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**ROLE OF METALINGUISTIC AWARENESS IN AMBIGUITY-BASED
HUMOR COMPREHENSION IN A SECOND LANGUAGE**

A thesis submitted in fulfillment for the degree of

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by

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List of Contents

Abstract	5
Acknowledgments	6
Introduction	7
Research Question:.....	9
CHAPTER 1: Literature Review	10
1.1.1 Ambiguity-Based Humor.....	10
1.1.2 Ambiguity Resolution.....	14
1.1.3 Ambiguity Resolution Assessment.....	19
1.2.1 Metalinguistic Knowledge.....	20
1.2.2 Metalinguistic Knowledge Assessment	22
1.3 Studies on the Relation between Humor Comprehension and Metalinguistic Knowledge.....	25
CHAPTER 2: Methodology.....	26
2.1 Participants.....	26
2.2 Research Tools.....	28
2.3 Metalinguistic Knowledge Test.....	28
2.4 Ambiguity Resolution Test.....	30
2.5 Data Calculation	31
2.6 Key Terms.....	31
CHAPTER 3: Results and Discussions.....	32
3.1 Findings from the Metalinguistic Knowledge Test	32
3.2 Findings from the Ambiguity Resolution Test	36
3.3 Discussion: Correlation Analysis.....	43
Conclusion.....	49
References	52
Appendix	62
Instructions.....	62
Metalinguistic Knowledge Test.....	62
Ambiguity Resolution Test.....	64

List of Tables

Table 1: Age range description	26
Table 2: Grammatical terms used in the test.....	28
Table 3: Metalinguistic Knowledge Test results summary.....	32
Table 4: Ambiguity Resolution Test results summary.....	36
Table 5: Ambiguity Resolution Test part 1 results.....	37
Table 6: Ambiguity Resolution Test part 2 results.....	38
Table 7: Correlation Analysis.....	45

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Abstract

The research investigates the possible correlation between metalinguistic knowledge and ambiguity-based humor comprehension in a foreign language. What is referred by metalinguistic knowledge is learners' ability to describe grammatical rules of a language. The aspects of metalinguistic knowledge addressed in this research are the explicit morphological and syntactic knowledge. The study attempted to find out whether the higher metalinguistic knowledge (morphological and syntactic) causes the better performance in ambiguity-based humorous expressions (syntactic/structural ambiguities). To explore the relationship, two subsequent tests were implemented – Metalinguistic Knowledge Test and Ambiguity Resolution Test. The statistical correlation analysis was conducted using Pearson's Correlation Coefficient. The research was carried out among non-major English learners in Azerbaijan. As the result of examination and the statistical analysis of the test results, low positive correlation was revealed between the two phenomena.

Key words: Ambiguity-based Humor, Metalinguistic Knowledge, Ambiguity Resolution, Syntactic Ambiguity

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Introduction

Humor is not only a linguistic issue, but also a cultural element, thus the ability to perceive and use humor is significant for immersing into a culture. Studies on the mechanisms of humor comprehension make up of a great part of language studies which have focused on different aspects and factors in humor resolution in native and foreign languages. The motivation behind this research is that humor comprehension in L2 is highly sophisticated skill which involves not only implicit knowledge in L2 but also metalinguistic skills that enable speakers/learners to both comprehend how linguistic features work and also to skillfully utilize them for communicative purposes. Metalinguistic knowledge in L2 allows L2 speakers to analyze and resolve ambiguity-based jokes. Despite the strength of relationship between these two, the topic has been left unchallenged. There has hitherto been a massive analysis of the correlation between the metalinguistic knowledge and language proficiency both in first language (L1) and the second/foreign language (L2) learning, particularly from mid-twentieth century onward. The major part of the studies was dedicated to the utilization of the metalanguage in second language learning classroom, where metalanguage was treated as explicit teaching of language structure. The following issues were central to the L2 metalanguage studies: the role of metalanguage in language classroom as explicit grammar taught by instructor; its role as students' ability to analyze and correct errors in L2, its importance in reading comprehension skills and vocabulary acquisition, the relation between the language proficiency outcomes and the metalinguistic skills in the second language. Only a limited number of studies cast light on the correlation between metalinguistic awareness and the humor comprehension.

The following is the research question: Do metalinguistic knowledge play a role in ambiguity-based humor detection in a foreign language? The predicted answer is yes,

i.e. L2 metalinguistic awareness do play role in L2 humor resolution. What is implied by the preceding statement is that second language speakers with metalinguistic knowledge in target language are more skillful in humor comprehension in the target language. The experiment will be carried out in order to find out the claimed relationship. Through experiment, participants' L2 metalinguistic knowledge and ability to detect and resolve ambiguous expressions in English were measured. The following step a statistical correlation analysis was carried out to measure the possible relationship between the two phenomena.

Objectives of the research:

1. To reveal the existence of the relation between the metalinguistic knowledge and the ambiguity-based humor comprehension in a foreign language;
2. To identify the type of the relation;
3. To claim the role of metalinguistic knowledge in ambiguity-based humor detection.

Two major challenges were encountered during the study were of two kinds: definitional problems; unavailability of standardized tests for measuring metalinguistic knowledge and disambiguation abilities. Though there are definitional problems in humor studies, it is indispensable to provide a clear, specific definition for the ambiguity-based humor in order to make the point of this study clear. By ambiguity-based humor, what is referred to is the jokes involving incongruities of multiple meanings, and requiring disambiguation to resolve these incongruities (Attardo, 2017b).

Metalinguistic knowledge is often defined imprecisely; however a generally accepted approach is that it refers to the explicit/conscious knowledge about the language and how it is used. Terms metalinguistic knowledge, metalinguistic awareness, language awareness, knowledge about language, object language all are used interchangeably to refer to the explicit knowledge about language. The problem is these terms should be

differentiated from specific aspects. It should be emphasized that metalinguistic does not only covers grammatical knowledge, but also phonological, lexical and pragmatic knowledge.

Regarding the second challenge – unavailability of standardized measurement tools, those assessment tools was adopted, reliability and validity of which have been tested and approved.

Research Question:

1. Is there any correlation between the metalinguistic knowledge and the ambiguity-based humor detection in a foreign language?

CHAPTER 1: Literature Review

1.1.1 Ambiguity-Based Humor

The major challenge for this research is probably providing the definition of the key terms — metalinguistic knowledge and ambiguity-based humor comprehension. Although the notion of humor has been known for more than two millennia, a systematic approach to humor studies in linguistics traces back to twentieth century, particularly from mid-twentieth century onward. Several theories have hitherto been developed in order to determine what is the nature of humor, how it functions, what mechanism is in work for humor resolution, in what way humor influences people's social relations, and its functions. Evolution theories, Superiority theories, Surprise Theories, Incongruity theories, Ambivalent theories, Release theories, Configurational theories, Psychoanalytical theories, Cognitive shift theory re the main theories to humor process, explaining it in similar or completely distinct ways (Goldstein et.al., 1972; Attardo, 1994; Latta, 1998; Scheel, 2017; Smuts, 2020; Morreall, 2020). Overall, humor theories are grouped under three headings (Morreall, 1987; Critchley, 2002; Shaw, 2010; Attardo, 2017):

1. Incongruity theories (Cognitive approach);
2. Hostility theories (Social approach);
3. Release theories (Psychoanalytical approach).

As claimed by the approaches of the first group, origin of which traces back to Kant and Shopenhauer, humor occurs when a normal flow of communication is suddenly disrupted by an unexpected transformation. Event (here linguistic event) is labeled to be incongruous when the expected arrangement is disrupted (McGhee, 1979). Incongruity is “surprise” followed by resolution, i.e. the stage when incongruity is “decoded” (Attardo, 2014). Two distinct stands in incongruity theories are observed

among the linguists: (1) occurrence of incongruity is sufficient for humor creation; (2) incongruity should be followed by resolution (perception by the receiver) for achieving successful humorous effect (Forabosco, 1992).

Regarding the hostility theories, also referred as superiority theory, origins of which trace back to Greek thinkers, they emphasize the social role (particularly negative influence) of humor — aggressive humor. According to release theories, from psychological point of view, humor releases people from conventions, and from linguistic point of view, humor is a way to avoid linguistic rules (Attardo, 1994). At this point, the pragmatic debate arises between treating humor as the violation of the Paul Grice's principle of cooperation and attempts denying the violation (Grice, 1975; Grandy, 2020).

Semantic Script Theory of Humor (Raskin, 1984) and General Verbal Theory of Humor (Attardo, 1991) are regarded to be successful treatment of the humor phenomena. The latter one emerged as an attempt to complete the former one: SSTH is too limited, so that it emphasizes only the semantic knowledge in humor process, neglecting other linguistic aspects, social and cognitive competences.

Regarding Raskin's theory, it emphasizes semantic competence in both humor generation and perception. He coins the term "humor act", referring to "individual occurrence of funny stimulus", and enumerates the constituent elements of it. So for "humor act" to happen there must be participants (speaker and hearer), stimulus, experience, psychology (participants' psychological features), situation, and society (a culture within a society) (Raskin, 1984).

Incongruity theory was challenged by Latta (1998) who introduced Cognitive Shift theory, also known as Theory L, according to which humor process involves three stages:

1. Initial stage: being in unrelaxed, awkward situation due to wide range of cognitive factors. Unrelaxation may happen as an emotional state (like, fear, tension, etc.) or as physical state (like concentrating to get out of that awkward situation).

2. The mid-process transition: in this stage “primary cognitive shift” happens, though unrelaxation is not gone away completely, it is a kind preparation for the complete release.

3. The ultimate phase of humor process is the sudden relaxation, accompanied by laughter. Basically, according to the cognitive shift theory laughter is the key element in humor, which is caused through three stages mention above, and for the laughter to happen cognitive shift is not necessarily prompted by unexpected situation.

Emphasizing the universal aspects of humor, Attardo (2017) introduces three dimensions of humor generation: conceptual features; phenomena; aspects of phenomena. Among many, ambiguity is one of the universal and significant conceptual features of humor creation. It is almost the most observed humor element in various levels of language. Another definition puzzle appears when attempting to give a fixed, commonly accepted frame of linguistic ambiguity. This explanation is indispensable for making it clear what is referred by ambiguity-based humor in terms of the object of the study. Gillon (1990) contrasts definition of ambiguity with of the generality and indeterminacy. Equipped with the concepts proposed by previous researches (Alston, 1964; Leech, 1974; J. S. Mill, 1843), Gillon concludes that expression is ambiguous if it has more than one meaning; expression is general if its connotation is a group of more than one species.

Another challenge in ambiguity studies is that ambiguity shouldn't be confused with vagueness, context sensitivity, under-specification and generality, sense and reference transfer (Kennedy, 2011; Sennet, 2016). Distinguishing ambiguity from other types of wordplay and language uses requires specifying its characteristics by eliminating it from common confusing features. Context sensitivity is the use of context-sensitive

words in expressions. For instance, “you” is context-sensitive word, since its reference is completely dependent on the context. Furthermore, ambiguity is not a sense or reference transfer, i.e. the use of different word to refer to an object instead of using the word having reference to that object. For example, consider the following sentence:

a) “*My dad is usually parked near the entrance*”

Here “my dad” refers to the car, not a person.

Regarding definition, it can be concluded that ambiguity is a type of wordplay that involves the use of expressions carrying multiple meanings. Depending in what layer of language it appears, and the intentionality of its use, several types of ambiguity can be distinguished. Attardo (2018) differentiates *lexical* and *syntactic* ambiguity as distinct ways of humor generating. In the corpus analysis of newspaper headlines, Bucaria (2004) explores lexical, syntactic and phonological types of ambiguity, among which lexical ambiguity is the most common, and the phonological the least used. According to Attardo, lexical ambiguity is a type of ambiguity, ‘whose ambiguity lies in words and the relations found between words’, to syntactical ambiguity ‘whose ambiguity lies in the structure of jokes, i.e., when a phrase or a sentence is interpreted in different ways’ (Attardo 2017). Bucaria (2004) and Huang (2020), add phonological ambiguity to this classification, confessing its limited occurrence. Phonological ambiguity is mainly result of the use of homonymy or homophones. Bucaria (2004) introduces examples of the subdivisions of syntactic ambiguity: class ambiguity; attachment ambiguities; syntactic reduction or contraction; referential ambiguity. Here a problem arises when the phonological ambiguity and lexical ambiguity are compared. Though phonological type of ambiguity is admitted by many linguists, I doubt its being a separate type of ambiguity. *Phonological ambiguity* is explained as to be the case when words sounds same, but have different meanings. The problem is this is same with homonymy which is accepted as a subtype of lexical ambiguity. Another

generally admitted classification of ambiguity is based on the intentionality of ambiguity: intentional and non-intentional ambiguity.

1.1.2 Ambiguity Resolution

Prior to the discussion of the ambiguity comprehension, some key terms should be defined. So that, the terms ambiguity comprehension, ambiguity detection, disambiguation refer to similar but different processes. Ambiguity detection stands for the initial stage of ambiguity resolution. In this stage the receiver (listener or reader of an ambiguous expression) discover the presence of an ambiguity in a certain context. Disambiguation is the act of identifying which of the possible meanings of the word/structure is used in a particular context, following ambiguity comprehension.

In order to analyze the process of ambiguity resolution, the perspectives of different humor theories should be considered. The reason is that different theories explain the humor processing in more or less similar and distinct ways. Highlighting the importance of the resolution stage of humor process, Attardo (2017) points out two distinct effects can be provided by ambiguity: “what separates humor from what otherwise would be simply nonsense”.

With regard to incongruity-resolution theory, humorous effect is created when a habitual flow of event is disrupted by an unexpected progress. Perception of verbal or written ambiguous texts differs from the way non-humorous and ordinary expressions are perceived (Suls, 1972, Attardo, 2017). Suls (1972) introduces two distinct mechanisms for ambiguous and ordinary (unambiguous) language resolution. Steps until encountering the unexpected shift are same in both texts: input (oral/written); prediction (about what is “coming” next); confirmation/ disconfirmation; readjustment of new input. The chain is broken when the receiver faces a sudden transformation which does not fit in the conventional frame. From this stage, receiver moves to the

“problem solving” phase (Suls, 1972) when an attempt is made to readjust the new information.

Raskin (1984) elaborates on ambiguity detection in Semantic Script Theory of Humor. He claims that people fail to understand all possible meanings of an ambiguous expression because of the context. They may detect one meaning of the expression in a certain context, missing the other, or they may fail to detect either of them. He introduces “obvious context” concept and explains that people fail to understand the meaning of an expression when the “speaker’s obvious context” and “listener’s obvious context” do not coincide. Speakers of a language share common knowledge about their language. They have similar scripts (concepts) in mind, thus humor evokes by detection of the opposite script than the expected one.

Another point that should be touched upon is that humor comprehension in native language and humor comprehension in a foreign language is of dissimilar nature. Comprehension and appreciation of humor requires higher order language skills, sociocultural knowledge and more, which non-native speaker is challenged to acquire. Thus, despite similarities, ambiguity detection and resolution involve distinct principles. Attardo (2017) emphasizes the role of implicit knowledge of language and of communicative principles in both humor generation and resolution. Nevertheless, it cannot be denied the fact that explicit knowledge is superior to implicit knowledge in a foreign language. Thus, it is inevitable that speakers of a foreign language draw on their conscious, explicit knowledge.

A considerable part of the literature review covers the mechanism of ambiguity resolution, alongside the kinds of knowledge, skills and techniques required. The importance of this part is that in order to place the metalinguistic skills in this detection mechanism, the mechanism should be defined first. Significant number of studies has hitherto been conducted on the resolution of distinct types of ambiguity in native

language and second/foreign language. The primary questions that studies on L2 ambiguity resolution attempt to find answers are the followings:

- 1) What cues and techniques do learners make use of when resolving ambiguous expressions (context, knowledge of native language, etc.)? (Lucas, 1999; Black, 2001; Papadopoulou, 2006; Kilickaya, 2007; Crapo, 2018)
- 2) What are the differences between L1 and L2 ambiguity resolution? (Felsler et al., 2003; Dussias, 2003; Ayçiçeği-Dinn, 2018; Vincent-Durroux et. al., 2020)
- 3) What kind of knowledge do learners draw on when encountering or resolving ambiguous expressions? (Schoos et. al., 2020)

With regard to the first question, a considerable amount of research has been implemented. Considering existence of several types of ambiguity, inevitably, the number of the techniques adopted to resolve them is diverse.

Semantic/ Syntactic ambiguity resolution: The most of the syntactic ambiguity resolution studies highlights the role of *lexical-semantic information* drawn out from the sentences to disambiguate the structure, in other words to assign the correct parsing to the structure. However, the disagreement has not been avoidable. To be more specific, while some researchers emphasizes the contribution of the lexical-semantic information to syntactic disambiguation process (Felsler, 2003; Papadopoulou, 2006), there are others who are suspicious about it. Controversy of the same nature is noticeable in the discussions about the potential role *context* may have in syntactic disambiguation process. Nevertheless, the number of studies revealing the role of context (Kilickaya, 2007; Awwad, 2017) outnumber the ones which fail to disclose (Zagar, et.al., 1997; Desmet, et. al., 2002). The idea is that context facilitates the activation the possible meanings of the word within the context, that is to say that context provides an ideal clues or helps to create associations and, ultimately, to remember relevant meaning of the lexical items. For instance, the word “liver” in

isolation may remind immediately think of “a person who lives”, or the other meaning of it — an organ in human body. On the contrary, this word is encountered in a sentence (for example, “she suffers from liver disease”), other words in sentence, for instance “suffers”, will lead the reader to the correct reference of the word, ultimately, correct meaning of the whole sentence. However, the studies conducted on the topic, attempt to come to conclusion with the help of accurate measurements like ambiguity resolution tests.

Syntactic and lexical information are not the only possible cues for facilitating disambiguation. Pragmatic principles are also believed to have play in resolving attachment/ structural ambiguities in the sense that when readers or listeners decide which interpretation is relevant/ correct their decision is influenced by pragmatic principles (Traxler, 2008).

A compelling viewpoint is presented by Ellis (2002), according to whom, the key factor in successful ambiguity resolution is “*frequency of exposure*” i.e., the frequency with which the receiver of the ambiguous expression has experienced the structure he/she encountered. In simpler terms, as claimed by Ellis, a reader/ listener is able to disambiguate the ambiguous structure easily if they have encountered such structure in certain frequency before.

Lexical ambiguity resolution: In concern with lexical ambiguity resolution, two components are common to examination in terms of their contribution to the process: context, frequency of meaning (Ellis, 2002; Abarzúa Guerra, 2016). Regarding context, it is believed that words are recognized better within context. Frequency of meaning refers to the rate at which all meanings of a word or expression occur. It is indicated that if one meaning of a word occurs more frequently, then that meaning is preferred more, and recognized effortlessly.

The second question — dissimilarities between native language and L2 disambiguation process, has caused controversy: while some studies reveal significant differences

between the two (Frenck-Mestre, 1997; Papadopoulou, 2005), others maintain the view that the process in L1 and L2 is fundamentally alike. Semantic/ syntactic ambiguity resolution: when reading a sentence, readers assign a syntactic structure to the sentence to give a certain meaning to it —the process is termed parsing. The challenge emerges when encountering sentences that can be parsed in more than one possible ways. For example,

b) She knew the answer to the math problem was correct.

Two interpretations are possible: either “answer” is the object of the verb “knew”, or the subject of the second clause. Two opposite claims can be distinguished about disambiguation strategies used by L1 and L2 speakers when dealing with such structures. A vast number of research reveals that L2 readers (or listeners) use almost same strategy to decide on the structure (Dussias, 2003; Fernández, 2003; Juffs, 1998; Frenck–Mestre,et.al., 2002).

On the other hand, there are studies which dispute the first claim (Felser, et. al., 2003). Felser (2003) found two fundamental differences in L1 and L2 disambiguation strategies: 1) L2 speakers are not able to use phrase-structure information in the same extend L1 speakers do; 2) L2 speakers rely a lot on lexical-semantic information, unlike L1 speakers who fail to make use of them while resolving syntactic ambiguities. Further significant distinction between L1 and L2 disambiguation mechanisms is native language transfer i.e., adopting linguistic features of the native language when trying to comprehend a linguistic item (word/ expression) in the target language. It is indicated that when L2 speakers struggle with ambiguous structures the use their knowledge from their native language to resolve the ambiguity ((Frenck-Mestre, 1997; Papadopoulou, 2005; Rah, 2009), for instance, when deciding on parsing.

1.1.3 Ambiguity Resolution Assessment

Since the studies on humor branch out into distinct aspects of humor processing, a vast number of measurements have hitherto been developed. As discussed above humor studies attempt to analyze existing humor theories, to formulate new theories for the better explanations, to investigate the process of humor generation/ humor comprehension/ humor appreciation/ humor perception, linguistic and non-linguistic aspects (psychological, social) of humor, and many other issues. Reasonably, there are distinct types of measurement tools available for testing all these issues. The common core issues that linguistic ambiguity measurements target to answer are of several types:

1. Test takers' ability to detect/ resolve linguistic ambiguity in native language or L2;
2. In what do way test takers perceive and process ambiguous situations?
3. Is there a link between bilingualism and ambiguity resolution?
4. What knowledge and techniques do test takers utilize in ambiguity resolution?

The most widely utilized measurement for evaluating the ways in which people respond to ambiguous situations, the link between multilingualism and ambiguity tolerance level is Second Language Ambiguity Tolerance Scale (McLain, 1993; Erten, 2009).

A standardized test for assessing ability to deal with ambiguities in language is not available. However, various types of assessment, both online and offline, have been developed and utilized by researchers. Having considered tens of studies (Frenck-Mestre, 1997; Felser, 2003; Dussias, 2003; Fröjmark, 2005; Papadopoulou, 2005; Traxler, 2008; Ruh, 2009; Wulf, 2010; Guerra, 2016; Attardo, 2017; Vincent-Durroux, 2020), measurement tools can be classified in the following way:

1. *Correct parsing selection*: in this type of tests, test takers are introduced several sentences with ambiguous structures, and are supposed to choose one of the two variants— correct shortened version of the sentence. For example,

c) The man had liked the secretary of the professor who was killed in the accident.

a. the secretary was killed.

b. the professor was killed.

Here, test takers' ability for correct parsing is measured.

2. *Grammaticality Judgment Tests (timed and not timed)*: students are required to read a set of sentences and decide whether they are grammatically correct sentences or not.

Meaning preference: test takers are supposed to express their preference on the possible meanings of sentences.

3. *Explaining the meaning*: a certain number of sentences are introduced to the test takers, and they are asked to provide possible explanation(s) for each sentence.

4. *Eye-tracking experiments*: this type of experiment is carried out with the help of camera and digital screens. Test takers are supposed to look at the screen, where three pictures appear at a time. Simultaneously, someone reads a number of English sentences one by one, and test takers are asked to look at one of the three pictures that fits best for the sentence read.

1.2.1 Metalinguistic Knowledge

Definition puzzle is inevitable when discussing the notion of metalanguage, due to the fact that the term, alongside the other related terms like metalinguistic knowledge, metalinguistic awareness, metalinguistic ability, language awareness, is used in dissimilar way in different context. The task gets more complicated when attempting to define what is the L2 metalanguage.

To start with, metalanguage refers to the language to talk about language, and covers several types of linguistic knowledge and skills. It would be appropriate to consider several definitions of metalanguage. Considering several definitions, it can be concluded that “[metalanguage is] language about/ used to talk about/ make statements about/ discuss/ describe/ language” (Jhonson, 1988 McArthur, 1996; Matthews, 1997; Chalker, 1994, Lyons, 1995). Language awareness gradually develops from very early childhood, as the child starts to speak the language and improves his language skills (Cenoz, 2008). Garvie (1990) introduces the following aspects of metalanguage:

1. Linguistic awareness: explicit knowledge about the language structure and how it functions;
2. Psycholinguistic awareness: knowledge about how to use linguistic components.
3. Discourse awareness: ability to use language beyond just grammatical rules.
4. Communicative awareness: ability to use linguistic elements to achieve successful communication.
5. Sociolinguistic awareness: being knowledgeable about how social factors have role in our linguistic behavior.
6. Strategic awareness: ability to use certain techniques in order to cope with possible problems hindering the normal flow of communication.

Suggested aspects of metalanguage are grouped under two main components: analysis of linguistic knowledge and control of linguistic processing (Bialystok, 1988; Ricciardelli, 1993), also referred as analyzed knowledge and cognitive control (Bialystok, 1985). Analysis of knowledge refers to the knowledge of grammar rules and structure, and the control of linguistic processing covers skills and strategies required for successful selection of linguistic items.

The term metalanguage refers to the knowledge aspect of metalinguistics, in other words, it corresponds to linguistic awareness aspect. It is used interchangeably with

“explicit knowledge of language”. While metalinguistic awareness, also referred as language awareness, covers both awareness of one’s implicit knowledge and abilities to use that knowledge (Alderson, 1997).

Ellis (2016) makes distinction between metalanguage and metalinguistic knowledge, according to whom, the former refers to the language used to describe a language. For instance, linguistic terms like noun, conditional, modal verbs, etc. can be considered metalanguage. On the other hand, metalinguistic knowledge stands for understanding of language: its structure, its use and functions.

Ellis (2004) emphasizes several features of metalinguistic knowledge. He maintains that metalinguistic knowledge is conscious, declarative and learnable knowledge. Besides, L2 metalinguistic knowledge is not as accurate as L1 metalinguistic knowledge. Unlike implicit knowledge, metalinguistic knowledge is consciously accessible and verbalizable.

1.2.2 Metalinguistic Knowledge Assessment

The fact that the content of metalinguistic knowledge is diverse makes existence of wide range of methods of measuring metalinguistic knowledge inevitable. Though the great variety of methods has been proposed so far, appropriate standardized tests are not available, only very limited number of them is in use. One such standardized test is offered by Pearson Assessments – CELF-5 Metalinguistics. The test aims at building metalinguistic profile of students of 9-21 age range. Made up of making inferences, conversation, multiple meanings, and figurative language skills tests, it measures beyond just metalinguistic knowledge: syntax, semantics, language strategies and language flexibility (Elisabeth H. Wiig, et. al., 2017). It is suitable to use when assessing students’ general metalinguistic awareness, not just knowledge, thus not appropriate for assessing L2 metalinguistic knowledge.

Overall three types of metalinguistic knowledge assessment are noticed in literature. Since 1970s, the most widely utilized type of test is Grammaticality Judgment Tests (Gutiérrez, 2013; Mandell, 1999; Tabatabaei, 2012; Tremblay, 2005, Schmid, 2011; Loewen, 2009; Ellis, 200) . Plenty of research has been devoted to measure the validity and reliability of these tests (Mandell, 1999; Ellis, 2005; Han, 2005; Bowles 2011; Tabatabaei, 2012; Gutiérrez, 2013), and many for measuring the aspects of knowledge Grammatical Judgment Tests are able to test (Loewen, 2009 ; Schmid, 2011).

Grammaticality Judgment Tests are supposed to measure learners' linguistic competence (in L1), or their linguistic ability, particularly morphological and syntactic knowledge (in L2) (Loewen, 2009). Ellis (2004) define them as measurement of learners' explicit knowledge of L2, however, admitting that there should be some improvement for making sure that students draw on explicit knowledge rather than implicit knowledge when competing Grammaticality Judgment Tests. Generally, the great controversy exists about what does a Grammaticality Judgment Test measure: does it measure explicit knowledge or implicit knowledge? Majority of the studies reveal that while responding grammatical tasks, test takers may draw on both implicit and explicit knowledge (Ellis, 2004; Schmid, 2011). A puzzling answer to the question is provided by Schmid, according to whom, by grammaticality tests any aspect of linguistic knowledge. Providing that, for achieving our goal, several factors are taken into account. For making sure that the Grammaticality Judgment Test measures the explicit knowledge of test takers, the following components shouldn't be taken for granted:

1. Time for completion of the task: regarding time set for the tasks, there are dissimilar stances: some studies reveal that, time pressure determines the kind of knowledge test takers use when responding to questions, so that limited time force learners to make decisions based on their implicit knowledge, rather than

considering conscious knowledge (Ellis, 2009; Schmid, 2011; Tabatabaei, 2012; Gutiérrez, 2013; Godfroid, et. al., 2015)) there are those who emphasize the benefits of restricting time in Grammaticality Judgment Test (Schütze, 1996; Tremblay, 2005), according to whom timing provides the following advantages: reduced level of the possible influence of factors other than grammatical; preventing the discovery of target form, that is being tested, by test takers.

2. Adequate number of items for each target form (Schmid, 2011);
3. Prior test with native speakers (Schütze, 1996; Erlam, 2009; Schmid, 2011);
4. Separate analysis of the tests involving grammatically correct and ungrammatical structures;
5. Level of test takers' certainty in their responses (Erlam, 2009; Ellis, 2009).

Regarding the reliability of Grammaticality Judgment Tests, there is a general admission of the construct validity and reliability of them by researchers and test conductors. The results of studies questioning the effectiveness of Grammaticality Judgment Tests reveal three levels of reliability. Though some researchers (Mandell, Gutiérrez, 2013) maintain that they are reliable methods of measuring learners' explicit knowledge — metalinguistic knowledge, there are those (Tabatabaei, 2012) who are sceptical. A rather neutral or optimistic attitude is that Grammaticality Judgment Tests can be reliable with cautious use i.e., consideration of dozens of factors regarding appropriate construction and administration (Ellis, 2009; Vafaei, et. al., 2016).

Concerning types of Grammaticality Judgment Tests, they can be administered in various ways: Pen-and-paper method, speeded GJT, eye-tracking, self-paced reading.

1.3 Studies on the Relation between Humor Comprehension and Metalinguistic Knowledge

Metalinguistic knowledge and general language proficiency or the specific linguistic skills, like reading comprehension, have been correlated by many scholars. The focus of such studies has been do metalinguistic skills or metalinguistic awareness boosts language proficiency, and the urgency of the studies of this kind is that if the results show that the metalinguistic knowledge actually has a role to play in language proficiency, then metalanguage/explicit teaching of linguistic knowledge shouldn't be eliminated from language teaching classrooms. On the other hand, if the results dispute this claim, then, obviously, there the metalanguage has no place in language classroom. While this experiment focuses on the specific aspect of this broad study. To be clear, ambiguity-based humor comprehension is the focus of the study, out of the general language proficiency.

Dong Y et al. (2020) examines the relation between the metalinguistic knowledge (morphological, phonological and orthographical skills) and reading comprehension among Chinese students, and concludes that morphological (metalinguistic) skill plays a particular role in students' reading comprehension.

Alderson JC et al. (1997) investigate the possible relationship between metalinguistic knowledge and language aptitude, grammatical accuracy, and linguistic proficiency. The measurements reveal minimal or no correlation between linguistic proficiency and metalinguistic knowledge, however, a moderate correlation with the grammatical accuracy.

CHAPTER 2: Methodology

Qualitative method was adopted for measuring the relationship between the two phenomena – metalinguistic knowledge and ambiguity resolution. In order to understand the relationship, three phased analysis was conducted. Firstly, a Metalinguistic Knowledge test is implemented, then, an Ambiguity Resolution test followed. Ultimately, a statistical correlation analysis was carried out.

2.1 Participants

The target population meets the following criteria:

1. Participants of tests are learners/speakers of English as a second language;
2. Participants are not specialized in English studies;
3. Participants' age range is 18-35.

The target population of the research is the English language learners whose major is not English (teaching English, linguistics and other related fields) and who are of 18-35 age range. The reason for selecting narrow age range is that age is considered to be a significant factor in humor comprehension, and there are a considerable number of studies investigating this issue. Despite the existence of studies which dispute the correlation between age and humor comprehension, it was decided to eliminate any possible factors other than the target variables. As for the major, the reason why non-major English learners were involved is that the tests, particularly Metalinguistic Knowledge test would be easy for them or they may be aware of issues related to ambiguity studies, which in turn would affect the results of the research.

Participants were selected, due to the restrictions imposed by the lockdown situation, by a snowball sampling method –as many participants as possible were accessed via

contact with initially selected participants. For the sake of detailed analysis – consideration of various factors, information about participants’ gender, nationality was also collected, though they were not criteria set for participant selection.

The total number of participants was 61. Due to the restrictions imposed by lockdown situation in the globe, the number of participants required was not reached. However, it should be mentioned that, the number of the participants meets the requirements for the minimum sample size for correlation analysis, which is 30 (Dörnei, 2007).

The sample is heterogenous in terms of learning experience, major, institution, age and gender. Not only students, but also graduates were involved in the research, though the number of students (56; 91.8 %) outnumbered the number of graduates (5; 8.2 %). In terms of gender, 42 (68.9%) female, 19 (31.1 %) male participants were involved. Regarding the age range, the detailed description is illustrated in the diagram below:

Table 1: Age range description

	Age in years	
	N	%
18.00	15	24.6%
19.00	12	19.7%
20.00	8	13.1%
21.00	10	16.4%
22.00	4	6.6%
23.00	4	6.6%
24.00	3	4.9%
25.00	1	1.6%
26.00	1	1.6%
28.00	1	1.6%
29.00	1	1.6%
35.00	1	1.6%

2.2 Research Tools

For each of two stages of research – Metalinguistic Knowledge Test and correlation analysis, research instruments have been selected from existent ones reliability and validity of which is approved. Ambiguity Resolution Test has been developed based on common ambiguity resolution tests that have been developed and utilized in many ambiguity studies.

2.3 Metalinguistic Knowledge Test

As mentioned, in order to reveal existence and the type of possible relationship between two phenomena – disambiguation ability and metalinguistic knowledge in a foreign language, two tests have been carried out subsequently: Metalinguistic Knowledge Test and Ambiguity Resolution Test. The first test was adopted from the Metalinguistic Knowledge Test battery developed by Rod Ellis et.al. (2009) that has been reference test battery for many studies of this kind. The test can be classified as Grammaticality Judgment Test, and aims at measuring test takers L2 metalinguistic knowledge. The total score is 30 points.

The test includes questions of two types. In the first set of questions – 11 multiple-choice questions, participants are required to read ungrammatical sentences and choose the one of the four variants (a, b, c, d) that explains the grammatical error best.

Sample 1:

1. *You MUST TO WASH your hands before eating.*
 - a. *'Must to' is the wrong form of the imperative.*
 - b. *Change to 'must have to wash' to express obligation.*
 - c. *Modal verbs should never be followed by a preposition.*

d. After 'must' use the base form of the verb not the infinitive.

In the second set of questions test takers are asked to read the sentences (4 sentences) and to underline the linguistic item in brackets.

Sample 2:

7. Poor little Joe stood out in the snow. (SUBJECT)

The test includes wide range of morphological and syntactic items.

Table 2: Grammatical terms used in the test

Morphological terms		Syntactic terms
Verb	Present simple tense	Sentence
Noun	Countable noun	Clause
Adjective	Comparative (adj.)	Relative clause
Pronoun	Relative pronoun	Subject
Preposition		Direct object
Base form		Indirect object
Modal verb		
Imperative (modal verb)		
Express obligation		
Third person plural		
Third person singular		

The test is untimed, due to the existent claims about timed Grammaticality Judgements Tests. The claim is that time tests cannot measure learners' explicit knowledge, because they draw on implicit knowledge when responding to questions if they have limited time. Instructions were provided both in English and Azerbaijani language.

2.4 Ambiguity Resolution Test

The test is made up of two sections. In the first section 5 ambiguous expressions were provided, and test takers were asked to read them and select the variant which explains the sentence best. There were two distinct explanations in two variants (a, b), one variant claiming that both interpretations are possible (c), and blank space for participants to provide their own explanations if they do not agree with any variants given.

Sample 3:

11. Team helps dog bite victim

- a) A group of people help the dog to bite the victim*
- b) A group of people help the victim who is bitten by a dog*
- c) Both a) and b) can be correct*
- d) Other _____*

In the second section of the test, 5 ambiguous expressions were listed and test takers were asked to write the possible interpretations.

Sample 4:

16. Two Soviet ships collide – one dies.

Expressions were selected from the list of ambiguous sentences provided by Bucaria (2004). The test was untimed. As per predictions about the limited vocabulary knowledge of test takers, some words in sentences were changed (*Squad* to *team*). The total score is 30 points.

2.5 Data Calculation

Two subsequent analyses were carried out: a descriptive statistical analysis for the results of each test and the correlation analysis. The correlation analysis was conducted using Pearson Correlation Coefficient (Pearson's r), in IBM SPSS Statistics Software. Prior to the statistical analysis, the data went through the preparation process – encoding process. Participants' personal information and the scores of two subsequent tests – Metalinguistic Knowledge Test and Ambiguity Resolution Test, were transferred to the IBM SPSS Statistics Software for final analysis.

2.6 Key Terms

1. *Metalinguistic Knowledge*: learners' ability to draw on and explain grammatical rules of language.
2. *Two aspects of metalinguistic knowledge addressed*: morphology and syntax.
3. *Disambiguation/ Ambiguity Resolution*: learners' ability to perceive and resolve ambiguous expressions.
4. *Type of ambiguity addressed*: syntactic/ structural ambiguity.

CHAPTER 3: Results and Discussions

3.1 Findings from the Metalinguistic Knowledge Test

This section of the paper illustrates the descriptive analysis of the results obtained from the Metalinguistic Knowledge Test. The summary of the scores, the questions that test takers struggled most, ones that have been answered correctly by most of the test takers and some other highlights are discussed in the following paragraphs. The test aimed at measuring participants' morphological and syntactic knowledge that are predicted to have a role in disambiguation process in a second language. The candidates that were enrolled in this test are same ones who participated in the Ambiguity Resolution Test.

The morphological part of the test was constructed to assess test takers' knowledge of parts of speech (verb, noun, adjective, pronoun, preposition, and modal verb), some categories of the parts of speech (imperative, obligation expressing modal verbs, comparative adjective, present tense form, relative pronoun), subject verb agreement (verbs indication singular/ plural subject). Regarding the syntactical part, the terms like sentence, clause, subject, and object were included.

All these grammatical items were delivered in two types of test. In multiple choice questions, candidates were presented English sentences with one grammatical error, either morphological or syntactic, and four statements attempting to explain the error making the sentences ungrammatical. They were required to select the statement that explains the grammatical error correctly. The other category of questions were grammatically correct English sentences, at the end of which there were linguistic items written in brackets, one item per sentence, and the candidates were asked to underline the item in the sentence.

Before breaking down the details of the test takers behavior and scores, for the purpose of this paper, it will be relevant to examine the summary of the scores, as illustrated in the tables below.

A convenience sample of English learners ($N=61$) were enrolled in the test. The test scores ranged from 9 to 30 ($M= 20.36$; $SD= 6.102$).

Table 3: Metalinguistic Knowledge Test Results Summary.

<i>Metalinguistic Knowledge Test</i>					<i>Statistics</i>		
					Metalinguistic Knowledge Test		
		Frequency	Percent	Valid Percent			
Valid	9.00	5	8.2	8.2	N	Valid	61
	12.00	3	4.9	4.9		Missing	0
	15.00	8	13.1	13.1	Mean	20.3607	
	18.00	11	18.0	18.0	Std. Deviation	6.10200	
	21.00	12	19.7	19.7	Variance	37.234	
	24.00	9	14.8	14.8	Range	21.00	
	27.00	5	8.2	8.2	Minimum	9.00	
	30.00	8	13.1	13.1	Maximum	30.00	
Total		61	100.0	100.0			

As reflected in the two tables above, there were candidates whose score was 9 (5 candidates), 12 (3 candidates), 15 (8 candidates), 18 (11 candidates), 21 (12 candidates), 24 (9 candidates), 27 (5 candidates), 30 (8 candidates). The most frequent score that test takers had was 21. Before further analysis, it would be relevant to assign corresponding levels to scores in order to make the analysis more practical: A (21-30); B (11-20); C (0-10).

Totally, the number of participants with A level score is more than half of all candidates. To be more specific, overall 34 (55.8 %) candidates scored over 20 points. Only 5 (8.2 %) candidates' results are in C level. The large number of candidates with

A level score builds up expectations for the correlative results in the Ambiguity Resolution Test.

The results reveal that, though overall scores are quite high, some of the questions were challenging for the candidates.

10. The woman gave him some money. (INDIRECT OBJECT)

23 / 61 correct responses

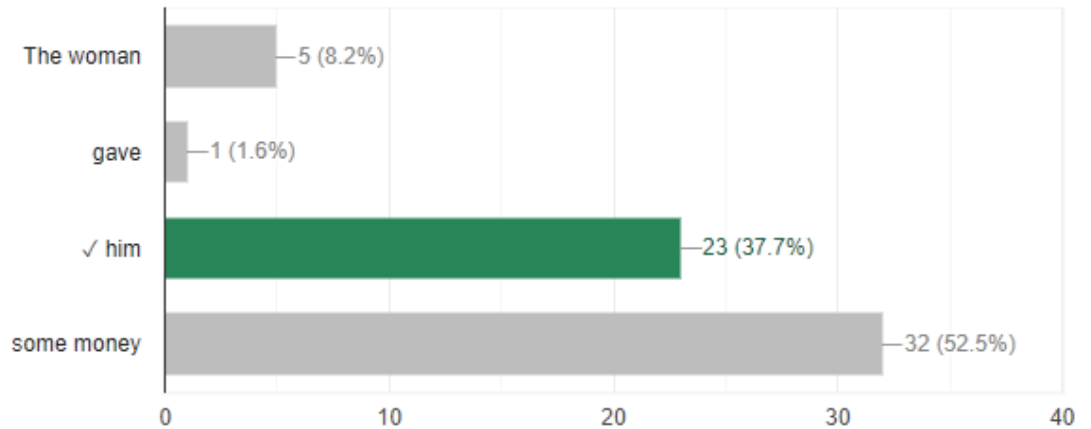


Figure 1: The least correctly answered question 1.

The most challenging question was the question number 1, so that only 23 (37.7 %) candidates could respond correctly to this question.

1. You MUST TO WASH your hands before eating.

24 / 61 correct responses

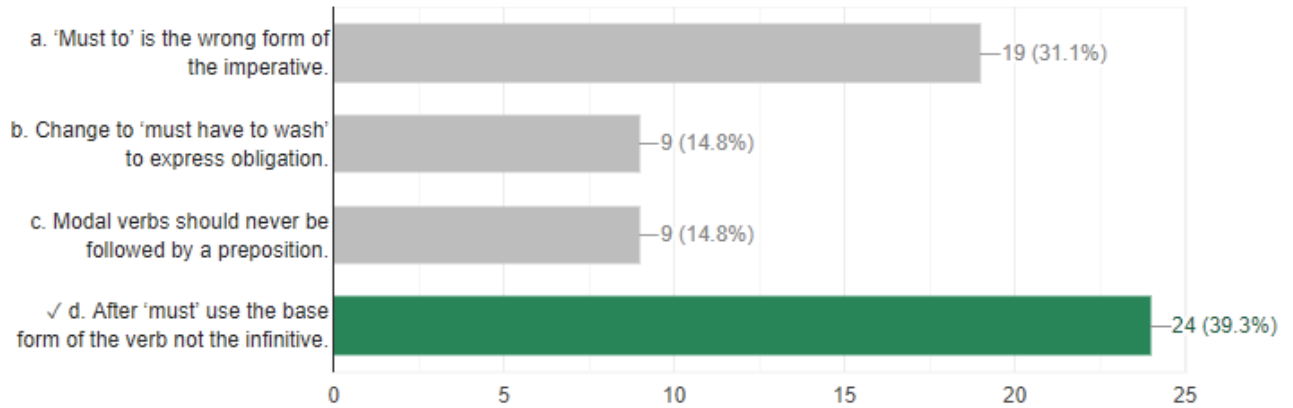


Figure 2: The least correctly answered question 2.

Another problematic question was the question number 10, with only 24 (39.3 %) correct response. Nevertheless, the rest all tasks were responded correctly by at least 34 (over 55%) candidates.

Results reveal that English learners in Azerbaijan might have quite high explicit knowledge of English, due to the various reasons that will be touched upon in the discussion part. Backed by the proper statistical analysis, it can be concluded that Azerbaijani learners enrolled in the test scored high without regard to the factors like age, gender and major. For the reason that the main aim of the research is not measuring learners' metalinguistic knowledge, it would not be appropriate to provide the details of the statistical analysis of the factors influencing the test results.

3.2 Findings from the Ambiguity Resolution Test

In this phase of discussion, a descriptive analysis of the Ambiguity Resolution Test results is presented. In the subsequent order, the structure of the test, the summary of the results, unexpected behaviors of candidates, possible explanations for those unpredicted issues and some highlighting points will be presented.

The Metalinguistic Knowledge Test completed, the participants ($N = 61$) moved to the second test – Ambiguity resolution Test immediately, without interval. The test was constructed to measure the ability to resolve structurally ambiguous English expressions – sentences with more than one possible interpretation due to the variety of structures assigned. Test takers encountered two types of tasks. Multiple choice questions presented ambiguous sentences and two possible interpretations, and asked them to select the best interpretation. There were two additional options, one statement claiming that both presented interpretations can be true, and a blank space for test takers to write down their own response if they do not agree with any of the options.

The short answer type questions made the second section of the test. Structurally ambiguous English sentences were listed, and participants were supposed to provide one or more possible interpretations.

The instructions, for both sections, were provided both in English and Azerbaijani. Moreover, test takers were motivated to write their answers (full sentences) in either in any language, since the purpose of the task was not checking their writing ability, but their perception. The actual aim of those tasks was to measure if candidates would perceive and accept all possible interpretations or would they understand only one side. Surprising results came out though, which will be broken down in the following paragraphs.

Before moving on with the detailed examination of the findings from the test, the summary of the descriptive statistical analysis is displayed in the following two tables below. The number of examined participants were $N=61$. The test scores ranged from 0.00 to 18 ($M= 8.11$; $SD= 5.06$).

Table 4: Ambiguity Resolution Test results summary

<i>Ambiguity Resolution Test</i>				<i>Statistics</i>		
				Ambiguity Resolution Test		
		Frequency	Percent	N	Valid	61
Valid	.00	3	4.9		Missing	0
	3.00	15	24.6	Mean		8.1148
	6.00	13	21.3	Std. Deviation		5.05997
	9.00	12	19.7	Variance		25.603
	12.00	7	11.5	Range		18.00
	15.00	6	9.8	Minimum		.00
	18.00	5	8.2	Maximum		18.00
Total		61	100.0			

To make the analysis easier, the results are grouped under three levels, as was done for the results of Metalinguistic Knowledge Test: A (21-30); B (11-20); C (0-10). Surprisingly, none of the candidates achieved A level score. As for the B level, only 18 (29.5 %) candidates could score. Obviously and surprisingly, 70.5 percent of the candidates (43) fall into C category with less than 10 points.

The highest possible score was 30 for the test. However, as depicted in the first table above, the maximum score that candidates got was 18, which were achieved only 5 participants (8.2 %). Even there are 3 (4.9 %) candidates who could not answer (correctly) any of the questions in this test.

Table 5: Ambiguity Resolution Test part 1 results.

Ambiguous Sentences	Variant A	Variant B	Variant C	Variant D	Correct answers
1. Team help dog bite victim	A group of people help the dog to bite the victim	A group of people help the victim who is bitten by the dog	Both A and B can be correct	Other:_____	35 (57.4 %)
2. It is liver that makes life happy.	Happiness in life depends on the person.	Happiness in life depends on the healthy liver (an organ in human body)	Both A and B can be correct	Other:_____	3 (4.9 %)
3. The farmer allows workers to cross the field for free, but the bull charges.	The farmer allows the walkers, but the bull doesn't allow them to cross for free, the bull hits them when they cross	People are allowed to cross the field for free, but for the bulls to cross the field they have to pay.	Both A and B can be correct	Other:_____	4 (6.5 %)
4. The batteries were given out free of charge.	People didn't pay for batteries, they got them for free.	The batteries that people bought didn't have power	Both A and B can be correct	Other:_____	7 (11.5 %)
5. Actor sent to jail for not finishing sentence.	Actor did not complete the lines he was saying, that is why he was sent to jail.	Actor left jail without finishing his sentence (punishment), that is why he was sent back to jail	Both A and B can be correct	Other:_____	6 (9.8 %)

The first part of the test appeared to be the most problematic. In this section, candidates were asked to mark the variant that best explains the meaning of the given expression. What was expected from them was whether they would be able to detect all the possible interpretations, nonetheless over 90 percent failed to respond correctly (questions 2-5). For the question number one 57.4 % (35) could detect the correct answer, where there was only one correct interpretation of the expression. However, for the expressions 2-5, which had two possible interpretations depending on the context, over 90% over participants tended to accept only one of the explanations to be correct. The reasons of such behavior displayed by the candidates will be elaborated in the discussion section. Regarding the last option – “other”, as it is obvious from the table, no participant provided their own explanation. They either opted one of the explanations, or accepted both to be correct.

As for the second section of the test – short answer type questions, participants were asked to provide the explanation of the ambiguous sentences, in full sentences. Responses in both English and Azerbaijani were accepted. The summary of the results of this part of the test is depicted in the table below.

Table 6: Ambiguity Resolution Test part 2 results.

Ambiguous Sentences	Responses (out of 61 participants)	Correctly answered responses (out of 61 participants)
6. Two Soviet ships collide — one dies.	47 (77.05 %)	25 (40.9 %)
7. Eye drops off shelves.	29 (47.5 %)	8 (13.1 %)
8. Babies are what the mothers eat.	42 (68.8 %)	29 (47.5 %)
9. Stolen painting found by tree.	38 (62.3 %)	23 (37.7 %)

10. Country officials to talk rubbish.	39 (63.9 %)	6 (9.8 %)
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Since they were open-ended questions, not all the test takers responded to all the questions. Out of 61 participants a fraction provided responses, while some of them left the answer space unmarked. Overall, for all the sentences there were some responses, no question was left unanswered at all. In the same way, there is no single question that was answered by all the participants. In terms of correct answers, overall, only less than 50% of the responses were accepted as correct.

To break it into details, for the question number six 25 (40.9 %) responses out of 47 (77.05 %) were marked as correct. For the question number seven only 8 (13.1 %) correct answers were admitted among the responses by 29 (47.5 %) test takers. The most correctly answered question was eighth question that received 29 (47.5 %) answers out of 42 (68.8 %) responses. For the ninth question, 23 (37.7 %) candidates out of 38 (62.3 %) could provide accurate explanation. Ultimately, the least correctly answered question was the last sentence, that only 6 (9.8 %) of 39 (63.9 %) explanations were marked as correct.

The responses to the open-ended questions were evaluated based on the criteria set for the correct answers. Hence, the correct explanation for any of the five sentences should have met the following criteria:

1. The answer should not be only on word or expression. It should express the meaning as a complete or incomplete sentence;
2. The answer is accepted either in Azerbaijani or English languages;
3. There is only one correct interpretation for each sentence, though test takers are encouraged to provide more possible explanations.

Responses that met the criteria above were marked as correct. There were different ways that responses failed to meet the criteria:

1. Repetitions: some test takers just copied the sentence, either in English, or they just literally translated the sentence word by word to their native language, hence the meaning was not explained.
2. Insufficient responses: some responses were made up of just one word or very few words that the intended meaning was not clear at all. Nevertheless, some short answers with the clue of the correct meaning, the clue that they noticed the correct interpretation, were admitted to be correct.
3. Incorrect responses: the common case was that the majority of the participants failed to detect the correct interpretation, and provided false explanations. That is to say that they assigned wrong structures to the sentences, hence failed to notice the correct meaning.
4. Too creative responses: a small number of the participants “went too creative”, and came up with unexpected answers. For instance, some associated the expressions with proverbs and sayings, and attempted to explain them based on the English or Azerbaijani proverbs and sayings.
5. No response: a number of respondents either provided no answer or admitted that they do not understand the sentence: “I don’t understand”; “don’t know”; “no idea”; and so forth.

Participants were challenged indeed by two expressions:

1. *Country officials to talk rubbish*: only 6 (9.8 %) responses out of 39 (63.9 %) were accepted to be correct. Two possible interpretations can be drawn from this expression: a) Country officials talk *about rubbish*; b) Country officials *talk rubbish (nonsense)*. Since the intended interpretation of the sentence is the first one, that was accepted to be the correct answer. Nevertheless, the considerable number of participants detected the second interpretation, by assigning wrong

parsing. They assigned the word *rubbish* to the verb *talk* and created the idiom *to talk rubbish*, which means to talk nonsense.

2. *Eye drops off shelves*: among 29 (47.5 %) answers 8 (13.1 %) were marked as correct. The two structures that can be assigned to this expression are: a) *Eye drops off shelves*; b) *Eye drops off shelves*. In the first structure, *eye* is the subject, *drops off* is the verb of the sentence. In the second parsing, *eye drops* is the noun phrase and the subject of the sentence. Here, the second interpretation is intended meaning of the expression, thus expected one. Nonetheless, majority of the respondents not only could not to provide the correct answer, but also failed to come up with any idea at all. They reported that they do not understand this expression.

3.3 Discussion: Correlation Analysis

Ultimately, a range of the paragraphs will be devoted to the discussion of the some highlights of the tests, results of which have been discussed in the previous sections, the presentation of the statistical analysis on the relation between the results of the two tests, and, finally, the implications drawn from the result of the correlation analysis.

Prior to the presentation of the results of the statistical analysis, several points from the Metalinguistic Knowledge Test and the Ambiguity Resolution Test should be elaborated respectively. The elaboration of these aspects serves two purposes:

1. To provide an accurate examination of the results of the tests for creating a well-founded background for the exploration of the correlation between the results.
2. To highlight the unpredictable drawbacks of this research, and to provide an explicit guide for the further replications.

As per the presentation of the Metalinguistic Knowledge Test results, test takers' scores were higher than expectations, considering that the scores ranged from 9 to 30 points. Out of total 61 participants 34 (55.8 %) participants scored between 21 to 30 points. The assumption is that the reason for the unpredictably high results in the grammar test might be related to the language teaching methodology that is dominant in Azerbaijan, in both private and public schools, and language learning centers. To be more specific, the explicit teaching of grammar still occupies a considerable place in language teaching in Azerbaijan (Shafiyeva, 2010; Huseynova, 2019). Thus, the assumption is that, regardless of the purpose, the period and the place of the learning, the English learners that were enrolled in the Metalinguistic Knowledge Test might have high level of explicit knowledge of English grammar. Mention must be made that participants were of various learning backgrounds with different majors, which in turn implies that their purposes for learning English, the places and time periods in which they studied that language differ from one another. Nevertheless, almost all have

considerably high explicit knowledge of English grammar. This unpredictable aspect might have influence on the research outcomes.

Completely opposite insight was attained from the analysis of the Ambiguity Resolution Test results. To be clear, test takers behavior and results appeared to be far below the expectations, though the same participants performed high scores in the preceding metalanguage test. As was mentioned in the detailed examination of the test results, the maximum score gained by only 5 (8.2 %) participants was 18 out of total 30 points. Surprisingly, 3 (4.9 %) candidates failed to correctly answer any question, and ended up with 0 score. The point that should be highlighted is about the first section of the test – multiple choice questions. In this part of the test, participants were asked to read ambiguous English sentences, and opt one of the three statements that explains the meaning of the sentence most accurately, or provide their own explanations. The sentences given had various possible interpretations depending on the parsing (the syntactic structure. Hence, test takers had to make a decision about the correct structure, thus the accurate meaning. Nevertheless, this section appeared to be the most challenging for the participants. Before providing assumptions explaining the behavior of the test takers in this part of the test, it should be mention that there were four options to choose from when answering the questions: two variants with distinct explanations of the sentence, one variant accepting both explanations to be correct, and the fourth variant blank space for the candidates to write their own explanations if not agreed with any of the three options. For the first sentence the correct answer was one of the two distinct interpretations, and this was most correctly answered question (57.4 %). However, for the rest of the questions the correct answer was “Both a) and b) can be correct”, implying that both interpretations can be acceptable depending on the context. Each of these questions was responded correctly by less than 10 % of the participants, for the reason that they mostly selected only one of the interpretations to be correct, while they were supposed to notice that both interpretations can be correct

depending on the context. Two assumptions have been made about such behavior by performed by the test takers:

1. *Imaginary context*: the reason why test takers tended to select only one of the interpretations of the ambiguous sentences, instead of accepting both to be possible depending on the context, might be the imaginary contexts they created. That is to say that, when analyzing sentences, they have probably created contexts in their mind, and then choose the interpretation which fits that imaginary context. Such behavior by the participants was not predictable, and has impact on the test results, thus on the outcomes of the whole research. Nevertheless, this can be prevented in the further replications, by just making instructions more straightforward, that they are supposed to consider all possible meanings of the sentences.
2. *Failure to notice both interpretations*: an obvious reason can be just failure to notice and resolve both interpretations. To be clear, it is highly possible that participants could not comprehend two possible interpretations, they just noticed one, due to the lack of morphological and syntactic knowledge. That is to say that, some participants might have limited grammatical knowledge, thus fail to interpret the structure in two ways.

Nevertheless, it should be noted that, both reasons might have influenced participants' behavior while responding to the questions in the first part of the Ambiguity Resolution Test. Some of them might have created imaginary context, while others might have failed to respond correctly due to the lack of grammatical knowledge. The problem about these two potential cases is that it prevents making a straightforward implication about participants' grammatical knowledge and their ability to resolve ambiguous sentences, considering that the first reason – imaginary context, might be the case for the most of the participants, if not all of them. Thus it cannot be concluded

that test takers failed to respond correctly due to their lack of grammatical knowledge, which might indicate the relationship between the grammar knowledge and ambiguity resolution.

Moving on the presentation of the correlation between the metalinguistic knowledge (morphological and syntactic) and the syntactic ambiguity resolution ability, Pearson Correlation Coefficient (Pearson's r) was adopted. The statistical analysis was carried out in IBM SPSS Statistics Software.

Hypothesis (H1): there is strong association between learners' morphological and syntactic metalinguistic knowledge and their syntactic ambiguity resolution ability.

Pearson product correlation of metalinguistic knowledge and ambiguity resolution ability was found to be low positive and statistically significant ($r = .496$, $p = < .001$).

Table 7: Correlation Analysis.

		Metalinguistic Knowledge Test	Ambiguity Resolution Test
Metalinguistic Knowledge Test	Pearson Correlation	1	.496**
	Sig. (1-tailed)		.000
	N	61	61
Ambiguity Resolution Test	Pearson Correlation	.496**	1
	Sig. (1-tailed)	.000	
	N	61	61

** . Correlation is significant at the 0.01 level (1-tailed).

The statistical analysis reveals that there is low positive correlation between the results of the two tests. That is to say that, though the correlation is not perfect, it still exists. The model of the correlation is more obvious in the scatter diagram below.

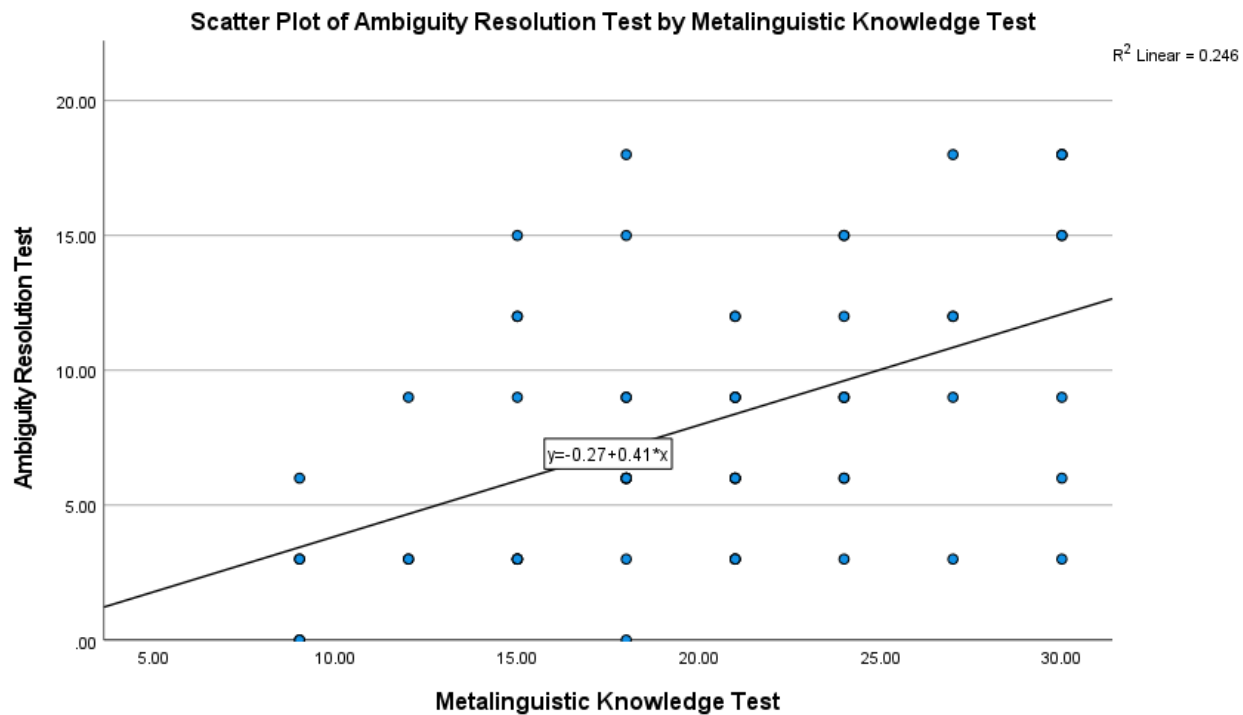


Figure 3: Scatter plot of Ambiguity Resolution Test by Metalinguistic Knowledge Test

As it is obvious from the scatter plot, the correlation is not perfectly linear and the values are considerably dispersed, nonetheless the linear tendency is noticeable.

Various factors influence the implications that can be drawn from the result of the correlation analysis. As mentioned in the beginning of this chapter, participants performed some unpredictable behaviors during the Metalinguistic Knowledge Test and the Ambiguity Resolution Test. For the former test, the unpredictable aspect was that English learners in Azerbaijan might have high explicit grammar knowledge due to the dominant language teaching methodology. The unpredictable action performed during the first part of the Ambiguity Resolution Test was that the directions might have been vague in some way, so that most of the participants failed to respond correctly. Other restriction is the sample size that is not large enough to make sizeable generalizations. All the restrictions and problems considered, existence of the considerable correlation between the explicit knowledge of grammar, and the structural ambiguity resolution, in English as a second language, can be implicated.

That participants with higher metalinguistic knowledge had better performance in the resolution of ambiguous expressions in English, lead us to the presupposition that explicit knowledge of language structure might have a role to play in ambiguity-based humor comprehension in that language. Nevertheless, more research is required in order to reveal whether L2 speakers draw on that metalinguistic knowledge or implicit knowledge when they encounter and respond to the ambiguous language.

If we accept metalinguistic knowledge as the explicit knowledge of language structure, then we need to consider the implications of this research in terms of language instruction as well. Since from the 1980s communicative approach to language instruction and acquisition has overshadowed traditional language teaching which was mainly centered on grammar instruction. As a result, the explicit instruction of grammar in language classroom has been disregarded and claimed to be not effective. In this regard, the studies on the relation between the metalinguistic knowledge and the language proficiency have caused some kind of threat to those who support the communicative approach. However, the implication of this research is not the revitalization of the traditional grammar classrooms. That we imply that second language speakers with higher metalinguistic knowledge tends to have better understanding of ambiguity-based humor comprehension, does not lead us to the conclusion that metalanguage should be taught explicitly in language classrooms. In the view of the fact that metalinguistic knowledge that learners possess is not only acquired by the explicit instruction.

Conclusion

Comprehension of and the ability to utilize humor in a language is essential communicative skill. For the learners of a language, it is a significant way of penetrating into the culture via language. On the other hand, humor is “everywhere” – from mass media to everyday conversations, hence, for the successful participation in all the spheres of life, learners of a foreign language should possess ability to both decipher the humorous situations, and also to apply it. Nonetheless, it is particularly challenging skill to achieve in a second language, due to the fact that it involves many aspects of linguistic and non-linguistic knowledge. It is not only the matter of mere language, but also cultural, contextual knowledge, cognitive, meta-cognitive skills are drawn on. This research focused on the potential role of the two aspects of metalinguistic knowledge – morphological and syntactic knowledge, in ambiguity-based humor, i.e. humor generated by the use of ambiguous linguistic items in different levels – morphological, syntactic, lexical, phonological, and so forth. The particular type of the ambiguity-based humor this research dealt was the structural ambiguity.

The hypothesis checked was that there is a correlation between the metalinguistic knowledge the learners possess and their ability to detect and resolve syntactic ambiguities in that language.

Throughout three stages the hypothesis was tested:

1. Metalinguistic Knowledge Test – grammaticality judgment test, was implemented in order to measure participants’ explicit morphological and syntactic knowledge in English;
2. Ambiguity Resolution Test was carried out to measure the same participants’ ability to resolve structural ambiguous English sentences;

3. Statistical correlation analysis was conducted to reveal the potential relation between the results of the two tests.

The results of the correlation analysis revealed a low positive correlation between the two.

The research question addressed is the following:

1. Is there any correlation between the metalinguistic knowledge and the ambiguity-based humor detection in a foreign language?

Via the inferences drawn from the findings of the study is as following:

- The answer to the research question is that the research findings reveal the existence of the correlation between the two phenomena. The implication drawn from the existence of the positive correlation is that the metalinguistic knowledge might play a role in the ambiguity resolution in a foreign language. However, the type and the degree of the influence have not been examined within the scope of this research.

Overall, the hypothesis put forward in the beginning of the study was supported by the research findings.

However, the existence of the limitations of the study, and the low level correlation ($r = .496$) prevents making considerable generalization based on the findings. The limitations of the study have been listed below both for the sake of this analysis and also as recommendations for the further replications:

1. *Sample size*: due to the constraints imposed by the Covid-19 pandemic restrictions, only 61 participants were enrolled in the tests. Though the sample was heterogeneous, involving people of different ages, learning backgrounds, majors and gender, the sample size should be increased for making sizeable generalizations and implications on the research question.

2. *Prior proficiency test*: in order to investigate the possible relationship between metalinguistic knowledge and the ambiguity-based humor comprehension, two subsequent tests were implemented. However, to make sure that the level of ambiguity resolution ability, measured by the test, is not influenced by the participants' proficiency level, a prior proficiency test should be implemented. Two possible solutions can be proposed to eliminate the influence of the proficiency level as an extra factor. Either participants with more or less same proficiency level should be selected and the enrolled in the metalinguistic knowledge test, or throughout the analysis of the findings, participants' proficiency level should be taken into account in else way.
3. *More comprehensive Metalinguistic Knowledge Test*: the Grammaticality Judgment test that was implemented conveyed the morphological and syntactic aspects of the metalinguistic knowledge. Due to the limited time that participants could be involved, the test was constructed for the short time, hence it did not cover all morphological and syntactic items. It is recommended that, in order to be able to make judgment about the participants' overall morphological and syntactic knowledge, the test should cover all the aspects of them.

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Appendix

Instructions

Dear Participant,

The test is conducted by the English Language and Literature Department of Khazar University

Please, note that the test is ANONYMOUS.

Your results will not be shared with any third party.

Please, do NOT attempt to use additional materials (textbooks, notes, electronic devices) when responding to questions.

Metalinguistic Knowledge Test

A. In this part of the test there are 6 sentences. All of them are ungrammatical. The part of the sentence containing the error is in bold. For each sentence choose which statement best explains the error. Circle a, b, c or d to indicate your choice.

1. You **must to wash** your hands before eating.

- a. 'Must to' is the wrong form of the imperative.
- b. Change to 'must have to wash' to express obligation.
- c. Modal verbs should never be followed by a preposition.
- d. After 'must' use the base form of the verb not the infinitive.

2. Hiroshi **wants visiting** the United States this year.

- a. 'Visiting' should be written in the base form.
- b. The verb following 'want' must be an infinitive.
- c. We cannot have two verbs together in a sentence.
- d. It should be 'visit' because the event is in the future.

3. Martin **work** in a car factory.

- a. Work is a noun so it cannot have the subject 'Martin'.
- b. We must use the present simple tense after a pronoun.
- c. We need 's' after the verb to indicate third person plural.
- d. In the third person singular the present tense verb takes 's'.

4. Learning a language is **more easier** when you are young.

- a. 'More' is an adjective so we must use 'easily' not 'easier'.
- b. The comparative ending of a two-syllable adjective is 'er'.
- c. The 'er' ending indicates comparison, so 'more' is not needed.
- d. You cannot have two adjectives together in the same sentence.

5. Keiko grew **some rose** in her garden.

- a. The noun is countable, so after 'some' use the plural form.
- b. The wrong adjective has been used before 'rose'.
- c. A noun must always have 'a' or 'the' before it.
- d. Use 'a few' not 'some' with countable nouns.

6. The cake **that you baked it** tastes very nice.

- a. Omit 'that' when the relative pronoun is subject of the clause.
- b. We should use 'which' instead of 'that' when referring to things.
- c. Omit 'it' in the relative clause because it refers to same thing as 'that'.
- d. Omit 'that' when using 'it' in the relative clause to avoid having two

B. In the following sentences, underline the item requested in brackets:

1. Poor little Joe stood out in the snow. (SUBJECT)
2. Joe had nowhere to stay. (INFINITIVE)
3. The policeman chased Joe down the street. (DIRECT OBJECT)
4. The woman gave him some money. (INDIRECT OBJECT)

Ambiguity Resolution Test

A. Explain the meaning of each sentence below. (Verilmiş cümlələrin mənasını düzgün izah edən variantı seçin.)

1. Team helps dog bite victim.
 - a. A group of people help the dog to bite the victim.
 - b. A group of people help the victim who is bitten by a dog.
 - c. Both a) and b) can be correct.
 - d. Other _____
2. It is liver that makes life happy.
 - a. Happiness in life depends on the person.
 - b. Happiness in life depends on the healthy liver (an organ in human body)
 - c. Both a) and b) can be correct.
 - d. Other _____
3. The farmer allows workers to cross the field for free, but the bull charges.
 - a. The farmer allows the walkers, but the bull doesn't allow them to cross for free, the bull hits them when they cross.
 - b. People are allowed to cross the field for free, but for the bulls to cross the field they have to pay.
 - c. Both a) and b) can be correct.
 - d. Other _____
4. The batteries were given out free of charge.
 - a. People didn't pay for batteries, they got them for free.
 - b. The batteries that people bought didn't have power.

c. Both a) and b) can be correct.

d. Other _____

5. Actor sent to jail for not finishing sentence.

a. Actor did not complete the lines he was saying, that is why he was sent to jail.

b. Actor left jail without finishing his sentence (punishment), that is why he was sent back to jail.

c. Both a) and b) can be correct.

d. Other _____

B. There are 5 sentences below. Read them and explain their meaning. Write full sentences.

(Aşağıda qeyd edilmiş cümlələri oxuyun və mənalarını izah edin. Fikrinizi bütöv cümlələrlə izah edin.)

1. Two Soviet ships collide – one dies.

2. Eye drops off shelves.

3. Babies are what the mothers eat.

4. Stolen painting found by tree.

5. Country officials to talk rubbish.
