the two tests is obvious. After comparing the two mean scores through t-test calculations, it is found that there is a meaningful difference of performance in comprehension between the case when metaphors appear in separate sentences and when they appear in the whole context of a piece of written text. Thus, the final calculated t-test (5.00) at 0.05 level of probability is due to the independent variable i. e. contextualization of metaphors in the text.

As the metaphors become more and more contextualized, the scores on the test also grow. This shows that the gradual provision of context (from the bear metaphor to sentence and from the sentence to discourse) helps the processing effort to decrease and cognitive effect to increase.

Discussion

As the study on interpreting metaphors inside and outside context suggests, the amount of processing effort from word level to sentence and discourse level is constrained by the relevance-theoretic comprehension procedure which is highly context-dependent. However, the effort invested in processing the encoded concepts during metaphor comprehension varies from context to context. By definition, for a context to be effective in providing cognitive clues for the task of comprehension, the criterion is that the implications of the message should be accessed at a relatively low cost to fulfill what is technically known as the "expectations of relevance" from a Relevance Theory perspective (Wilson & Sperber, 1995). The inference of the contextualized meaning pertaining to metaphors is made through comprising with the principle of optimal relevance (Wilson & Sperber, 2008). Supported by the present study, if a metaphor is familiar to the audience, they have less trouble comprehending the message behind it. However, when a metaphor is novel, the usual truth-conditioning mechanisms used for comprehending literal language cannot work for interpreting metaphors. Therefore, rather than a semantic mechanism, a pragmatic mechanism should be at work to make the interpretation of metaphor possible. The present study shows that interpretation of metaphor is made possible by an effort from the reader to seek for relevance between the literal truth-conditioning meaning of the elements comprising a metaphoric expression and the intent of the whole message which is a function of the pragmatic meaning of the message which is determined and judged by the clues present in the context. The mind goes through processing using a mechanism of hypothesis-testing until the optimal cognitive effect is achieved. The criterion for judging the optimal level of such cognitive effect is the degree to which the expectations of relevance pertaining to the use of that special metaphoric expression in that context are satisfied by the textual and contextual factors. According to Relevance Theory (Sperber&Wilson,1986), relevance is not only pivotal to human communication, but it is also central to human cognition. According to the *communicative principle of relevance*:

> *"Every act of ostensive communication communicates a presumption of its own optimal relevance (Sperber& Wilson, 1995, P.260)"*

In this definition, by ostensive stimuli, Wilson and Sperber especially mean a stimulus used to convey meaning. However, the comprehension principle of relevance is a component of the macro view of human cognition in general, which gives rise to the *Cognitive Principle of Relevance*, which says:

> *"Human cognition tends to be geared to the maximization of relevance." (Sperber & Wilson, 2005).*

One explanation for the influence of contextualization on relevance for metaphors is that the implicatures emanating from context serve as positive cognitive effect which is a logical merger of the utterance along with context and human's natural tendency for maximum relevance (Birner, 2013). To explain the fact, it should be noted that meaning in metaphors cannot be achieved based on compositionality of meaning as is proposed in semantics. Based on Relevance Theory, the producer of a message produces the utterance based on some predictions on how the audience tends to infer the most relevant information through the least processing effort employed. In other words, there is a mutual cognitive consensus between the speaker and the listener (or the writer and the reader) on the least processing effort needed and the maximum cognitive effect targeted in facing a message.

If we consider the processing effort as a machine, the available sources for the reader or audience are as follow: The lexical truth-conditioning for meaning of utterances, which cannot be definitive in determining or detecting the terminal meaning of a metaphor unless the reader has a background knowledge of that special metaphoric relationship between the elements comprising that metaphor, is impossible for novel metaphors.

As it was seen in the study of our participants, the other material in the hand of the reader is the context which by nature provides facilities for the inferential process of meaning-making in a message. Also for metaphors, the kind of associations between the elements of metaphors are tested and verified in the context.

For further understanding the difference made by providing context, we need to refer to Wilson and Sperber's (2002) concept of mutual adjustment as a process in which the explicatures and implicatures of a message are derived in a process where the hearer/reader of a message tries to form hypotheses concerning the explicit content (explicatures) of a message and at the same time go through the stage of considering the implicit intent (implicatures) of the message. The process goes on until an acceptable proportion of the two (implicature and explicature) is achieved at which the reader's/ hearer's expectations of relevance is fulfilled and satisfied.

Metaphors by nature cannot give enough clues for explicatures since the meaning of the component parts show much deviation from the intent for which a metaphor is used in speaking and writing. Therefore, as it was seen in our study, if a metaphor is novel, or if the reader of a text is not sure about the meaning of a metaphor, he/she has to seek for clues to make the interpretation of that metaphor possible for him. At this point, context comes to play a key role. Context is an important factor for easing the processing implicatures behind the text and providing relevant conceptual links to the possible verifiable interpretations of a metaphor. In other words, the process of understanding a metaphor in a text is a process of verification of the hypotheses against the contextual clues in response to the needs to fulfill expectations of relevance in the mind of the hearer/reader. As discovered in the interviews, least effort interpretation of metaphors seems to be widespread and thus a property of human cognition.

Initially, the reader of a text refers to his own encyclopedic knowledge about a metaphor and to make the interpretation of the metaphor possible, he proceeds to widen the context of interpretation. At this stage, explicature and implicature are combined in varying degrees and proportions until the optimal cognitive effect is achieved. In fact, a logical balance between content, context and implicature is the norm for stopping the processing of the text. As it is the case with all types of language in Relevance Theory, there is a mutual adjustment between implicatures and explicatures in comprehending a metaphoric expression, but here with one important difference: the role of implicatures and context is more important in interpreting metaphors because literal meaning plays less role in determining the meaning of a metaphor. In other words, lack of context and background information about the similarities of concepts through which components of metaphors find a conceptual link to each other is impossible.

In *Relevance Theoretic* terms, the process of meaning formation in metaphors is that the hearer considers the most accessible assumption as a potential implicature of the utterance even *before the formation of* an explicature is of that metaphor. To boost the explicit content of that metaphor, a process of backward inference comes to play he may enrich to the extent that the implicature extracted before in not contradicted. As a result, the encoded concept is broadened so that it refers not simply to cases of literal meaning of the metaphor but to cases beyond the literal meaning which is the target point for that metaphor.

A fact about the relevance of a message to the reader is that the ease with which the hearer can arrive at cognitive effects related to a metaphor determines the amount of processing effort needed for interpreting a message per se. As the contextual clues increase, the meaning of that metaphor can be more easily determined. Therefore, the amount of processing effort for processing that metaphor shall decrease. According to Wilson and Carston, "an input is relevant to an individual when it connects with available contextual assumptions to yield positive cognitive effects" (2006, p.5).

A criterion for choosing clues in the context is that the reader seeks for the most accessible meaning to see whether it achieves enough cognitive effects. According to Noveck, et al. (2001), novel creative metaphors need more time for their processing than the equivalent literal forms if they occur in neutral contexts. According to Tendahl and Gibbs (2008), hearers reach additional cognitive effects if they keep on processing a creative metaphor with the potential to communicate many cognitive effects. The role of the context is that it can facilitate metaphor processing and if the context is an optimal one to provide enough clues, the reader does not need to process metaphors any more deeply than non-literal language.

Another perspective to explain the result of the present study is that relevance of sentences is a meaning function of its context. In pragmatic-theoretic terms, although there is a tendency in linguistic theory to separate semantic and pragmatic features of utterances in analyzing the meaning of sentences, the illocutionary force of an utterance shows to have a high level of influence on the ultimate meaning of a sentence. The reason for such influence from pragmatic side comes from the fact the illocutionary force of an utterance modifies the speaker's intention and the hence, the hearer's response to the proposition for which the message has been produced.

On the significance of context for the relevance of messages, Pietarinen (2005) points out that not only Relevance is constrained by context, but it is a fact that the reverse is also at work in which provision of suitable context enhances the level of cognitive effect by reducing the level of processing effort needed to comprehend the meaning of utterances including the non-literal language in general and metaphors in particular. In case of metaphors, as they are among the most complicated semantic representations in language, the importance of clues to make the messages conveyed by metaphors more relevant becomes even more raised. In fact, metaphors are somewhere between literal language and idiomatic phrases. In case of idioms, there is a total arbitrary relationship between semantic properties of the components (the words comprising an idiom) and the terminal meaning of an idiom, while in metaphors, there are shades of relationship in case of matters of similarity of concepts to be conveys, between the component parts and the terminal meaning of the metaphor. Therefore, context-induced relevance completely makes sense in determining the logical interpretation of a metaphorical expression.

In fact, the process of meaning formation for novel metaphors is an ongoing process of checking for relevance which continues in the whole text as far as no clues in the text contradicts the assumptions based on which fulfillment of expectations of relevance is realized in the mind of the reader. As research shows, the pragmatic meaning of all forms of language is constructed in a mechanism of checking for relevance for which the two dimensions of processing effort and cognitive effect are pivotal.

Generally, we can argue that the goal in meaning making for metaphors is to reproduce the speaker's meaning with the condition of satisfying the need for optimal relevance. According to Wilson and Carston (2006), such a goal is attainable through enriching the interpretation at the explicit level through processes of disambiguating and reference assignment, and also complementing it at the implicit level through providing contextual assumptions in conjunction with the explicit meaning.

Conclusion and Implications

The meaning the speaker intends to convey by the use of metaphors is pragmatically reconstructed by relevance-driven inferential mechanisms which take as input a set of highly accessible encyclopedic assumptions as well as a search for fulfilling expectations of relevance arising from the relationship between meaning of the metaphor and the reason it is used within a specified context. The amount of processing effort invested, and the depth of processing of the encoded concepts are constrained at every stage by the search for an optimally relevant interpretation. In such a process, context plays a highly crucial role to boost the level of cognitive effect through facilitating the load imposed on the reader of a message emanating from the task of mental processing effort. In other words, a consensus needs to be achieved at which a balance between explicature and implicature is recognized though resorting to both encyclopedic knowledge as a component of human cognitive apparatus and the contextual clues which are the necessary factors in forming any coherent discourse.

A practical implication of the findings of the present study is that in teaching metaphors, an awareness of the relationship between contextual factors and metaphoric meaning behind the words and expressions can help language learners to develop a better ability in using and comprehending such linguistic items. It is an axiomatic fact in language that the number of metaphors can be considered infinite because metaphors are formed and developed in language in a productive open-ended manner. As a result, one important implication of the present study is that language learners can be trained some relevant techniques to gain mastery in understanding the purpose behind novel metaphors in reading a

text through an awareness of the possible inter-relationship between the text, the metaphor at stake and the active agentive mind of the reader of the text who is responsible in decoding the intended meaning for which that special metaphor has been used. The present study and some seminal studies in pragmatics and Relevance Theory paradigm could clearly show the important fact that relevance is an innate feature of language and human mind. It is this very feature of communication and cognition that makes it possible for learners of a language to develop a capability in themselves to resort to relevance as a clue in deciphering the meaning of novel metaphors.

Acknowledgement

Declaration of Conflicting Interests

The authors whose names are listed immediately below certify that they have NO affiliations with or involvement in any organization or entity with any financial interest (such as honoraria; educational grants; participation in speakers' bureaus; membership, employment, consultancies, stock ownership, or other equity interest; and expert testimony or patent-licensing arrangements), or non-financial interest (such as personal or professional relationships, affiliations, knowledge or beliefs) in the subject matter or materials discussed in this manuscript.

Funding Details

References

Birner, B. J. (2013). *Introduction to Pragmatics.* Wiley-Blackwell.

Cameron, L. (2003) *Metaphor in Educational Discourse*, London: Continuum.

Cameron, L. (2010). The discourse dynamics framework for metaphor. In Cameron, L. and Maslen, R. (Eds), *Metaphor Analysis*. London: Equinox.

Fowler, C. A. & Hodges, B. H (2016). Action, culture and metaphor: finding common ground in research on public language use. *Language Sciences*, *53,* 1–7.

Fine, G., Campion-Vincent, V. and Heath, C. (2005). *Rumour Mills: The Social Impact of Rumor and Legend*. New Brunswick, NJ: Transaction.

Gibbs, R. J. (1994). *The Poetics of Mind: Figurative Thought, Language, and Understanding* New York: Cambridge University Press.

Gibbs, R. W., Jr. and Cameron, L. (2008). Social-cognitive dynamics of metaphor performance.

   Cognitive Systems Research, 9, 64–75.

Grice, H. P. (1975). Logic and conversation. In Px. Cole P & J. Morgan (Eds), *Syntax and Semantics. 3,* 83-102. Academic Press, New York.

Griffin, R., Friedman, O., Ween, J., Winner, E., Happé, F. & Brownell, H. (2006): Theory of mind and the right cerebral hemisphere: Refining the scope of impairment. *Laterality,* 11(3), 195-225.

Hagoort, P. & Levinson, S. C. (2014). Neuropragmatics. In Gazzaniga, M. S. & Mangun, G. R. (Eds), *The cognitive neurosciences*. Cambridge, MA: MIT Press, 667-674.

Kövecses, Z. (2010). A new look at metaphorical creativity in cognitive linguistics. *Cognitive Linguistics,* 21(4), 663–97.

Lakoff, G. & Johnson, M. (1980). *Metaphors we live by*. Chicago: University of Chicago Press.

Noveck, I. A., Bianco, M. & Castry, A. (2001). The Costs and Benefits of Metaphor. *Metaphor and Symbol,* 16(1&2), 109–21.

Peirce, C. S. (1998). *The Essential Peirce 2. Peirce Edition Project*. Bloomington: Indiana University Press.

Pietarinen, A. V. (2005). *Signs of Logic: Peircean Themes on the Philosophy of Logic, Language and Communication* (Synthese Library Series). Dordrecht: Springer.

Semino, E. (2008). *Metaphor in Discourse*, New York: Cambridge University Press.

Sperber, D., & Wilson, D. (1995). Postface. *Relevance: Communication and Cognition*. (2nd ed., pp. 255-279). Oxford: Blackwell.

Sperber, D., & Wilson, D. (2005). *Pragmatics*. In Frank Jackson & Michael Smith (Eds.), *Oxford Handbook of Philosophy of Language*. Oxford University Press.

Tendahl, M. & Gibbs, R. (2008). Complementary perspectives on metaphor: Cognitive linguistics and relevance theory. *Journal of Pragmatics, 40*, 1823-1864.

Wilson, D. & Sperber, D. (2002). Truthfulness and relevance. *Mind*, *111*(443), 583-632.

Wilson, D. & Carston, R. (2006). Metaphor, Relevance and the Emergent Property Issue. *Mind & Language, 21*(3), 404–33.

Wilson, D. & Sperber, D. (1995). *Relevance: Communication & Cognition* (2nd Edition) Oxford: Blackwell.

Wilson, D. & Sperber, D. (2004). Relevance Theory. In Horn L.R. & G. Ward G. (Eds.), *Handbook of Pragmatics*. (pp. 607-632). Blackwell.