Iraqi EFL University Students' Ambiguity Tolerance and Vocabulary Proficiency: A Correlational Study

Balqees Hameedi Kadhim,
balqees.homadi1107b@ircoedu.uobaghdad.edu.iq
Prof. Shaymaa Abul Baqi Al-Bakri, Ph.D.
Shaymaa.abdulbaqi@irecoedu.uobghdad.edu.iq
English Department, College of Education for Human Sciences Ibn-Rushd, Baghdad University

Abstract

A good vocabulary is essential for proficient language users. Another factor affecting EFL learning is ambiguity tolerance, as it is likely to hinder or facilitate language learning. Therefore, the objective of the present research study is to reveal the level of Iraqi EFL university students' ambiguity tolerance and its relationship with their vocabulary proficiency. To achieve this goal, the study instruments: the Vocabulary Size Test (VST), Productive Vocabulary Levels Test (PVLT), and Foreign Language Ambiguity Tolerance scale (FLAT) are administered to 400 Iraqi college students, chosen randomly from colleges of education in three universities (Tikrit, Baghdad and Wasit). Findings show that Iraqi EFL college students have a satisfactory level of ambiguity tolerance. Furthermore, the findings also reveal that there is a positive correlation between ambiguity tolerance and vocabulary proficiency.

Keywords: Ambiguity tolerance; vocabulary proficiency; university students; receptive vocabulary knowledge, productive vocabulary knowledge

تحمل الغموض وعلاقته بأتقان المفردات لدى طلبة الجامعة العراقيين دارسي اللغة الانكليزية لغة اجنبية : علاقة ارتباطية

بلقيس حميدي كاظم

balqees.homadi1107b@ircoedu.uobaghdad.edu.iq

أ.د. شيماء عبد الباقي البكري

Shaymaa.abdulbaqi@irecoedu.uobghdad.edu.iq

قسم اللغة الانكليزية، كلية التربية ابن رشد للعلوم الانسانية، جامعة بغداد

الملخص:

المفردات الجيدة ضرورية لمستخدمي اللغة. وثمة عامل آخر يؤثر على تعلم اللغة الانكليزية كلغة اجنبية وهو تحمل الغموض، حيث انه من المرجح ان يعيق او يسهل عملية التعلم اللغوي. لذلك تهدف الدراسة الحالية الى الكشف عن مستوى تحمل الغموض لدى طلبة الجامعة العراقيين ولعاقته بإتقان المفردات. ولتحقيق هذا الهدف تم تطبيق ادوات الدراسة والتي تمثلت في: اختبار حجم المفردات، اختبار مستويات المفردات الانتاجية، مقياس تحمل الغموض ، على عينة البحث المؤلفة من (400) طالب جامعي تم اختيارهم بشكل عشوائي من ثلاث جامعات عراقية (جامعة تكريت، جامعة واسط، جامعة بغداد). وقد اظهرت النتائج مستوى جيد من تحمل الغموض لدى طلبة الجامعة العراقيين. علاوة على ذلك، كشف النتائج وجود علاقة ارتباطية ايجابية بين تحمل الغموض واتقان المفردات.

الكلمات المفتاحية: تحمل الغموض ، اتقان المفردات، طلبة الجامعة ، معرفة المفردات المستقبلة ، معرفة المفردات الانتاجية

Introduction

It is widely acknowledged that a range of affective variables have a significant impact on learning in general, and EFL learning in particular. Any EFL teaching program is unlikely to achieve its goals unless these variables are given due attention (Gardner, 1985: 244). Related studies report such variables as EFL students' ambiguity tolerance to be the most effective variable in the EFL teaching/learning context. Collecting data about such variables might be valuable in making decisions and implementing remedial procedures to help facilitate and reinforce Iraqi students' learning of EFL.

Learning the English language may include unfamiliar linguistic and cultural patterns that are likely to create confusion and misunderstanding among EFL students (Abbe et al., 2007). They constantly encounter ambiguous stimuli ranging from confusing sounds to the exact meaning of vocabulary items or idioms (Ely, 1989). If they are unwilling to accept that a lexical item in the target language may

have more than one explicit meaning or that they are not required to be familiar with the meaning of every word to understand the text.

However, Iraqi university EFL students are reported to have a low level of classroom ambiguity tolerance (Abbas, 2018:9). Finding any correlation, no matter positive or negative, between Iraqi EFL vocabulary proficiency and ambiguity tolerance is of great significance. Knowledge of such correlation allows for having sufficient data and making reliable predictions about one variable from the other. However, the research questions that guided the current study are as follows:

1. What are the Iraqi EFL university students' levels of ambiguity tolerance and vocabulary proficiency?
2. Is there a significant association between students' ambiguity tolerance and their vocabulary proficiency?

According to the researcher's best knowledge, there are no studies exist or have been conducted which explore the correlation between FL ambiguity tolerance and vocabulary proficiency. The present study tries to address this gap.

Limits

The study is limited to Iraqi EFL university students at three colleges of education for human sciences in Baghdad, Tikrit, and Wasit during the academic year (2021-2022).

Review of Literature

Ambiguity Tolerance

In literature, over the decades of its existence as a subject of scholarly interest, AT has been approached from different definitional orientations, according to how it is applied to various aspects of learning, including its conceptualization as a context-specific construct (Aswegen & Englebrecht, 2009; Durrheim & Foster, 1997), as a trait with sociological implications (Frenkel-Brunswik, 1984). It is also approached as an essential feature of personality characteristics (Dubikovsky, 2016; Ehrman et al., 2003; McLain, 2009) and as a learning style in education (Behresi et al., 2016; Brown, 2000).

From a social-psychological viewpoint, AT may be justified as a situation-specific construct (Aswegen & Englebrecht, 2009) and is perceived as a set of attitudes and reactions to specific language classroom events. According to Ely (1995), an individual's ability to deal with new ambiguous situations is developed through a learner's consistent actions or behavioural intentions regarding certain issues in an SL/FL learning context (Gardner & Hatch, 1989). This view can be reflected through the students' interaction with people from different educational and cultural backgrounds or solving problems without definite solutions. Therefore, it has been reported that students who are intolerant of ambiguity in learning a second language may tolerate a great deal of ambiguity in learning other subjects (Almutlaq, 2018).

Through empirical research, Chang (2002, p. 53) has pointed out that AT is "a learning style, which is formed through long-term learning activities under the influence of specific family, education and social culture". Therefore, from the

perspectives of students themselves, as one of the individual differences' variables, AT is also affected by other variables, such as personality type (e.g., introversion/ extroversion), cognitive style (e.g., field independent/ field dependence), family background, and cultural background. The influence of these variables can lead to students showing different cognitive affective tendencies in the face of ambiguous situations. Some students have a higher tolerance for ambiguity, while others have a lower tolerance for ambiguity (Liu, 2021, p. 482).

Recently, AT has been redefined from the perspective of second language acquisition (SLA) and generalized to "various aspects of emotional and cognitive functioning of an individual (Furnham & Marks, 2013, p.717). Therefore, AT is a complex personality construct because it may affect and be affected by several factors, such as perception, emotions, values and attitudes (Atamanova & Bogomaz, 2014). Jowker & Khajehie (2017) suggest that having moderate levels of AT is recommended for optimum results in ESL/EFL contexts because, according to Ely (1995, p.13), "high tolerance may cause cognitive passivity and low tolerance may impede language learning". Then, EFL students are expected to adjust their tolerance of ambiguity and control the balance between the quality and quantity of SLA to achieve the best learning effect (Liu, 2021).

Possible Causes of Ambiguity Tolerance in EFL Learning Context

The EFL learning process involves active participation and engagement on the part of the students. Through this engagement, they must act repeatedly in many situations where they encounter unfamiliar information or unexpected language forms and cultural aspects, all of which will lead to significant uncertainty (Chappelle & Roberts, 1986). According to Norton (1975), as cited in (Papikyan, 2006), psychologists have summarized eight possible causes of ambiguity in the EFL learning context as follows:

1. multiple meanings (e.g., there are at least two meanings where the person is aware or unaware of them, or the meanings are clear or unclear).
2. vagueness, incompleteness and fragmented (parts of the whole are missing).
3. probability (the situation can be analyzed as a function of some probability).
4. unstructured (the situation has no clear organization).
5. lack of information (the situation has little or no information).
6. uncertainty (a state of uncertainty is created in the person's mind).
7. inconsistencies and contradictions (a situation in which parts of the information appear to disagree with each other) and
8. unclear (any situation perceived as unclear) (p.7).

The Significance of Ambiguity Tolerance in EFL Learning Context

Many researchers focus on the relationship between AT and several variables in the EFL context, such as language proficiency level (Khajeh, 2003; Lori, 1990), reading comprehension (El-Koumy, 2000; Erten & Topkaya, 2009), intrinsic

motivation (BaŞÖz, 2015), writing performance (Lee, 1999), self-regulation (Chu, 2015) and have indicated the existence of a positive correlation between the degree of tolerance and such variables. According to Chu (2015), tolerance of ambiguity and EFL proficiency level are inextricably linked. White (1999) states that intolerance of ambiguous aspects of FL learning can result in stressful situations were applying appropriate learning strategies, taking- risks and retrieving various knowledge items are negatively affected or, sometimes, completely prevented. However, Ely (1995) identifies three situations where AT hinders language learning as follows:

1. Learning individual linguistic elements (Phonological, morphological, syntactic, semantic, etc.)
2. Practicing language learning skills.
3. Adopting those skills as permanent strategies.

Additionally, the significance of foreign language ambiguity tolerance (FLAT) for students has been linked to their capacity to recall fragments of language input that are disorganized and heterogeneous (Doughty et al., 2010). According to Atef-Vahid et al. (2011), tolerant EFL students interpret complicated situations with greater flexibility, remain comfortable in certain situations, are more motivated to learn, and enjoy encountering innovative situations (Bardi et al., 2009; Chiang, 2016; Tayebinik & Puteh, 2013), more self-efficacious (Wolfradt & Rademacher, 1999) and more likely to engage in cross-cultural experiences (Caligiuri & Tarique, 2012). In contrast, less tolerant students find it difficult to take risks and make correct judgments without information. They are more worried and depressed (Carleton, 2012), show greater stress-related responses (Greco & Rogers, 2001), and tend to refrain from or avoid ambiguous situations (Furnham & Marks, 2013). However, the extent to which FLAT is beneficial for Iraqi university students is highly influenced by their background of language knowledge and skills (Saalh, 2023).

The Concept of Vocabulary Proficiency

Numerous scholars have established diverse criteria for defining VP in the research of vocabulary acquisition (Aitchison, 2003; Nation, 2001; Qian, 2002). For instance, Richards' (1976, p.37) perspective indicates that students achieved L2 vocabulary proficiency when they comprehend eight-word components, namely "frequency, register, syntax, derivation, association, semantic features, and polysemy". This framework has gained widespread due to its recognition of the complex and multifaceted nature of word knowledge.

However, Laufer & Paribakht (1998) state that VP comprises different levels, ranging from "just familiarity with the word to the ability to use it correctly in free production" (p. 367). Reads (2000) suggests that the breadth and depth of an individual's knowledge are two contrasting dimensions that determine their VP. The term 'breadth of vocabulary knowledge' refers to the entire words that an individual knows, which is commonly used to assess their vocabulary size (Qian, 2002). Hazenberg & Hulstijn (1996) and Schmitt (1998) are some studies that

explore this dimension. The quality of a person's word knowledge is closely linked to the depth of vocabulary, as stated by (Read, 1993). To assess an individual's vocabulary depth, researchers examine various word relations such as synonymy, antonymy, and collocational restrictions (Alfatle, 2016). This dimension has been explored in studies conducted by Greidanus & Nienhuis (2001), Nassaji (2004), and Webb (2005).

According to recent studies on lexical proficiency, VP is defined by Nation (2013) as the ability of a student to comprehend and produce words. Receptive size and productive size tests can be utilized to measure this ability. In his article: "Teaching and Learning Vocabulary", Nation (2005) explains the main components of VP as shown in Table (1) below. These are categorized into "three essential components: form, meaning and use. 'Form' refers to a word's spelling, sound and parts. Meaning involves recognizing a word's form-meaning relations, understanding what it refers to, and identifying related words with similar meanings" (p.584). Finally, knowledge of a word's use includes understanding its grammar, such as its part of speech, collocations, formality, usage and any restrictions on its use.

Table (1) What Does it Mean to Know a Word? Taken from (Nation, 2005, p.584)

Form	Spoken	R	What does the word sound like?
		P	How is the word pronounced?
	Written	R	What does the word look like?
		P	How is the word written and spelt?
	Word parts	R	What parts are recognizable in this word?
		P	What word parts are needed to express the meaning
Meaning	Form and meanings	R	What meaning does this word form signal?
		P	What word form can be used to express th meaning?
	Concept and referents	R	What is included in the concept?
		P	What items can the concept refer to?
	Associations	R	What other words does this make us think of?
		P	What other words could we use instead of this one?
Use	Grammatical functions	R	In what patterns does the word occur?
		P	In what patterns must we use this word?
	Collocation	R	What words or types of words occur with this one?
		P	What words or types of words must we use with th one?
	Constraints on use (register, frequency, etc.)	R	Where, when, and how often would we expect meet this word?
		P	Where, when, and how often can we use this word?

Note: R= receptive Vocabulary knowledge, P= productive Vocabulary knowledge

To learn vocabulary effectively, students must have a comprehensive understanding of the form, meaning and use of words as the Nation framework indicates. According to some scholars (Barcroft, 2009; Cobb, 1999; Laufer &

Girsai, 2008), receptive vocabulary knowledge is developed before productive one. Productive knowledge is typically only half the receptive vocabulary size (Schmitt, 2008). That is the production process is more complex and sophisticated than the receptive process (Salih & Riyadh, 2022). Kamil (2022) suggests that non-native English speakers must have a good grasp of vocabulary to complete academic tasks at the university level. According to Schmitt (2000), university non-native learners need to know at least 2,000 of the most commonly used words to comprehend 95% of essential spoken tasks and be prepared for advanced courses (Schmitt, 2000, p.143). Failing to achieve this level, they may struggle to understand the language (Nation,1993). However, Schmitt and Schmitt (2014) suggest that students should master the 3,000 most regularly used English items. Reads (2000) posits that English speakers at university education possess a receptive vocabulary size ranging from 13,200 to 20,7000 base words. Thus, it can be assumed that university-level (EFL) students require a vocabulary of approximately 17,000-word families.

Joint Influence of Ambiguity Tolerance on Vocabulary Proficiency

The prevalent ambiguity character positively or negatively impacts SL/FL learning, particularly vocabulary knowledge in an EFL learning context (BaŞÖz, 2015). White (1999) states that ambiguity may cause a high stress level and negatively affect language learning. It is easy to imagine what this can mean in an FL/SL classroom or the FL/SL reading context. For example, because of the unfamiliar linguistic elements, a student may not understand the teacher's instructions or feel that a text lacks familiarity and logic. They may also be unable to make decisions with a predictable result or to make any sold expectations about a new text because the information provided by any cues is inaccessible (Jowkar & Khajehie, 2017).

However, several investigations (Saady, 2017; Ely, 1995; Jowkar & Khajehie, 2017; Kazimia, 2001; Mondria, 1991) have shown that AT is closely connected with perceived success in EFL vocabulary learning. For example, a study by Saady (2017) aims to investigate whether AT of Saudi students may affect their vocabulary knowledge. The study findings have demonstrated that AT strongly influences students' self-achievement in learning foreign vocabulary. It also found that using ambiguity-reducing strategies is of great value for students who struggle for success. According to Ely (1995), the student's foreign language development will be seriously hindered if he/she refuses to acknowledge that a lexical item in the target language may have more than one explicit meaning or it is not required to be familiar with the meaning of every single word to understand a text. Thus, as leading members in EFL learning contexts, instructors should do whatever possible to create and maintain a teaching/ learning context in which a high level of AT is encouraged, supported and reinforced.

Method

When conducting research, choosing the right design is one of the critical decisions that need to be made. The descriptive design is a research method that is particularly useful for analyzing the relationship between variables and revealing their differences. This method is typically used to analyze the phenomena studied (Gall et al., 2007). Correlational research is also a sort of descriptive research in which data is collected to find out the degree to which a relationship exists among the study variables (Al-Bakri & Salman, 2020).

Sample

The participants of the current study comprise (400) male and female students randomly selected from three Iraqi universities: Baghdad, Tikrit and Wasit as shown in (Table 2).

Table 2 The Sample of the Study

Name of the University	Sample
University of Baghdad College of Education/ Ibn Rushd for Human Sciences	100
University of Tikrit College of Education for Human Sciences	143
University of Wasit College of Education for Human Sciences	157
Total	400

Instruments

To achieve the aims of this study, three instruments are used to collect the required data. These are; the Foreign Language Ambiguity Tolerance (FLAT) Scale, adopted from Ely (1995). This scale is the most commonly used one in this respect and is referred to by many related books and references. It consists of 12 items, scored according to a five-point rating scale yielding scores ranging between (12-60).

As for VP, the researcher has adopted two tests, the Vocabulary Size Test (VST), was developed by Nation and Beglar (2007). In this test 100 multiple-choice questions focusing on form-meaning links without testing productive ability. In 2006, Nation created a frequency list of 20 bands of 1,000 words each. Five items from the 1,000-word and 2,000-word frequent groups were chosen for the participants to test their understanding of their meanings. They were asked to select the right answer for each question, and one point was awarded for every correct response, with a maximum score of 100 points. To calculate the total size of a participant, the final score must be multiplied by 200. Therefore, if students score 35 out of 100, their total size would be 7,000-word families.

The Productive Vocabulary Levels Test (PVLT) Version 2 is a standardized test measuring students' productive vocabulary knowledge. It has been adopted from Nation &Laufer (1999). The test includes 18 lexical items from the 2,000, 3,000, 5,000, 10,000-word, and academic vocabulary levels. Participants can score between zero and 18 in each section, with one point awarded for each correct item

and no points for the incorrect or unanswered items. The highest score that a student can achieve on the test is 90 points. The determination of Whether a participant has satisfactorily mastered a particular level depends on the level being evaluated and is a subjective judgment. However, for the 2,000-word level, if a student scores around 15 or 16 out of 18 (85%-90%), it may be difficult to effectively communicate a message using less than 150 words.

As for

During the academic year 2021-2022, the study instruments are given to the study participants in separate adjacent times after ensuring their psychometric features.

Results

Arithmetic means and standard deviation were computed to determine the AT and VP levels among Iraqi EFL university students. A one-sample t-test has been implemented to compare the calculated arithmetic means to theoretical ones. The collected data indicates that the participants have a good level of AT since the arithmetic mean score (39.920) is higher than the theoretical one (36). The difference is statistically significant at a (0.05) level of significance and in favour of the arithmetical mean since the calculated t-value (14.481) is found to be higher than the critical value (1.96) under (339) degree of freedom and as seen in Table 3.

Table 3 Arithmetic Mean, and T-values of the Word Recognition Strategies

Variable	No.	Arithmetic Means	Standard deviation	Theoretical Means	T-test Values		Level of Significance (0.05)	Degree of freedom
					Computed	Critical		
FLAT	400	39.920	5.414	36	14.481	1.96	Significant	399
VP		118.542	17.891	95	26.318			

Table (3) also shows that university students in Iraq have a good level of VP since the arithmetic mean is found to be (118.552), with a standard deviation of (17.890). The calculated value of (26.319) was higher than the critical one.

Results also exhibit that the difference between the means (arithmetic and theoretical) of the participants' scores in both the receptive and productive vocabulary tests is highly significant, with arithmetic means being higher. This indicates that the sample possesses a good size of receptive and productive vocabulary, since the calculated t-values are (37.655 and 12.920) respectively, which are higher than the critical value as shown in Table 4 below.

Table 4 The Arithmetic Mean, Standard Deviation, and T-values of VP

Variable	No.	Arithmetic Means	Standard Deviations	Theoretical Means	T- Value		Level of Significance 0.05
					Computed	Critical	
VST	400	67.550	9.322	50	37.655	1.96	Significant
PVLT		50.992	9.275	45	12.920		

More analysis of the results has been carried out to determine the percentages of the sample's answers at each word-frequency level. The mean score is observed to decrease from (11.671) at the 2000-word level to (8.798) at the 10,000-word level. These findings imply that the percentages of the sample productive vocabulary size are also decreased from 65 % at the 2000 level to 49% at the 10000 level, as presented in Table 5.

Table 5 Means and Percentages of Participants' Answers in Each Level of PVLT

Level	Mean	N	Percentage
2000	11.670	400	65%
3000	10.925		61%
5000	10.120		56%
UWL	9.480		53%
10000	8.797		49%

Pearson correlation coefficient and t-test are also used in order to identify the correlation between AT and VP among Iraq students studying at the university level. Results show that the correlation coefficient values between the participants' AT and their receptive and productive vocabulary size tests and VP are 0.457, 0.335, and 0.412, respectively. (See Table 6).

Table 6 The computed Coefficients AT and VP

Variable	N	Correlation Coefficient	T-test Value		Level of significance (0.05)
			Computed	Critical	
VST	400	0.457	10.155	1.96	Significant
PVLT		0.335	7.128		
VP		0.412	9.155		

These findings indicate a significant positive correlation, that is, whenever students AT increases, their receptive and productive vocabulary sizes and VP as a whole will expand. Theoretically, the more tolerant EFL students of ambiguity, the more VP they have in English.

Conclusion

Based on the study findings, it is inferred that reasonable tolerance of ambiguity can enhance students' English language receptive and productive vocabularies in an EFL context. Those who have good levels of AT feel more relaxed, self-assured, flexible, risk-taking, motivated, and capable of coping with difficult and unfamiliar vocabulary.

Iraqi EFL students who study at university need to understand the most frequently used words well. Based on the PVLT results, they seem to have a satisfactory grasp

of words 2000 and 3000 levels, as well as the 5000 and academic word levels. However, they need to improve their knowledge of words at the 10,000 levels. As expected, they are more familiar with words used frequently and less familiar with those used less often. The frequency levels of the productive size test are scalable, which means that once a student has mastered one level, they can be supposed to have reached the mastery standard at higher frequency levels as well (Schmitt et al., 2001).

The sophisticated way of using memory contributes positively to building acceptable levels of AT, self-confidence, and cognitive control, represented by the students' appropriate decisions that best assist them in deriving correct word meanings.

Additionally, investigating the relationship between AT and VP could help students become familiar with their creative thinking skills and convince them to become more interested in developing more favourable word identification strategies. By doing so, they make the best use of their creative thinking skills, become more tolerant of ambiguity, interpret unclear information more appropriately and become less anxious about learning a foreign language.

Iraqi EFL university students who reach a good size of vocabulary at the 10,000-word level tend to use a limited number of low-frequency words productively. This is because precise word usage within the academic register is more challenging than general vocabulary, as it is more frequently used. As a result, instructors should shift their focus from teaching particular high-frequency words to teaching strategies for learning low-frequency ones. (Seglar et al., 2010).

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