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OPEN ACCESS ARTICLE UNDER THE CC BY
LICENSE<http://creativecommons.org/licenses/by/4.0/>**Assessing Iraqi University
Students' Ability to Interpret
Structural Ambiguity****A B S T R A C T**

This research is devoted to study the structural ambiguity. By definition, ambiguity is a linguistic phenomenon in which a given text has more than one meaning or interpretation. Thus, this study aims for:

١. Assessing Iraqi university students' ability to interpret structural ambiguity at colleges of education/ English departments in three universities Tikrit, Kirkuk, and Al-Anbar.

٢. Finding out the comparison of the students' ability to interpret structural ambiguity at both the recognition and production levels at the three universities: Tikrit, Kirkuk, and Al-Anbar.

The participants were three hundred and seventy-five undergraduate students in the fourth year of study in the Departments of English, Colleges of Education, University of Tikrit, University of Kirkuk, and University of Al-Anbar. The research was conducted during the first semester of the academic year 2021-2022. The data was gathered by using a diagnostic test to assess students' ability to interpret structural ambiguity. The results of the study revealed that there are statistically significant differences among Iraqi university students' ability to interpret structural ambiguity.

© 2023 JTUH, College of Education for Human Sciences, Tikrit
UniversityDOI: <http://dx.doi.org/10.25130/jtuh.30.2.2.2023.23>**تقييم قابلية طلاب الجامعة العراقيين في تفسير الغموض التركيبي**

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الخلاصة:

يدرس هذا البحث الغموض البنيوي . حيث ان ، الغموض يعرف بكونها ظاهرة لغوية يكون فيها نص معين له أكثر من معنى أو تفسير واحد. وبالتالي ، تهدف هذه الدراسة إلى:

١. تقييم قدرة طلبة الجامعة العراقيين على تفسير الغموض البنيوي في ثلاث كليات تربوية في جامعات تكريت وكركوك والأنبار.

٢. المقارنة بين قدرة الطلاب على تفسير الغموض البنيوي على مستويي الادراك والإنتاج في الجامعات الثلاث: تكريت وكركوك والأنبار.

حيث تم اختيار عينات عشوائية بمقدار (٣٠٣) طالبا جامعيًا (ذكور وإناث) في المرحلة الرابعة من الدراسة في أقسام اللغة الإنجليزية في كليات التربية في جامعات تكريت وكركوك والأنبار. أجريت الدراسة في الفصل الدراسي الأول من العام الدراسي ٢٠٢١-٢٠٢٢. تم جمع البيانات باستخدام اختبار تشخيصي لتقييم قدرة الطلاب على تفسير الغموض البنيوي. ووضحت النتائج التي توصلت اليها الدراسة عن وجود فروق ذات دلالة إحصائية بين قدرة طلبة الجامعات العراقية على تفسير الغموض البنيوي.

الكلمات المفتاحية: الغموض، الغموض التركيبي، الغموض البنيوي

Chapter One Introduction

1.1 Statement of the Problem

Language is a system of human communication or method of communicating an idea, emotion, and desires consisting of the use of words in a structure or conventional way. It consists of written and spoken language. Moreover, to be able to interact with each other, they have not only developed their English language skills and mimic native English speakers but also conceive the meaning of the word in oral language or written communication and decode ambiguous sentences in English. Spoken language is a language produced by the use of sounds or symbols while written language is the representation of spoken language by means of the writing system. written language is more difficult to understand than spoken language (Crystal, 2010, p.22).

According to Fromkin (2013) semantics are the study of the meaning of morphemes, words, phrases, and sentences (p.173). Thus, the words, phrases, and sentences can be interpreted in several senses, and it can raise a problem of ambiguity. Also people who read written texts may have different interpretations of one another and these different interpretations among readers are created by ambiguity (Crystal, 2010, p.22).

Ambiguity arises when a single word or string of sentences is associated with the language system in more than one meaning. That means, a sentence can be

interpreted in different ways and it may be confused by multiple meanings of one word (Chierchia and Connell, 1990, p.32).

Georfien (2002) states syntactical (structural) ambiguity happens when we can create more than one structure for the same sentence, flying planes can be dangerous. Thus, the intended meaning of a single word can vary depending on the linguistic context in which it appears (p.96).

Added to that linguistic ambiguity falls into some categories the two most important of which are lexical ambiguity and structural ambiguity (Hudson, 1999, p.313). So, this study deals only with structural ambiguity.

1.2 Aims of the Study

1. Assessing Iraqi university students' ability to interpret structural ambiguity at colleges of educations/ English departments in three universities Tikrit, Kirkuk, and Al-Anbar.
2. Finding out the comparison of the students' ability to interpret structural ambiguity at both the recognition and production levels at the three universities: Tikrit, Kirkuk, and Al-Anbar.

1.3 Hypotheses

To verify the aims of this research, the following hypotheses were proposed:

1. There are statistically significant differences among Iraqi university students' ability to interpret structural ambiguity at colleges of education/ English departments in three universities Tikrit, Kirkuk, and Al-Anbar.
2. There are statistically significant differences among Iraqi university students' ability to interpret structural ambiguity at both the recognition and production levels at the three universities: Tikrit, Kirkuk, and Al-Anbar.

1.4 Limits of the study

The present study is limited to:

1. English foreign language fourth-year university students at colleges of education/ English departments in three universities Tikrit, Kirkuk, and Al-Anbar during the first course of the academic year 2021-2022.
2. Assessing Iraqi university students' ability in semantic interpretation of structural ambiguity.
3. The researcher focuses on the ambiguity case that occurs in the texts like words, phrases, and sentences.

1.5 Value of the Study

1. It expects to provide the students with an increase in their ability to understand ambiguous words, phrases, and sentences.
2. It gives positive significance to other students who study semantics so that they will know more about ambiguity, especially the kinds of ambiguity.

1.6. Definitions of Basic Terms

1.6.1. Assessing

Palomba and Banta (1999)) state that assessment is the systematic collection, review, and use of information about educational programs undertaken for the purpose of improving student learning and development (p. 4).

1.6.2. Interpret

Interpretation is a communication process that interrelates a setting through an agency with a visitor and aims to reveal meanings and relationships through the use of original objects (Tilden, 2009, para.5).

1.6.3. Structural Ambiguity

Structural ambiguity arises when a phrase or sentence has a different underlying structure. An example of a structural ambiguity case, in the sentence: "He is drinking the water on the chair." This sentence can be interpreted in two different ways; first, he is drinking the water on the chair, and second, he is drinking the water and sitting on the chair (Katz,1971, p.248).

Chapter Two

Theoretical Background and Previous studies

2.0 An Introductory Note

The current chapter is divided into two sections: the first section sheds light on the theoretical background while the second one reviews related previous studies.

2.1 Theoretical Background

2.1.1 Semantic Interpretation

Hirst (1988) states that semantic interpretation means the process of mapping a syntactically analyzed text of natural language to a representation of

its meaning. The input to a semantic interpreter is a parse tree, but we do not require that it represent a complete sentence; we allow well-formed subtrees such as noun phrases and even single words (labeled with their part of speech and syntactic features) as input. The output of a semantic interpreter is the meaning of the input text, or a suitable representation thereof (p.2).

Murcia and Olshtain (2000) confirm that semantics is posed as an area of analysis that shows how meaning is deciphered in the language, so that semantics is interested in the meaning of the lexical items. It is the area of study that is associated with the relationship between the linguistic forms and the objects in the real world (p.19).

2.1.2 Ambiguity

2.1.2.1 Definitions of Ambiguity

Bushman (1996) defines ambiguity as a property of expressions that can be identified in many ways and it can also be noticed lexically, semantically, and syntactically in the linguistic description. Ambiguity can be generally solved by grammatical analysis through the use of models of the generative syntax framework. It can also be handled by a competent speaker who can elucidate it and give explanations for the ambiguous expressions or structures through paraphrasing or related contexts (p. 50).

The famous semanticist Katz (1977) sees ambiguity as a relation between many semantic representations and an expression corresponding to them in natural language (p.56). While, Scheffler (1979) notes that a word is ambiguous if its denotation on one occasion of its use diverges from its denotation on another occasion of its use (p.13).

2.1.2.2 Kinds of Ambiguity

The phenomenon of ambiguity can be classified into many types. So that many authors in the English language have classified it in different ways. Some authors like Pinkal (2013) claim that lexical ambiguity includes only instances of homonymy and polysemy (p.75). While, Bucaria (2004) for instance, maintains that there is lexical ambiguity, syntactic ambiguity, and phonological ambiguities (p. 281). When it comes to Kaufer (1983) is the one that identifies more types of ambiguities: syntactic, lexical, the ambiguity of illocution, ambiguity of perlocution, and ambiguity of use/mention (p. 210). According to this study, one kind of ambiguity are recognized which is structural ambiguity.

Interpretation:

The sentence may mean ‘The girl hit the boy using a book’ or ‘The boy is holding a book when the girl hit him. This type of ambiguity occurs since the prepositional phrase ‘with a book’ can modify two nouns ‘the girl or the boy’, either of which can be treated as its antecedent. In the sentence there is no clue to which noun the PP modifies. In other words, ‘with a book’ can modify *the boy* or *the girl*. This type of structural ambiguity results from the lack of information in the construction. If additional information is added to it, the sentence becomes unambiguous:

- The girl hit the boy with a book. The book is broken.
- The girl hit the boy with a book. The boy hurts.

Type 3: VP + NP + more ... than + NP

Example: Jerry loves the fans more than Sally.
VP NP NP

Interpretation:

This third type of ambiguity concerns comparative degree. It is ambiguous because the shortened version may function as the subject of the second (shortened) clause or as the object of the verb ‘love’ which is in comparative relation with ‘the fans’. The rule is if the comparative clause is identical to the main clause except for a contrasted phrase, optionally remove everything from the comparative clause except for this contrasted phrase (Baker, 1989, p.347).

Type 4: VP + NP + PP1 + PP2

Example: Put the bottle on the table in the kitchen.
 VP NP PP1 PP2

Interpretation:

The sentence above is ambiguous since the first modifier ‘on the table’ can modify the closest NP or PP2. It is not clear whether ‘on the table’ modifies ‘the bottle’ or ‘in the kitchen’. If it modifies ‘the bottle’, it means that the bottle is already on the table and should be put in the kitchen. On the other hand, if it modifies ‘in the kitchen’, it means that the bottle should be put from somewhere else to the table which is in the kitchen. The ambiguity can be resolved by

placing a terminal juncture between the first and the second modifier. Thus, the sentence may mean ‘Put the bottle on the table / in the kitchen’.

The juncture shows that the bottle is already on the table and then to be put in the kitchen. The second interpretation, is ‘Put the bottle / on the table in the kitchen’. It means that the bottle should be put on the table, and the location of the table is in the kitchen (not the table in the bedroom).

Type 5: NP + Adj. Clause

Example:

The teacher thanked the students who had given her some flowers.
NP Adj. Clause

Interpretation:

This fifth sentence can be ambiguous because it can be written in two versions with absolutely different meaning:

- The teacher thanked the students who had given her some flowers.
- The teacher thanked the students, who had given her some flowers.

In spoken language, the first sentence is uttered without juncture, while the second with juncture between the antecedent (NP) and the Adjective clause. The interpretation of the first sentence, the adjective clause ‘who had given her some flower’ restrict NP ‘the student’ to give important information ‘which students’ the teacher thanked. It implies that the teacher thanked only some students who had given her some flowers (not those who didn’t give her flowers). The adjective clause in the second sentence does not restrict the antecedent ‘the student’, thus, it gives further information which is not needed to identify the person, (Sinclair 1992, p.363). It means that the teacher thanked all of the students (and all of them gave her flowers).

2.2 Previous Studies

2.2.1 Guerra and Allende (2016)

The aim of the present research is to explore and establish the existence of possible connections between those two elements, language proficiency and linguistic ambiguity recognition, taking into account the impact of frequency effects on them. The sample of the study is three groups of English speakers: one control group of native speakers of English from the United States, and two groups of non-native speakers of English (first-year and fourth-year students)

from the programme of Licentiate Lengua y Literature Iglesias from Universidad de Chile.

The instrument of the study investigates the ability of recognizing linguistic ambiguity in different statements was tested in three groups of English speakers. The obtained results presented evidence that led to conclude that the recognition of linguistic ambiguity in its three dimensions, namely phonological, lexical and syntactic, increases according to the level of language competence of the speakers, and therefore it may be considered as a valid indicator of language proficiency.

2.2.2 Anggur (2019)

The aim of this study is to describe the lexical ambiguity, grammatical ambiguity and what factors that influence the writing skills of primary IV students of The Champion Denpasar-Bali. The sample of the study obtained by the written story text from the student's experience.

The instrument of this study is a qualitative approach that investigated from students' experience by test. The results showed that the type of ambiguity contained is consisted of lexical ambiguity and grammatical ambiguity. Lexical ambiguity is divided into two parts, namely polysemy and homonymy, while grammatical ambiguity is divided into four parts including: grammatical ambiguity caused by grammatical word formation events, grammatical ambiguity in similar phrases, grammatical vocabulary because of sentence context or lack of grammatical context and ambiguity because of the inaccuracy of the grammatical structure.

2.2.3 Discussion of the Previous Studies

A. Aims

The study of Guerra and Allende (2016) aim to explore and establish the existence of possible connections between those two elements, language proficiency and linguistic ambiguity recognition, taking into account the impact of frequency effects on them. Anggur (2019) aims to describe the lexical ambiguity, grammatical ambiguity and what factors that influence the writing skills of primary IV students of The Champion Denpasar-Bali.

B. Sample

The sample of the second study Guerra and Allende (2016) is three groups of English speakers: one control group of native speakers of English from the United States, and two groups of non-native speakers of English (first-

year and fourth-year students) from the programme of Licentiate Lengua y Literatura Iglesias from Universidad de Chile. While the sample of Anggur (2019) is obtained by the written story text from the student's experience.

C. Instruments

The instrument of Guerra and Allende (2016) investigates the ability of recognizing linguistic ambiguity in different statements was tested in three groups of English speakers. While the instrument of Anggur (2019) is a qualitative approach that investigated from students' experience by test.

D. Results

The results of Guerra and Allende (2016) present evidence that led to conclude that the recognition of linguistic ambiguity in its three dimensions, namely phonological, lexical and syntactic, increases according to the level of language competence of the speakers, and therefore it may be considered as a valid indicator of language proficiency. The results of Anggur (2019) show that the type of ambiguity contained is consisted of lexical ambiguity and grammatical ambiguity. Lexical ambiguity is divided into two parts, namely polysemy and homonymy, while grammatical ambiguity is divided into four parts including: grammatical ambiguity caused by grammatical word formation events, grammatical ambiguity in similar phrases, grammatical vocabulary because of sentence context or lack of grammatical context and ambiguity because of the inaccuracy of the grammatical structure.

CHAPTER THREE

Methodology

3.1 Research Design

A descriptive quantitative method has been used to conduct the collected data. Ary (2010) mentioned that the descriptive way is a method that connects with data in the form of the word. Thus, the researcher used the descriptive method to describe the data (p.474).

Creswell (2012) has given a very concise definition of quantitative research as a type of research that is 'explaining phenomena by collecting numerical data that are analyzed using mathematically based methods (p.166).

So, this study attempts to analyze structural ambiguity by using a quantitative approach and describing the finding to answer the research problems.

3.2 Population of the Study

Population refers to all the subjects that you want to study and it comprises all persons, objects, or events (Ary et.al, 2006, p.125).

Population can be defined as all individuals or interesting units, so it is difficult to have available data for all individuals in population (Hanlon and Larget, 2011, pp.10-22).

The population in the present study is (375) undergraduate students from departments of English, Colleges of Education, University of Tikrit, University of Kirkuk, and University of Al-Anbar during the academic year (2021-2022). Table (1) shows the population distribution.

Table 1

Population of the Study

Population	Number
University of Tikrit	135
University of Kirkuk	118
University of Al-Anbar	122
Total	375

3.3 Sample

According to Ary et.al (2010) a sample is a number of individuals, objects or events selected for a study from a population, usually in such a way that they represent the large group from which they are selected(p.148).

The sample of the present study was randomly selected in order to be truly representative of the population characteristics without any bias and in order to obtain valid and reliable results. The total number of the sample is (303) chosen randomly. The total number of males students are (167) whereas females students are (136). The intentional choice is represented through choosing a college and random choice is achieved through selecting a representative number of students from Colleges of Education/ Tikrit, Kirkuk, and Al-Anbar universities.

Table 2

Sample of the Study

University	Males	Females	Total
Tikrit	54	44	103
Kirkuk	55	50	100
Al-Anbar	58	42	100
Total	167	136	303

3.4 Test Construction

One of the formal and systematic way of gathering information about learners' behavior usually through paper-and- pencil procedure is test. Baker (1989) defines a test as a means of reaching the correct and accurate decision(p.3).The construction of the test involves planning for the test, preparing the items and instructions, putting them together and reproducing the test (Brown, 2010, p.47).

In order to achieve the aims of this study, a diagnostic test has been constructed. The test has major two tasks, namely, recognition and production tasks. In the construction of the test a specification of the behavioral objectives is derived, as table (3) illustrated:

Table 3

Levels	No. of Question	No. of Items	Contents		behavioral objectives	Scores
Recognition	1	1	VP+NP+PP1+PP2	Structural Ambiguity	Analyzing	20
		2	VP+NP+more..than+NP			
		3	Gerund+VP			
		4	NP+Adj. Clause			
		5	VP+NP+PP			
	2	1	VP+NP+PP	Structural Ambiguity	Analyzing	20
		2	VP+NP+more..than+NP			
		3	VP+NP+PP1+PP2			
		4	NP+Adj. Clause			
		5	Gerund+VP			
Production	3	1	VP+NP+PP	Structural Ambiguity	creating	20
		2	NP+Adj. Clause			
		3	VP+NP+PP1+PP2			
		4	VP+NP+more..than+NP			
		5	Gerund+VP			
Total						60

The Specifications of the Contents and Behaviours of the Test

The test is designed to assess Iraqi university students' ability to interpret structural ambiguity on both recognition and production levels and it consists of three questions. Two questions (questions number one and two) access students' recognition levels. The **first** question involved multiple-choice type that tests the students' ability to select the most appropriate choice that goes best with the context, while the **second** question demands to state whether a sentence is true or false. In the **third** question, the students are going to clarify the meaning of the sentences that access students' production level.

3.5 Validity of the Test

Validity is concerned with relevance; does the test actually measure what we want to measure and is it well enough for us have faith in the result (Bell,1981, p.198). Validity refers to the degree to which a study accurately reflects or assesses the specific concept that the researcher is attempting to measure (Tourangeau,1999, p.250).

There are four kinds of validity: content validity, construct validity, criterion validity, and face validity. The first one is concerned with what is being tested; as the rest, they are concerned with the extent to which the measurement is satisfactory (Dawood,1984, p.24). The aspect of validity related to this study is the face and content validity.

3.5.1 Face Validity

Face validity refers to the way the test looks right to test administrations, educators, and testees (Heaton,1988, p.153). Face validity refers not to what the test actually measures, but to what it appears superficially to measure. Face validity pertains to whether the test “Looks Valid” to the examinees who take it, the administrative, personnel who decides on its use, and other technically untrained observers (Anastasi, 1976, p.139).

3.5.2 Content Validity

Mehrans and Lehmann (1973) state that content validity is particularly important for achievement tests (p.290). Lado (1961) supports the consideration given to frequency and states that some vocabulary items are selected on the basis of frequency, other on the coverage of a maximum range of power to define other meaning (p.181).

3.6 Reliability of the Test

According to Valette (1977) reliability is the consistency of teacher's measurement , or the degree to which an instrument measures the same way each time; therefore, it should be used under the same condition with the same subject. It is the repeatability of a measurement (p.57). On the other hand, Al Hamash (1982) expresses that " Reliability of a test is measured by either splitting the test into two halves and scores of the two halves are compared or by giving the test twice to the same group of students and their marks on the two administrations are compared or correlated (p.98).

3.7 Scoring Scheme of the Test

Scoring means applying a numerical scale to measure responses. Scoring provides a valuable feedback concerning students' achievement and teachers' attitudes (Genesee and Upshur, 1996, p.208).

The test is scored out of 60 points and consists of three questions. Each question was worth 20 marks. The first and second questions are related to the recognition level. Four scores are allotted for the correct answer in every question while the wrong one takes zero. The third question is related to the

production level. four scores are allotted for the correct answer while the wrong one takes zero.

CHAPTER FOUR

DATA ANALYSIS AND DISCUSSION OF RESULTS

4.1 Presentation of the Results

4.1.2 Results Related to the first Hypothesis

In order to achieve the first aim of the study which is to find out and comparing among Iraqi University Students' ability to interpret structural ambiguity at three colleges of education in Tikrit, Kirkuk, and Al-Anbar universities by investigating the first hypothesis that states "there are statistically significant differences among Iraqi University Students' ability to interpret structural ambiguity at three colleges of education in Tikrit, Kirkuk and Al-Anbar universities", the researcher has compared the mean scores and standard deviations of students' scores in structural ambiguity were used to collect the data.

Table 4

Inter-Universities Results in Structural Ambiguity

University	No. of Students	Mean Scores	Std. Deviation
Tikrit	103	26.0388	8.22231
Kirkuk	100	24.9000	8.05724
Al-Anbar	100	22.9000	6.98266

The one-way analysis of variance ANOVA is used to determine whether there are any significant differences in the structural ambiguity of Iraqi University Students' ability at the three colleges of education in Tikrit, Kirkuk, and Al-Anbar universities. The analysis shows that the computed F-value is (4.223) which is higher than the tabulated F-value (3.00) at the (0.016) level of significance and DF= (2). This indicates that there are significant differences between university students in the interpretation of structural ambiguity. According to this result, the first hypothesis is also accepted.

Table 5

One-Way Analysis of Variance (ANOVA) in Structural Ambiguity

University	Sum of Squares	DF	Mean Scores	F	Sig.
Between Groups	511.013	2	255.507	4.223	0.016
Within Groups	18149.845	300	60.499		
Total	18660.858	302			

In order to find out the comparison between universities, the researcher uses SH-Value as seen below in tables (21, 22, 23):

The analysis of the results identifies that there are no significant differences between Kirkuk and Tikrit students in their interpreting structural ambiguity because the computed SH-value is (0.54) which is less than the tabulated SH-value (3.00) at the (0.5) level of significances. See Table (6).

Table 6

The Comparison Between Kirkuk and Tikrit in Structural Ambiguity

Group	No. of Students	Mean	SH-Value		Level of Significance
			Computed	Tabulated	
Tikrit	103	26.0388	0.54	3.00	0.05
Kirkuk	100	24.9000			

Table (7) shows that the computed SH-value is (4.13) which is higher than the tabulated SH-value which is (3.00) at the (0.5) level of significance. This indicates that there are significant differences between Tikrit and Al-Anbar students in their interpretation of structural ambiguity.

Table 7

The Comparison Between Tikrit and Al-Anbar in Structural Ambiguity

Group	No. of Students	Mean	SH-Value		Level of Significance
			Computed	Tabulated	
Tikrit	103	26.0388	4.13	3.00	0.05
Al-Anbar	100	22.9000			

While at the table (8), the computed SH-value is (1.65) which is less than the tabulated SH-value which is (3.00) at the (0.05) level of significance. This indicates that there are no significant differences between Kirkuk and Al-Anbar students in the interpretation of structural ambiguity.

Table 8

The Comparing Between Kirkuk and Al-Anbar in Structural Ambiguity

Group	No. of subject	Mean	SH-Value		Level of Significance
			Computed	Tabulated	
Kirkuk	100	24.9000	1.65	3.00	0.05
Al-Anbar	100	22.9000			

4.1.5 Results Related to the Second Hypothesis

In order to achieve the second aim of the current study which is to find out and compare Iraqi university students' ability to interpret structural ambiguity at both the recognition and production levels at the three universities Tikrit, Kirkuk, and Al-Anbar, by investigating the hypothesis which hypothesized that "there are statistically significant differences among Iraqi university students' ability in interpreting structural Ambiguity at both recognition and production levels"

4.1.2.1 Comparison of the Students' Ability to Interpret Structural Ambiguity at the Recognition Level

The analysis of the results identifies the results of the university students' ability to interpret structural ambiguity in the three universities at the recognition level. This comparison is made as a whole, among the three universities. Table (9) shows the number of students, mean score, and standard deviation among Iraqi university students' ability to interpret lexical ambiguity on recognition level, as seen below:

Table 9

Inter-University Results at the Recognition Level

University	No. of Students	Mean	Std. Deviation
Tikrit	103	23.0291	6.68545
Kirkuk	100	22.1200	6.64129
Al-Anbar	100	20.3600	5.57324

It also determines whether there are any statistically significant differences in interpreting lexical ambiguity among three universities on the recognition level using a one-way ANOVA, as illustrated in the table (10).

Table 10

One-Way Analysis of Variance (ANOVA) at the Recognition Level

	Sum of Squares	DF	Mean Scores	F	Sig.
Between Groups	372.504	2	186.252	4.656	0.010
Within Groups	12000.513	300	40.002		
Total	12373.017	302			

Based on the results, it is clear that the computed F-value (4.656) is higher than the tabulated F-value (3.00) at the (0.010) level of significance and DF= 2. This indicates that there are significant differences among the university students' ability to interpret structural ambiguity on the recognition level. In order to find out the comparison between universities, the researcher uses SH-Value as seen in the tables (10, 11, 12):

As seen in the table (10), there are no significant differences between Tikrit and Kirkuk students in their interpretation of structural ambiguity because the computed SH-value is (0.95) which is less than the tabulated SH-value (3.00) at the (0.05) level of significance.

Table10

The Comparison Between Tikrit and Kirkuk at the Recognition Level

Group	No. of Students	Mean	SH-Value		Level of Significance
			Computed	Tabulated	
Tikrit	103	23.0291	0.95	3.00	0.05
Kirkuk	100	22.1200			

A table (41), the computed SH-value is (4.52) which is higher than the tabulated SH-value which is (3.00) at the (0.05) level of significance. This indicates that there are significant differences between Tikrit and Al-Anbar students in their interpretation of structural ambiguity.

Table 11

The Comparison Between Tikrit and Al-Anbar at the Recognition Level

Group	No. of Students	Mean	SH-Value		Level of Significance
			Computed	Tabulated	
Tikrit	103	23.0291	4.52	3.00	0.05
Al-Anbar	100	20.3600			

Table (11) shows that the computed SH-value is (1.94) which is less than the tabulated SH-value which is (3.00) at the (0.05) level of significance. This indicates that there are no significant differences between Kirkuk and Al-Anbar students in their interpretation of structural ambiguity.

Table 12

The Comparison Between Kirkuk and Al-Anbar at the Recognition Level

Group	No. of Students	Mean	SH-Value		Level of Significance
			Computed	Tabulated	
Kirkuk	100	22.1200	1.94	3.00	0.05
Al-Anbar	100	20.3600			

4.1.2.2 Comparison of the Students' Ability to Interpret Structural Ambiguity at the Production Level

Another comparison is made among the three universities on the production level, which is related to the fifth hypothesis that there are significant differences among Iraqi university students at the three universities as a whole at the production level. Table (13) shows the number of students, mean scores, and standard deviation among Iraqi university students to interpret structural ambiguity at the production level, as in the following table:

Table 13

Inter-Universities Results at the Production Level

University	No. of Students	Mean	Std. Deviation
Tikrit	103	3.6214	4.16596
Kirkuk	100	3.3400	3.40000
Al-Anbar	100	3.2200	3.02040

Additionally, a one-way ANOVA is used to determine whether there are statistically significant differences in structural ambiguity among the three universities on the production level.

Table 14

One-Way Analysis of Variance (ANOVA) at the Production Level

	Sum of Squares	DF	Mean Scores	F	Sig.
Between Groups	8.642	2	4.321	0.340	0.712
Within Groups	3817.833	300	12.726		
Total	3826.475	302			

The results show that the computed F-value (0.340) is lower than the tabulated F-value (3.00) at (0.712) level of significance and DF= 2. This indicates that there are no significant differences among university students at the production levels. According to the results of both recognition and production levels, the fifth hypothesis is accepted at the level of recognition and rejected at the production.

4.2 Discussion of the Results

This study attempts to test Iraqi university students' Ability to interpret structural ambiguity at three colleges of education Tikrit, Kirkuk, and AL-Anbar universities. The result of the first hypothesis shows there are significant differences between university students' ability in the interpretation of structural ambiguity. According to this result, the first hypothesis is accepted. The result of the second hypothesis shows there are significant differences among the university students' ability to interpret structural ambiguity at the recognition level while there are no significant differences at the production level. According to the results of both recognition and production levels, the second hypothesis is accepted at the level of recognition and rejected at the production level.

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