

THE ACQUISITION OF ENGLISH UNACCUSATIVE VERBS  
BY ARABIC NATIVE SPEAKERS

BY

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**by Arabic Native Speakers**

*Abstract*

This study examined the acquisition of English unaccusatives by low, intermediate, and advanced Arabic learners of English using a grammaticality judgment task. The study tested two hypotheses. The first hypothesis is the Unaccusative Trap Hypothesis (UTH) (Oshita 2001), which claims that L2 early learners first treat unaccusatives as unergatives. At a later stage, learners begin to restructure their grammar and treat the two classes differently. At a final stage, learners behave like native speakers. The results showed that the early learners did not treat unaccusatives as unergatives as the UTH claims. The intermediate treated the two classes differently, and the advanced behaved to some extent like the native speakers. The second hypothesis tested in the study is the Unaccusativity Hierarchy Hypothesis (UHH) (Sorace 2000), which claims that there is a universal semantic hierarchy for unaccusatives and unergatives. The results showed that the native speakers were sensitive to the hierarchy, a result which lends further empirical support to Sorace's hierarchy. The learners did not show much sensitivity to the hierarchy. We believe the reason is that the morphological reflexes of unaccusativity in English are not so clear in the input, suggesting that morphosyntactic properties of the target language may influence learners' sensitivity to the hierarchy.

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## 1. Introduction:

The present study examines the second language acquisition of one class of verbs known in linguistic literature as “unaccusative verbs”. Unaccusative verbs are defined linguistically as intransitive verbs that take an underlying object, such as *come*, *arrive*, and *fall* (Perlmutter 1978; Burzio 1986). Previous research on this area (Hirakawa, 1995; Oshita, 1997; Zobl, 1989; Yip, 1995) has shown that second language learners usually face difficulty when they learn unaccusative verbs. Zobl (1989), for example, observed L2 learners of English from various L1 backgrounds incorrectly producing unaccusatives in passive form (e.g. \* *my mother was died*).

The Unaccusative Hypothesis first proposed by Perlmutter (1978) classified intransitive verbs syntactically into two classes, namely unaccusatives and unergatives based on the semantic characteristics of the subject. Burzio (1986) extended the Unaccusative Hypothesis within the Government and Binding framework and argued that the distinction between unaccusatives and unergatives is mainly syntactic. The single argument of an unergative verb “*Mary*” in (1) originates in the subject position as an external argument and remains in that position on the surface structure. However, the single argument of an unaccusative verb “*John*” in (2) originates in the object position as an internal argument and moves to the subject position on the surface structure to check the nominative case. Typically, the sole argument of an unergative verb is an agent like *Mary* in (1), while the sole argument of an unaccusative verb is a theme like *John* in (2).

- (1) *Mary* smiled. [ *Mary* [ VP smiled ] ] (unergative)  
(2) *John* arrived. [ *John*<sub>i</sub> [ VP arrive t<sub>i</sub> ] ] (unaccusative)

Different researchers have investigated intransitive verb phrases across languages and have argued for several syntactic diagnostics that distinguish unaccusatives from unergatives. This evidence has led researchers to assume that this syntactic distinction between unaccusatives and unergatives is a universal phenomenon that exists in all languages. In Italian, for example, it has been shown that unaccusative verbs can generally take the auxiliary *essere* “be” as example (3.a.) shows while unergative verbs can generally take the auxiliary *avere* “have” as example (3.b.) shows (Examples from Burzio 1986: 20).

- |  |  |
|--|--|
| (3) a. Giovanni <b>e</b> arrivato.<br>Giovanni is arrived<br>“Giovanni has arrived”. | b. Giovanni <b>ha</b> telefonato.<br>Giovanni has telephoned<br>“Giovanni has telephoned”. |
|--|--|

In Japanese, it was also shown by Kageyama (1993) that the different interpretation of the adverb *takusan* “a lot” can be used as a syntactic diagnostic for unaccusativity. Japanese is a language where the subject of an intransitive verb and both the subject and object of a transitive verb can be dropped. When the adverb *takusan* is used with a transitive verb (4) and with an unaccusative verb (5), it can only modify the internal argument. However, when it is used with an unergative verb (6), it can only modify the activity of the verb but not the single external argument of the verb. (Examples from Hirakawa 2000: 48).

- |   |                                |                |
|---|--------------------------------|----------------|
| (4) Takusan<br>A lot<br>“He/she/they etc. broke a lot (of things).” | kowasi-ta.<br>break (tr)-Past  | (transitive)   |
| (5) Takusan<br>A lot<br>“A lot (of things) broke.”                  | kowasi-ta.<br>break (int)-Past | (unaccusative) |

- (6) Takusan      nai-ta                      (unergative)  
A lot            cry-past  
“somebody cried a lot.”

Second language researchers are interested in the acquisition of the L2 argument structure because it is argued that L2 learners confront the logical problem of language acquisition in the mapping from the lexicon to syntax (Juffs, 1996, 2000; White, 2003). This was originally proposed for first language learners by Baker (1979). The reason for this problem is that languages vary with respect to how the arguments of a verb are realized syntactically. In English, for example, the sole argument of an unaccusative verb is syntactically realized in the subject position of the NP-V word order structure. Consistent with UTAH principles, which state that identical thematic roles are projected into the same syntactic structures universally (Baker, 1988), the theme argument is projected in the object position. So that in and of itself should not cause a problem. What should cause a problem for L2 learners of English is the movement of the theme argument to the subject position. This is evident when L2 learners incorrectly passivize unaccusatives as shown in (7).

- (7) Most of people are fallen in love.              (Zobl 1989)

Unlike a language like Italian, the syntactic distinction between unaccusatives and unergatives in English is not clear in the input. In the common NP-V word order structure, both unaccusatives and unergatives are the same on the surface, with their single argument occupying the subject position. So input is not sufficient to lead L2 learners of English to distinguish between unaccusatives and unergatives. What further complicates the problem for L2 learners of English is that the properties of the



argument structure of unaccusatives and unergatives are not taught in classrooms. However, if we assume that the interlanguage grammar of L2 learners of English is constrained by Universal Grammar, they are expected to distinguish between unaccusatives and unergatives because they have access to UG options that are not instantiated in their L1 (Juffs, 1996, 2000; White, 2003). As reviewed in Juffs (2000) and White (2003) many researchers have argued this distinction is fully acquirable in L2 acquisition (Hirakawa, 1995; Oshita, 1997; Yip, 1995; Zobl, 1989).

The present study investigates the acquisition of English unaccusative verbs by Arabic speakers. The study focuses in particular on stages of development in the acquisition of unaccusativity, examining learners from a wide range of proficiency levels. Specifically, the study tests two hypotheses proposed recently in literature. The first hypothesis is the Unaccusative Trap Hypothesis proposed by Oshita (2001), which claims that L2 acquisition of unaccusatives involves three developmental stages. The second hypothesis is the Unaccusativity Hierarchy Hypothesis proposed by Sorace (2000), which claims that there is a universal semantic hierarchy for unaccusative and unergative verbs.

### *1.1. Organization of the Paper*

This paper is organized as follows. Following this introductory section is section 2 which reviews unaccusativity in English. In section 3, we outline the goal of the L2 learner of English unaccusatives and the learnability problem involved in L2 acquisition of English unaccusatives. In section 4, we review previous research on the

L2 acquisition of English unaccusative verbs by L2 learners from various L1 backgrounds. Section 4.1. summarizes “The Unaccusative Trap Hypothesis” (Oshita 2001) and section 4.2. summarizes “The Unaccusativity Hierarchy Hypothesis” (Sorace 2000). These two Hypotheses are the main hypotheses tested in the present study. Section 4.3. reviews the previous studies that tested “The Unaccusativity Hierarchy Hypothesis”, while section 4.4. reviews Montrul (2005) and Deguchi and Oshita (2004), which are the two studies that tested both of the two hypotheses mentioned above. Section 5. is about the unaccusativity in Najdi Arabic. In section 6, we present the research questions, methodology, predictions, and results of the experimental study we conducted. In section 7, we discuss the major results of the study and compare them with the previous studies. In the concluding section 8, we review the general conclusions that we draw from the results of the study, and suggest some recommendations for future research.

## **2. Unaccusativity in English**

There are many syntactic and morphological constructions that have been considered in the literature as evidence for unaccusativity in English. In this section, we will review some diagnostics that distinguish between unaccusatives and unergatives in English. We will particularly talk about four diagnostics, namely the resultative construction, *there*-insertion construction, the nominal suffix *-er*, and the adjectival suffix *-en*. The last three diagnostics are tested in the study to be reported in Section 6. In the next section, we will talk in turn about each diagnostic in detail.

### 2.1. Resultative Construction

The resultative construction is defined as a phrase describing the state of an underlying object that results from the action denoted by the verb as shown in (8). The interpretation of the sentence is that the metal became flat as a result of pounding.

(8) The blacksmith pounded the metal flat. (transitive)

Levin and Rappaport Hovav (1995) have argued that a resultative phrase can only be a predicate of an argument that originates in the object position. Therefore, the construction can be used as a diagnostic for unaccusativity in English. A resultative phrase can be used with a transitive verb as shown in (8) because the resultative phrase, i.e. “*flat*”, is a predicate of the argument “*the metal*” that originates in the object position.

A resultative phrase can also be used with an unaccusative verb as shown in (9) because the resultative phrase, i.e. “*solid*”, is a predicate of the argument “*the river*” that originates in the object position and only later raises to subject position. The sentence means that the river became solid as a result of freezing.

(9) The river froze solid. (unaccusative)

However, a resultative phrase cannot be used with an unergative verb as shown in (10) because the resultative phrase, i.e. “*hoarse*” cannot be a predicate of the argument that originates in the subject position, i.e. “*Dora*”. The sentence cannot mean that Dora got hoarse as a result of shouting. (Examples from Levin and Rappaport Hovav 1995)

(10) \* Dora shouted hoarse. (unergative)

## 2.2. *There-Insertion Construction*

The *there*-insertion construction, which takes the form of “there- V- NP”, has also been considered as an unaccusativity diagnostic in English (Levin and Rappaport Hovav 1995).

(11) There exists a solution to that problem. (L & RH 1995, p.121)

The *there*-insertion construction is grammatical only with unaccusative verbs as shown in (11). This is because the expletive *there* can be inserted in the empty subject position when the internal argument, i.e. “*a solution*”, is projected to the object position on the surface structure. However, this construction is ungrammatical with unergative verbs as shown in (12).

(12) \* There sang a movie star.

This is because the expletive *there* cannot be inserted in the subject position when the external argument, i.e. “*a movie star*”, must be projected to the subject position. Levin and Rappaport pointed out that not all unaccusative verbs can appear in *there*-insertion construction. This construction is restricted to verbs of existence (e.g. *exist* and *remain*) and verbs of appearance (e.g. *appear* and *emerge*), but verbs of change of state (e.g. *break* and *melt*) are very rare in this construction.

## 2.3. *The Nominal suffix -er*

The nominal suffix *-er*, which derives a noun from a verb, is a morphological diagnostic that distinguishes unaccusative verbs from unergative verbs in English (Oshita 1997). According to Rappaport Hovav and Levin (1992), the nominal

suffix *-er* is sensitive to the argument structure of the base verb and can only refer to an external argument. Therefore, the nominal suffix *-er* may appear with transitive verbs because they have an external argument to which the nominal suffix *-er* can refer as examples in (13) show. Moreover, the nominal suffix *-er* may also appear with unergative verbs because they also have an external argument to which the nominal suffix *-er* can refer as examples in (14) show. However, the nominal suffix *-er* may not appear with unaccusative verbs because they do not have an external argument to which the nominal suffix *-er* can refer as examples in (15) show.

(13) *painter, writer, reader, teacher, killer, attacker, supporter, washer, and builder.*

(14) *runner, walker, swimmer, jumper, worker, listener, liar, and singer.*

(15). *\*faller, \*arriver, \*escaper, \*emerger, \*disappearer, \*dier, and \*exister.*

#### 2.4. The Adjectival suffix *-en*

The adjectival suffix *-en*, which derives an adjective from a verb, is another diagnostic that distinguishes unaccusative verbs from unergative verbs. The adjectival suffix *-en* can only be used with verbs that have an internal argument (Levin & Rappaport 1986). Therefore, this suffix may not appear with unergative verbs because they do not have an internal argument as the examples in (16) show. However, the suffix *-en* may appear with transitive verbs because they have an internal argument as examples in (17) show. The suffix *-en* may also appear with unaccusative verbs because they also have an internal argument as examples in (18) show. It is worth mentioning that not all unaccusative verbs can appear with the suffix *-en*. For

example, atelic unaccusative verbs (*e.g. remain and exist*) cannot appear with the suffix *-en* as noted by Levin and Rappaport (1989).

(16) a. \*swum boys   b. \*cried children   c. \*a run man   d. \*a sneezed patient

(17) a. recently written letters   b. recently received messages   c. well-eaten apples

(18) a. the fallen leaves   b. the recently arrived letter   c. the recently disappeared thief

### **3. Goal of the L2 Learner of English**

It has been assumed that intransitive verbs are divided into two classes, namely unaccusative verbs and unergative verbs (Perlmutter 1978; Burzio 1986). The two intransitive classes are similar in that they both have one single obligatory argument. However, they are syntactically different, with each class of verbs having different underlying argument structure. The subject of unergative verbs is an underlying subject while the subject of unaccusative verbs is an underlying object. The unaccusative-unergative distinction is universal but the syntactic reflexes of this distinction are language-specific. L2 learners should not have difficulty realizing that unaccusative verbs and unergative verbs have different argument structures. This is because there are universal linking rules according to which any argument which is a causer of an event denoted by the verb like *Mary* in (19) is projected as an external argument and any argument which undergoes a change of state like *John* in (20) is projected as an internal argument (Levin & Rappaport Hovav 1995).

(19) *Mary* laughed.

(20) *John* fell.

However, languages vary with regard to how to reflect this universal distinction using different syntactic constructions. For example, the syntactic distinction between unaccusatives and unergatives in Italian is clear on the surface structure. In Italian, unaccusative verbs generally select the auxiliary *essere* “be” while unergative verbs generally select the auxiliary *avere* “have”.

In English, the syntactic distinction between unaccusatives and unergatives is not as clear as is the case in Italian. L2 learners of English have only very few surface cues that show them the syntactic distinction between the two classes. In the *there*-insertion construction, for example, the syntactic distinction between unaccusatives and unergatives is clear on the surface structure, with only unaccusatives but not unergatives being possible in this construction. However, this construction is not commonly used and it is very rare in the input. In the common NP-V word order structure, both unaccusatives and unergatives are the same on the surface structure, with their single argument occupying the same position, i.e. the subject position. This indicates that the input will not be sufficient to lead L2 learners of English to distinguish unaccusatives from unergatives. More importantly, the possibility that this distinction can be learned through negative evidence is excluded if we take into consideration that these syntactic properties of unaccusatives and unergatives are not explicitly taught in classrooms. So, this clearly shows that L2 learners of English face a learnability problem when learning unaccusatives.

In order to overcome this learnability problem, L2 learners of English should first figure out the thematic role of the single argument of unaccusative verbs. Assuming

that the mapping of thematic roles is universal and L2 interlanguage grammar is constrained by UG, the achievement of this task should be possible for L2 learners. However, when L2 learners successfully find out that the thematic role of the single argument of an unaccusative verb is a theme, they still have a problem. This problem occurs when they project the theme argument to the object position based on UTAH universal principles, while this argument is in the subject position in the NP-V word order structure. To solve this problem, L2 learners of English should infer from the input that the single argument in all NP-V word order structures is finally projected into the subject position on the surface structure. That is, L2 interlanguage grammar should be restructured as a result of an interaction between the input and UG.

With respect to English morphology, namely the agentive suffix *-er* and the adjectival suffix *-en*, they are morphological diagnostics that distinguish unaccusatives from unergatives in English. That is, the agentive suffix *-er* can go with unergatives but not unaccusatives, and the adjectival suffix *-en* can go with unaccusatives but not unergatives. However, the uses of the suffix *-er* and the suffix *-en* are not restricted to unergatives and unaccusatives respectively. The suffix *-er* can be used to refer to agentive nominals (e.g. *writer*) and non-agentive nominals (e.g. *heater*). The suffix *-en* can be used in the participle form of unaccusatives, unergatives, and transitives. This shows that the suffix *-er* and the suffix *-en* have a number of uses in English, which makes the task harder for L2 learners. L2 learners of English unaccusatives first need to observe that the agentive suffix *-er* and the adjectival suffix *-en* refer only to the internal and external arguments respectively.



Then, they need to figure out the common lexical meaning of the verbs that go with each suffix.

#### **4. Literature review**

The early work that investigated the L2 acquisition of unaccusative verbs focused mostly on production data. Zobl (1989), for example, investigated the L2 acquisition of English unaccusatives by examining written production data obtained from 90 Japanese, 10 Arabic, 10 Spanish, 1 Chinese, 1 Turkish, and 1 Thai learners of English in Canada and the United States. When analyzing the production data, Zobl focused on three verb categories, namely unaccusatives, unergatives and transitives. Zobl found 15 out of 43 unaccusative verbs were incorrectly passivized by learners of English as shown in example (21).

(21) \* The most memorable experience of my life was happened 15 years ago.

The 15 unaccusative verbs were passivized 25 times in 110 potential contexts. However, there were only 11 passive occurrences out of 281 unergative and transitive verbs produced by learners. The results also showed that only unaccusatives but not unergatives were produced in the non-target postverbal NP structure as shown in example (22).

(22) \* I was just patient until dried my clothes.

Zobl excluded the possibility that this non-target structure is a result of L1 transfer because ten out of the 13 occurrences of this structure were produced by the native speakers of Japanese, a language which does not have such a structure. Zobl

concluded that using unaccusatives in passive and in postverbal NP structure suggests that learners know that the surface subject of unaccusative verbs originates in the object position.

Yip (1995) examined the acquisition of English unaccusatives by both intermediate and advanced Chinese learners of English. Ten intermediate and ten advanced graduate students were asked to judge sentences with grammatical passives like example (23) and with grammatical unaccusatives in NP-V word order like example (24). The subjects were also asked to correct ungrammatical sentences.

(23) All these books should be returned in two weeks.

(24) The mirror shattered during the last earthquake.

The results showed that both intermediate learners (mean correct = 78 %) and advanced learners (mean correct = 96 %) accepted the sentences with grammatical passive like example (23). However, both intermediate and advanced learners incorrectly rejected the sentences with grammatical unaccusatives in NP-V word order like example (24). What is interesting is the subjects' own corrections of these grammatical unaccusatives. In their own wrong corrections, they showed a clear tendency to incorrectly change the unaccusatives which were already grammatical in NP-V word order like sentence (24) and make them in the passive form like sentence (25). This tendency to passivize unaccusatives confirms the results found by Zobl (1989) who observed in his production data that 15 out of 43 unaccusative verbs were incorrectly passivized by learners of English with different L1s.

(25) \* The mirror was shattered in the last earthquake.

Yip claimed that the reason behind learners' tendency to passivize unaccusatives is that learners treat unaccusatives, whose argument originates in the object position, as transitive verbs that can be passivized. To give a piece of evidence for her claim that learners treat unaccusatives as transitives, Yip referred to Bowerman 1983 who had reported English-speaking children's use of unaccusative verbs in causative form like example (26). She also referred to Rutherford 1987 who had reported L2 learners' use of unaccusatives in causative form like example (27) (Examples 26 and 27 are cited in Yip 1995:137). Yip also argued that the passive unaccusative phenomenon is not a result of L1 transfer. This is because Chinese learners passivized non-alternating unaccusatives which are ungrammatical in both English and Chinese.

(26) Do you want to see us disappear our heads?

(27) This construction will progress my country.

Hirakawa (1995) also investigated the acquisition of English unaccusatives by intermediate Japanese learners of English. She, in particular, wanted to see whether Japanese learners know that NP movement is involved in both unaccusatives and passives. She conducted both a production and a grammaticality judgment task. In both tasks, she tested alternating and non-alternating unaccusatives, unergatives, and transitives.

In the production task, subjects were given short stories and then were asked to complete a sentence that follows each story by putting the verb given to them in the right form. The context of the stories was designed so that unergatives and the two types of unaccusatives are grammatical only in NP-V word order, while transitives are grammatical only in passive form.

The results showed that Japanese learners correctly produced non-alternating unaccusatives and unergatives in the NP-V word order, and correctly produced transitives in the passive form. However, they incorrectly passivized alternating unaccusatives (e.g. *melt* and *break*) in inappropriate contexts. This result is similar to the results found in Zobl (1989) and Yip (1995) who both observed the same phenomenon of passive unaccusatives.

In the grammaticality judgment task, subjects were also presented with stories and then were asked to judge the grammaticality of the sentence that followed each story using a rating scale ranging from completely unacceptable to completely acceptable. The task used the same verb types used in the production task in four constructions, namely intransitive (i.e. NP-V word order), short passive (without a by-phrase), long passive (with a by-phrase), and transitive.

The results showed that learners correctly accepted the two types of unaccusatives and unergatives in the NP-V word order. However, they did not rate alternating unaccusatives as high as they did with unergatives, suggesting their tendency to avoid unaccusatives in the NP-V word order. These results are similar to the results of Yip (1995) who found Chinese learners of English rejecting unaccusatives in the NP-V word order. The results also showed that Japanese learners did not clearly reject non-alternating unaccusatives (e.g. *fall*) in the ungrammatical passive, which may support the previous observation of learners' tendency to passivize unaccusatives. Hirakawa claimed that these results suggest that learners know that both

unaccusatives and passives involve NP movement because they incorrectly passivized unaccusatives and they tended not to accept them in the NP-V word order.

Oshita (1997) investigated L2 acquisition of English unaccusative verbs by Japanese, Korean, Italian, and Spanish speakers. He examined written production data and also carried out a grammaticality judgment task. In examining the written production data, he selected ten non-alternating unaccusative verbs (e.g. *appear*) and ten unergative verbs (e.g. *cough*). He focused on examining the occurrence of unaccusatives and unergatives in a number of syntactic structures like NP-V structure (28), passive structure (29), *there*-insertion structure (30), postverbal NP structures with or without a subject expletive *it* (31) and (32), as shown in the following:

- (28) Two men appeared at the airport.
- (29) \* Two boys are arrived at the airport.
- (30) There appeared two men at the airport.
- (31) \* It appeared two men at the airport.
- (32) \* Arrived two men at the airport.

The results showed that the majority of unaccusative verbs appeared in the target-like NP-V structure, accounting for 851 out of the total 941 tokens (i.e. 90.4 %). The passive unaccusative structure was the ungrammatical structure most commonly used by all four groups (37 out of 941), which confirms the previous observation of passive unaccusatives in L2 English (Hirakawa, 1995; Yip, 1995; and Zobl, 1989). The grammatical *there*-insertion construction (4/941) appeared much less frequently than the ungrammatical *it*-V-NP structure (13/941) and the ungrammatical V-NP structure (16/941).

Oshita also conducted a grammaticality judgment task, testing Italian and Japanese learners of English. The task was designed to examine the structures investigated in the previous production task, using alternating and non-alternating unaccusative verbs, and unergative verbs. In each test item, there was an introductory passage followed by an underlined sentence to be judged by learners using a 1-5 rating scale.

The results showed that both Japanese and Italian speakers correctly accepted the two types of unaccusative verbs and unergative verbs in the NP-V word order structure. However, both Japanese and Italian groups performed better on unergatives than on the two types of unaccusatives, suggesting that these learners have a tendency to avoid unaccusatives in this structure. These results are similar to the results observed by Yip (1995) who found both intermediate and advanced Chinese learners incorrectly rejecting the unaccusatives in NP-V word order. Hirakawa (1995) also found the Japanese speakers rating alternating unaccusatives lower than unergatives in the NP-V word order. So these results show that L2 learners of English have a tendency to avoid using unaccusatives in NP-V word order.

As for the ungrammatical passive construction, both Japanese and Italian groups accepted non-alternating unaccusative verbs higher than unergative verbs. These results are similar to those found in the production task, which showed that the passive structure was the ungrammatical structure most commonly used by learners. Moreover, both Zobl (1989) and Yip (1995) observed the same phenomena of passive unaccusatives.

In the case of *there*-insertion construction, both the English native group and the two learner groups incorrectly rejected unaccusatives. Hirakawa (2000) attributed native speakers' rejection of unaccusatives in the grammatical *there*-insertion construction to a lack of naturalness in the sentences tested.

The studies we have reviewed show that L2 learners of English have frequent syntactic errors when they learn English unaccusative verbs. The most frequent syntactic error observed is the production and acceptance of the ungrammatical passive. Zobl (1989) found in the production written data that 15 out of 43 unaccusative verbs were incorrectly passivized by learners from various L1 backgrounds as shown in example (33). Yip (1995) also found her Chinese intermediate and advanced subjects incorrectly passivizing English unaccusatives which were already grammatical in the NP-V word order as example (34) shows. Moreover, Oshita (1997) also found that both Japanese and Italian learners accepted non-alternating unaccusative verbs more than unergative verbs in the passive construction. These results suggest that L2 learners of English tend to passivize unaccusatives.

(33) \*The most memorable experience of my life was happened 15 years ago.

(34) \* The mirror was shattered in the last earthquake

The second most common syntactic error observed in L2 acquisition of English unaccusatives is the reluctance to accept unaccusatives in NP-V word order. Yip (1995) found both intermediate and advanced Chinese learners of English rejecting unaccusatives in the NP-V word order as shown in example (35). Hirakawa (1995) also found Japanese speakers rating alternating unaccusatives lower than unergatives

in the NP-V word order. Moreover, Oshita (1997) showed that both Japanese and Italian learners accepted unergatives more than alternating and non-alternating unaccusatives in the NP-V word order. These results suggest that these learners have a tendency of being reluctant to accept unaccusatives in the NP-V word order.

(35) The mirror shattered during the last earthquake.

The third most common syntactic error observed in L2 acquisition of English unaccusative verbs is the non-target postverbal NP structure with or without an expletive subject *it*. Zobl (1989) showed that his learners of English with various L1 backgrounds produced only unaccusatives but not unergatives in the non-target postverbal NP structure as shown in example (36). Oshita (1997) also found in his written production data he obtained that Italian and Spanish speakers produced unaccusatives more than Korean and Japanese speakers in (it)-V-NP structure.

(36) \* I was just patient until dried my clothes.

These syntactic errors show that L2 learners have difficulty acquiring English unaccusatives. The previous research that addressed such syntactic errors in the interlanguage grammar of L2 learners tended to account for each syntactic error independently of other related errors. As Oshita indicated, the phenomenon of ungrammatical passive unaccusatives, which received much attention from many researchers, diverted researchers' attention from the other non-target phenomena involved in L2 acquisition of unaccusatives. As he said, the phenomenon of learners' reluctance to accept unaccusatives in the NP-V word order was often overlooked by researchers because of the focus on the ungrammatical passive unaccusative



phenomenon. To account for all such syntactic errors involved in L2 acquisition of unaccusative verbs under one framework of analysis, Oshita (2001) has proposed “The Unaccusative Trap Hypothesis” which is summarized in the following section.

#### *4.1. The Unaccusative Trap Hypothesis (Oshita 2001)*

The Unaccusative Trap Hypothesis (UTH) proposed by Oshita (2001) claims that the L2 acquisition of unaccusative verbs involves three developmental stages. At the first stage, L2 learners at a low proficiency level do not distinguish between unaccusative and unergative verbs syntactically, treating them as unergatives. That is, they incorrectly assume that all intransitive verbs represent one class of verbs with an underlying subject. Oshita suggests that L2 learners at this stage adopt a non-target linking rule that relies on the number of the arguments of a verb. That is, when a verb has only one single obligatory argument, learners at this stage directly assume that this argument is an external argument regardless of the semantic notion this argument carries, whether it is an agent or a theme. Oshita argues that they do so because of the saliency of the NP-V word order in the input. Learners, at this stage, are expected to correctly produce and accept unaccusatives with preverbal subjects as example (37) shows. They are also expected not to passivize unaccusatives which is an error often reported for L2 learners as shown in example (38). Oshita claimed that this success at this stage is the result of learners’ treatment of the two classes of intransitive verbs as unergatives rather than real acquisition of unaccusative verbs.

(37) The vase fell.

(38)\* My mother was died when I was just a baby. (Zobl 1989)

As stated by the Unaccusative Trap Hypothesis, L2 learners move from the first stage to the second stage when they replace the non-target linking rule, which relies on the number of the arguments of a verb, with the target linking rules that are sensitive to semantic notions, such as agency and theme. This transition to the second stage can only be achieved if learners make use of the relevant input that contains alternating unaccusatives. That is, when learners really begin to realize that the surface subject of an unaccusative verb (e.g. *the door* in example 40.) is more like the object of a transitive verb (e.g. *the door* in example 39.), and the subject of an unergative verb (e.g. *Mary* in example 41.) is more like the subject of a transitive verb (e.g. *Mary* in example 39.). Learners should then realize that an argument that is a causer of an event is an external argument, and an argument which undergoes the action of a verb is an internal argument.

- (39) Mary opened the door. (transitive)
- (40) The door opened. (unaccusative)
- (41) Mary smiled. (unergative)

As for non-alternating unaccusatives, the transition to the second stage can only be made when learners make use of *there*-insertion construction, which is very rare in the input. This construction shows that the internal argument (e.g. *a solution* in example 42.) but not the external argument can only appear in the direct object position of the sentence.

- (42). There exists a solution to that problem. (Levin & Rappaport Hovav, 1995)

L2 learners at this stage are expected to begin to restructure their interlanguage grammar and be sensitive to the distinction between the internal and external

arguments. They presumably realize that unaccusatives and unergatives have different underlying argument structure, and they start to treat the two classes of verbs differently. They map the external argument of an unergative verb to the subject position, and they map the internal argument to the object position. However, when learners at this stage map the internal argument of an unaccusative verb to the object position, they still have to figure out how to fill the subject position because English requires an overt subject for every finite clause. To solve this problem, Oshita suggests that L2 learners have two possible solutions. If the learner's L1 has an expletive such as *there* in English, the solution is to transfer the expletive from L1 and insert it in the subject position. This would give us sentences like (43). If L2 learners do not have an expletive in their L1 to transfer, the other solution is then to move the internal argument generated in the object position to the subject position. To do so, Oshita claimed that learners may unnecessarily mark this syntactic movement by overgeneralizing the passive construction which is a prototypical object-to-subject movement structure in English. This would give us sentences like (44). Oshita further suggests that learners at this stage strongly associate the internal argument with the object position, and tend to avoid unaccusatives in NP-V word order.

(43) There arrived three men.

(44) \*Three men were arrived.

L2 learners move from the second stage to the third stage when they correctly distinguish between the two classes and learn how to move the internal argument from the object position to the subject position without incorrectly supplying passive morphology. Oshita claimed that learners, at this stage, should learn this by being

sensitive to negative evidence that shows them that passivized unaccusatives are ungrammatical. Moreover, learners at this stage are expected to overcome the problem of being reluctant to accept unaccusatives in NP-V word order.

So, this hypothesis in general predicts that elementary learners do not distinguish between unaccusatives and unergatives syntactically, treating the two classes as unergatives with an underlying subject. Intermediate learners are expected to realize that unaccusatives and unergatives have different argument structure, but still have some problems like the reluctance to accept unaccusatives in the NP-V word order and the passivization of unaccusatives. Advanced learners are predicted to correctly distinguish between unaccusatives and unergatives without being reluctant to accept unaccusatives in the NP-V word order and without passivizing unaccusatives. In general, this hypothesis predicts a U-shaped development.

In the previous section, we have reviewed a number of studies that investigated the L2 acquisition of English unaccusatives. The results of these studies showed that L2 learners of English unaccusatives had frequent syntactic errors, such as ungrammatical passivization of unaccusatives, reluctance to accept unaccusatives in the NP-V word order structure, and the production of unaccusatives with a postverbal NP. However, it is difficult to say whether these results are compatible with the Unaccusative Trap Hypothesis or not for two reasons. First, some of the studies we have reviewed focused on production data obtained from many learners of English whose proficiency level of English was not identified. Second, most of these studies focused on intermediate learners and did not test neither elementary nor advanced

learners of English. In section 4.4., we review two studies that have been recently conducted particularly to test the Unaccusative Trap Hypothesis and the Unaccusative Hierarchy Hypothesis that is summarized in the next section.

#### 4.2. *The Unaccusative Hierarchy Hypothesis (Sorace 2000)*

Another proposal in the literature related to the L2 acquisition of unaccusative verbs is the Unaccusative Hierarchy Hypothesis proposed by Sorace (2000). The Unaccusative Hierarchy Hypothesis predicts that lexical semantics plays an important role in the unaccusative-unergative syntactic distinction. More specifically, Sorace argues that unaccusative and unergative verbs are semantically classified into subclasses with different degrees of unaccusativity and unergativity based on two aspectual and thematic features, i.e. telicity and agentivity.

Sorace studied experimental data of native speakers of Dutch, German, Italian, and French, in which unaccusatives canonically select the perfective auxiliary *be* and unergatives canonically select the perfective auxiliary *have*. Sorace found that “change of location” unaccusatives (e.g. *come* and *arrive*), which are characterized by their high degree of telicity, always select the auxiliary *be* both across all languages and within the individual languages she examined as shown in example (45). That is, native speakers consistently treated these verbs as unaccusatives both across and within languages tested.

- (45) a. Maria e venuta alla festa (Italian)  
      Maria is come to the party  
      “Maria came to the party”

b. Maria est arrivee en retard (French)  
Maria is arrived late  
“Marie arrived late”

As for less telic “change of state” unaccusatives, which express a change without specifying an endpoint (e.g. *rise* and *descend*), it was observed that this class of unaccusatives tend to select the auxiliary *be* more than the auxiliary *have*, but not always, both across languages and within individual languages examined. As Sorace indicated, this class also includes verbs of appearance (e.g. *appear* and *emerge*) and verbs of happening (e.g. *happen* and *occur*) which are distinguished from verbs of existence in that they imply that an entity or event comes into existence. As for unaccusatives denoting “existence of state” (e.g. *exist* and *lie*) which are statives, there was much variation in auxiliary selection both across languages and within individual languages. In German, for example, some native speakers select the auxiliary *be* and others select the auxiliary *have* for the verb *lie* as in (46).

(46) Das Buch ist / hat auf dem Boden gelegen.  
The book is / has on the floor lain  
“The book was lying on the floor”

In general, these results show that “change of location” unaccusatives with a high degree of telicity always select the auxiliary *be*, while less telic “change of state” unaccusatives tend to select the auxiliary *be* but not always. As for atelic “existence of state” unaccusatives, they have much variation in auxiliary selection.

On the other hand, Sorace found that the “controlled non-motional process” unergatives (e.g. *walk* and *play*), which are agentive in their primary meaning, consistently select the auxiliary *have* in many languages as shown in example (47).

As for “controlled motional process” unergatives (e.g. *swim* and *run*), which are less agentive since the subject is somewhat affected by the action, they tend to select the auxiliary *have* but not always as is case in the “controlled non-motional” unergatives. Finally, the “uncontrolled process” unergatives (e.g. *sneeze* and *shiver*), which lack volitionality and have the lowest degree of agentivity, were observed to have much variation with regard to auxiliary selection.

(47) a. Les policiers ont travaille toute la nuit. (French)  
 The policemen have worked whole the night  
 “The policemen worked all night”

b. Kurt hat den ganzen Sonntag gearbeitet. (German)  
 Kurt has the whole Sunday worked  
 “Kurt worked all day Sunday”

Sorace concluded that there is a hierarchy in the auxiliary selection of unaccusatives and unergatives as shown in (48). The change of location verbs are the core unaccusatives and represent the high extreme of the hierarchy while the verbs of controlled non-motional process are the core unergatives and represent the low extreme of the hierarchy. The classes between these two extremes have variation in terms of whether they are unaccusatives or unergatives, with the “existence of state” class and “uncontrolled process” class having the most variation. Sorace and Shomura (2001) extended this hierarchy and argued that it can be universal.

(48) Change of location (e.g., arrive)	<b>unaccusative (least variation) select be</b>
Change of state (e.g., appear)	
Continuation of pre-existing state (e.g., stay)	
Existence of state (e.g., exist)	Much Variation (unaccusative or unergative)
Uncontrolled process (e.g., cough)	
Controlled motional process (e.g., walk)	
Controlled non-motional process (e.g., speak)	<b>unergative (least variation) select have</b>

Sorace also based her generalization on a series of studies (Sorace 1993a, 1993b, 1995b) in which she investigated the L2 acquisition of unaccusativity in Italian focusing on two diagnostics, i.e. auxiliary selection and *ne*-cliticization. These studies showed that the acquisition of Italian unaccusatives was sensitive to the proposed hierarchy. For example, Sorace (1993a) which is also summarized in Sorace (1995b) investigated the acquisition of the auxiliary selection by English and French advanced learners of Italian. The study used a grammaticality judgment task which included five unaccusative verb classes along the hierarchy. Each verb was used with the auxiliary *be*, i.e. *essere*, in simple declarative sentence to be judged by the subjects. The mean results showed that both English and French learners correctly accepted the core unaccusatives more than less core unaccusatives which in turn were accepted more than peripheral unaccusatives. Sorace concluded that these results are consistent with the proposed hierarchy.

#### *4.3. Studies testing the Unaccusativity Hierarchy Hypothesis*

Sorace (1993b) examined the acquisition of unaccusatives in Italian and French, testing the diagnostic of the auxiliary selection. She tested advanced Italian learners of French and French learners of Italian. In Italian, all unaccusatives generally select the auxiliary *be*, i.e. *essere*. However, in French, only core unaccusatives, i.e. change of location class, always select the auxiliary *be*, i.e. *être*. The less core unaccusatives, i.e. change of state class, sometimes select the auxiliary *être* and sometimes select the



auxiliary *avoir*. As for peripheral unaccusatives, they always select the auxiliary *have*, i.e. *avoir*.

Subjects were asked to judge sentences that involved six unaccusative semantic classes along the hierarchy, namely “change of location”, “change of condition”, “continuation of condition”, “existence of condition”, “unaccusatives with transitive alternate”, and “unaccusatives with unergative alternate”. As for French learners of Italian, they were given 58 sentences. Half of these sentences were grammatical using the correct auxiliary, i.e. *essere*, and the other half of sentences were ungrammatical using the incorrect auxiliary, i.e. *avere*. As for Italian learners of French, half of the sentences used the correct auxiliary, i.e. *être* with “change of location” and “change of condition” classes and the auxiliary *avoir* with the other classes. The other half of sentences used the incorrect auxiliaries. For both groups, the change of condition class was divided into the verbs that select the same auxiliary in Italian and French, and verbs that select different auxiliaries.

The results showed that the French group accepted the grammatical Italian sentences with the correct auxiliary. There was no difference between their acceptance of core unaccusatives and peripheral unaccusatives. As for ungrammatical sentences with the incorrect auxiliary, they rejected the core unaccusatives more than peripheral unaccusatives. This pattern of rejection is consistent with Sorace’s hierarchy, which predicts the core unaccusatives to be rejected more than peripheral ones. As for Italian learners, they accepted the French sentences with the correct auxiliary without showing any difference between unaccusative classes. In the case of

ungrammatical sentences with the incorrect auxiliaries, they correctly rejected the two core classes, i.e. change of location and change of state, which require the same auxiliary “*be*” in both Italian and French. However, they incorrectly accepted other peripheral classes, which require in French different auxiliary, i.e. *have*.

Unlike French learners, Italian learners’ rejection of ungrammatical unaccusatives was not consistent with the hierarchy. Sorace attributed this to the inconsistency of the auxiliary selection system in French, which made the task harder for Italian learners. So this indicates that the properties of the target language will make a difference with respect to whether or not the learners abide by the hierarchy. That is, the more consistent the syntactic reflexive of unaccusativity in the target language the more likely L2 learners will be sensitive to the hierarchy.

Sorace and Shomura (2001) also tested the hierarchy. They investigated the acquisition of Japanese unaccusatives and unergatives by beginner and advanced English learners of Japanese. The aim of the study was to see if L2 learners are sensitive to the semantic verb classes when they acquire the distinction between unaccusatives and unergatives as Sorace’s hierarchy predicts.

The task used three verbs from each semantic class in Sorace’s hierarchy. The task tested learners’ knowledge of one syntactic diagnostic, i.e. quantifier floating (QF), which distinguishes unaccusatives from unergatives in Japanese (Miyagawa 1989). In Japanese, unergatives are grammatical without QF and they are ungrammatical with QF as shown in (49). On the other hand, unaccusatives are grammatical without QF, and the use of QF with unaccusatives is optional as shown in (50). So the QF is

ungrammatical with unergatives but grammatical with unaccusatives. For each unergative verb used in the task, there was a grammatical sentence without QF and an ungrammatical sentence with QF. For each unaccusative verb, there was a grammatical sentence with QF and another grammatical sentence without QF.

(49) \* Gakusei-ga wazato sannin waratta. (unergative)  
student-NOM intentionally three laughed  
“Three students intentionally laughed”

(50) Gakusei-ga Tokyo-ni sannin tsuita. (unaccusative)  
student-NOM Tokyo-at three arrived  
“Three students arrived in Tokyo”

The study tested two predictions. First, learners would distinguish between grammatical and ungrammatical unergatives more with core unergatives than with peripheral unergatives. Second, learners will be more able to realize the grammaticality of unaccusatives with optional QF more with core unaccusatives than with peripheral unaccusatives.

The results showed that the native Japanese group correctly accepted grammatical unergatives and correctly rejected ungrammatical ones. They rejected the ungrammatical core unergative classes, i.e. “*non-motional process*” (e.g. *sing*) and “*motional process*” (e.g. *swim*) more strongly than other ungrammatical peripheral unergative classes. This supports Sorace’s hierarchy, which predicts the ungrammatical core unergatives to be rejected more than peripheral ones. Learners were predicted to distinguish between grammatical and ungrammatical unergatives more with core unergatives than with peripheral ones. As predicted, the beginner group was able to distinguish between grammatical and ungrammatical unergatives

only with one core unergative class, i.e. “*motional process*”. The advanced group also could not distinguish between grammatical and ungrammatical unergatives except in the case of the core unergatives, i.e. “non-motional process” class and “motional process” class. These results are consistent with the first prediction.

As for the results of unaccusatives with the optional QF, the native speakers accepted only two classes, i.e. “appearance” and “preexisting condition”. They did not accept the grammatical core unaccusatives more than the grammatical peripheral ones, which goes against the prediction of the hierarchy. The beginner group accepted all unaccusative classes with the optional QF, without showing any distinction between unaccusative classes. The advanced group did not accept any unaccusatives with the optional QF, showing preference to accept unaccusative classes without the QF. The results of learners do not support the second prediction because they did not accept the core unaccusatives with the optional QF more than peripheral unaccusatives with QF. The results of unaccusatives, in general, do not support the hierarchy. Sorace attributed this to the ambiguity of the quantifier floating construction, in Japanese, which is optional with unaccusatives but ungrammatical with unergatives.

Like Sorace (1993b) who observed a hierarchy in the acquisition of the Italian consistent auxiliary selection but not in the acquisition of the French inconsistent auxiliary selection, the results of this study also suggest that the properties of the target language matter with regard to the sensitivity to the hierarchy. The auxiliary selection in Italian and the quantifier floating in Japanese are different with regard to

their ambiguity in the input. That is, the auxiliary selection in Italian is much clearer than quantifier float in Japanese which is optional in the input.

Yusa (2003) (summarized in Hirakawa 2006) claimed that L2 learners' ungrammatical use of the auxiliary *be* in passive unaccusatives is a result of the hierarchy in the auxiliary *be* selection observed by Sorace (2000) in some European languages. Yusa tested the acquisition of English unaccusatives by Japanese speakers. He conducted a grammaticality judgment task, using different semantic classes of unaccusatives and unergatives in the active and passive sentences.

The results showed that Japanese speakers incorrectly accepted passive with core unaccusatives (e.g. *arrive*) more than with peripheral unaccusatives (e.g. *stay*). Yusa claimed that this finding indicates that learners' use of the auxiliary *be* in passive was sensitive to the hierarchy in the auxiliary *be* selection observed by Sorace in some European languages.

Hirakawa (2006) investigated Yusa's claim by testing 25 intermediate Japanese learners of English. Hirakawa tested two hypotheses. First, if the ungrammatical passive unaccusatives are a result of the learners' selection of *be* with unaccusatives as is the case in Italian, the passive unaccusatives should not be observed in the present tense. This is because, in languages like Italian, unaccusatives select the auxiliary *be* only in perfective aspect and past tense. Second, if the ungrammatical passive unaccusatives are a result of learners' overgeneralization of passive with unaccusatives, the passive unaccusatives should be observed in both present and past tense.

The study used a grammaticality judgment task which included four types of verbs along Sorace's hierarchy. Type 1 included core unaccusatives (e.g. *arrive*), and type 2 included peripheral unaccusatives (e.g. *stay*). Type 3 included peripheral unergatives (e.g. *sneeze*) and type 4 included core unergatives (e.g. *play*). Each verb of these types was used in two structures, i.e. active and passive, and in two tenses, i.e. present and past. Subjects were presented with pairs of sentences and were asked to judge the second one, as shown in (51), using a rating scale.

(51) John went to meet his friend at the airport.  
The plane was arrived very late.

The main results showed that learners in general did not strongly reject unaccusatives and unergatives in the passive sentences, accepting passive unaccusatives in both present and past tense. There was not a difference between acceptance of passive unaccusatives in the present and past tense. This result does not support the first hypothesis but supports the second one because learners tended to accept passive unaccusatives not only in the past tense but also in the present tense. Moreover, when learners judged passive sentences with unaccusative, there was not a difference between their judgments on core unaccusatives and peripheral ones. Hirakawa argued that these results suggest that learners' use of the auxiliary *be* with unaccusatives is a result of learners' overgeneralization of the passive with unaccusatives. These results are similar to the results of Deguchi and Oshita (2004) who found no significant difference between Japanese learners' acceptance of the passive sentences with core unaccusatives and peripheral unaccusatives.

#### 4.4. Studies testing the Unaccusative Trap and the Hierarchy Hypotheses

Montrul (2005) tested the validity of both the Unaccusative Trap Hypothesis and the Unaccusativity Hierarchy Hypothesis. The study examined the acquisition of Spanish unaccusatives by three groups of English learners of Spanish, namely low, intermediate, and advanced groups. The study used a grammaticality judgment task using a 1-5 rating scale. The task used nine unaccusative verbs (e.g. *arrive*) and nine unergative verbs (e.g. *run*), with three verbs used for each semantic class of Sorace's hierarchy.

Spanish has syntactic and morphological diagnostics that distinguish unaccusatives from unergatives. The first diagnostic is that unaccusatives allow bare plurals, i.e. plurals without determiners, to occur after the verb (52 a), but unergatives do not (52 b). The second diagnostic is the absolutive construction in which a clause with a past participle modifies a postposed noun phrase. Absolutive construction is grammatical with unaccusatives (53 a) but ungrammatical with unergatives (53 b). The third diagnostic is that subjects of unaccusatives tend to be in object position. However, when the subject of an unergative verb is in object position, the sentence becomes odd. In Spanish, both unaccusatives and unergatives are ungrammatical in the passive construction.

- |  |   |
|--|---|
| (52) a. Han pasado camions.<br>have passed trucks<br>"Trucks have passed by"   | b. *Han dormido animals.<br>have slept animals<br>"Animals have slept"                        |
| (53) a. Muerto el perro, se acabo la rabia<br>dead the dog stopped the rabies<br>"once the dog was dead, the rabies stopped" | b. *Nadado Juan, se sintio major<br>swam Juan felt better<br>"once Juan swam, he felt better" |

Based on the Unaccusative Trap Hypothesis (UTH), learners at the first stage will not distinguish unaccusatives from unergatives syntactically, treating them as unergatives. So, the first prediction was that early learners would reject both unaccusatives and unergatives in bare plural, participle absolute, postverbal subject, and passive constructions. They would do so because unergatives are ungrammatical in these constructions. The second stage of the UTH predicts that learners will treat the two classes differently. So the second prediction was that intermediate learners would distinguish unaccusatives from unergatives, correctly accepting unaccusatives but rejecting unergatives in participle absolute, bare plural, and post verbal subject constructions. However, they would incorrectly reject grammatical unaccusatives in preverbal subject constructions because they are expected to associate the internal argument with the object position. They would also be expected to incorrectly accept more passive unaccusatives than passive unergatives. The third prediction was that advanced learners would perform native-like.

If the Sorace's hierarchy is universal and has an effect on the acquisition of unaccusatives, L2 learners are expected to be sensitive to this hierarchy. That is, they are expected to have errors more with peripheral unaccusatives and unergatives than with core ones.

The results showed that early learners did not treat unaccusatives as unergatives. If the early learners were really treating unaccusatives as unergatives as the Unaccusative Trap Hypothesis claims, they should have rejected both classes in bare plural and participle absolute constructions in which unergatives were



ungrammatical. This shows that the Hypothesis may need revision with regard to its predictions for early learners.

Intermediate learners distinguished unaccusatives from unergatives in postverbal subject, participle absolute, and bare plural constructions. This shows that these learners started to restructure their grammars because they treated the two classes differently as the hypothesis predicts at this stage. However, they did not reject grammatical preverbal subject constructions as the hypothesis predicts. The advanced learners, as predicted, performed native-like. They differed from intermediate learners in that they correctly rejected both unaccusatives and unergatives in passive constructions. In general, the results of the intermediate and advanced groups but not the early group support the Unaccusative Trap Hypothesis.

The results by verb classes showed that all groups, except the low group, distinguished the grammatical unaccusative classes from ungrammatical unergative classes in the absolute construction and in the bare plural construction. In the absolute construction, the native speakers were not sensitive to the hierarchy, clearly accepting grammatical classes and clearly rejecting ungrammatical ones. In bare plural construction, the native speakers were also not sensitive to the hierarchy although they did not reject all ungrammatical unergative classes. These results are similar to the results of Sorace and Shomura (2001) who showed that native speakers of Japanese were not sensitive to the hierarchy in the quantifier floating that is optional in the input.

The advanced and intermediate groups showed sensitivity to the hierarchy only in the case of the absolute construction. The advanced learners did not reject the ungrammatical peripheral unergatives as clearly as they rejected the ungrammatical core unergatives. This supports the hierarchy, which predicts the ungrammatical core unergatives to be rejected more than the ungrammatical peripheral ones. The intermediate learners clearly accepted the grammatical core unaccusatives and clearly rejected the ungrammatical core unergatives, but gave indeterminate judgments on the peripheral unaccusatives and unergatives. This result also supports the hierarchy, which expects the judgments to be more determinate on the core verbs than on peripheral ones. Although the English learners of Spanish showed some sensitivity to Sorace's hierarchy, their sensitivity was not as clear as that shown by French learners of Italian. I believe that the Spanish syntactic reflexes of unaccusativity tested in this study are not clear in the input like the consistent auxiliary selection in Italian.

The results of this study show that early learners did not distinguish unaccusatives from unergatives in any construction. Montrul claimed that this could be because these learners were not familiar with the constructions and verbs used. The distinction between unaccusatives and unergatives, as she indicated, is universal but the reflexes of this syntactic distinction and the positive evidence necessary to figure it out is language-specific. To solve this issue, Montrul conducted a small follow-up study (published as part of Montrul 2005) that tested another nine early learners. She simplified the task, excluding the participle absolute construction and using simple

verbs familiar to them. The results showed that they distinguished unaccusatives from unergatives in the postverbal subject construction and the passive construction.

Deguchi and Oshita (2004) also tested the validity of both the Unaccusative Trap Hypothesis and the Unaccusativity Hierarchy Hypothesis. The study examined the acquisition of English unaccusatives by four groups of Japanese speakers, namely elementary, low-intermediate, intermediate, and advanced groups. The study used a grammaticality judgment task that consisted of grammatical active sentences (54) and ungrammatical passive sentences (55). The unaccusative verbs tested in the study included two “*change of location*” verbs (e.g., *arrive*), two “*change of state*” verbs (e.g., *appear*), and two “*existence of state*” verbs (e.g., *exist*). The unergative verbs used included only two “*controlled process*” verbs (e.g., *smile*).

(54) The horses arrived on the race track.

(55) The guests were arrived at the hotel.

Recall that according to the first stage of the Unaccusative Trap Hypothesis (UTH), learners are predicted not to distinguish unaccusatives from unergatives treating them as unergatives. Therefore, the first prediction was that low proficiency learners would not reject unaccusatives more than unergatives in the active sentences. They would not also accept unaccusatives more than unergatives in the ungrammatical passive sentences. According to the second stage of the UTH, intermediate learners start to restructure their grammar. As a result of this, they become reluctant to accept unaccusatives in the active sentences and tend to passivize unaccusatives. So, the second prediction was that intermediate learners would reject unaccusatives more than unergatives in the active sentences. They would also accept unaccusatives more

than unergatives in the ungrammatical passive. The third prediction was that advanced learners would behave native-like.

If the Sorace's hierarchy also influences the errors committed by L2 learners as Deguchi and Oshita argued, then learners who are at the stage of restructuring their grammar would reject the core unaccusatives more than peripheral ones in the active sentences. They would also accept the core unaccusatives more than the peripheral ones in the passive sentences.

The results showed that early learners did not distinguish unaccusatives from unergatives, accepting the two classes in the active and passive sentences. Like the results of Montrul (2005), these results did not show that early learners were treating unaccusatives as unergatives as the Unaccusative Trap Hypothesis claims. If they were doing so, they should have rejected the two classes in the passive in which unergatives are ungrammatical. It seems that they just accepted the two classes.

As for intermediate learners, they did not reject unaccusatives more than unergatives in the active sentences. However, they incorrectly accepted unaccusatives more than unergatives in the passive as predicted by the hypothesis at this stage. Therefore, these results partially support the second prediction. As for advanced learners, they correctly accepted both unaccusatives and unergatives in the active sentences, and they correctly rejected them in the passive sentences as predicted. These results, in general, are similar to the results found by Montrul (2005) in that they both support the Unaccusative Trap Hypothesis except for the prediction that early learners treat both unaccusatives and unergatives as unergatives.

The results by verb classes did not show that the hierarchy has an effect on intermediate learners' responses. The intermediate learners did not reject core unaccusatives more than peripheral ones in the active sentences. Although intermediate learners incorrectly accepted unaccusatives more than unergatives in the passive, they did not accept the core unaccusatives more than peripheral ones. Deguchi and Oshita concluded that these results do not support their idea of finding a hierarchy in intermediate learners' errors. However, I still believe that Sorace's hierarchy may have an effect on intermediate learners' responses to unaccusatives and unergatives in passive and active constructions. This is because these two constructions seem to function as unaccusative diagnostics for learners who are at the stage of restructuring their interlanguage grammar. Some evidence for this is shown by the results of the present study to be reported in Section 6.5.3.

In summary, there were only two studies that tested the Unaccusative Trap Hypothesis proposed by Oshita (2001), namely Montrul (2005) and Deguchi and Oshita (2004). The results of these two studies supported the Unaccusative Trap Hypothesis with regard to its predictions for later stages of L2 acquisition of unaccusatives. However, the hypothesis's prediction for early learners was not supported. That is, the results of these two studies did not show that early learners treat unaccusatives as unergatives as the hypothesis predicts.

On the other hand, the Unaccusativity Hierarchy Hypothesis proposed by Sorace (2000) was tested by Sorace (1993a, 1993b, and 1995b), Sorace and Shomura (2001), and Montrul (2005). Sorace (1993a) observed English and French advanced learners

of Italian were sensitive to the hierarchy in their acquisition of the Italian auxiliary selection, which is so consistent in the input. Sorace (1993b) found French learners of Italian, but not Italian learners of French, were sensitive to the hierarchy in their rejection of unaccusatives with incorrect auxiliaries. Sorace attributed this to the consistency of the auxiliary selection in Italian and the inconsistency of the auxiliary selection in French.

Sorace and Shomura (2001) found both Japanese native speakers and English learners of Japanese sensitive to the hierarchy in the case of unergatives but not in the case of unaccusatives. Sorace and Shomura attributed this to the degree of the ambiguity of the quantifier floating in the input. That is, the quantifier floating is not ambiguous with unergatives because it is not grammatical when it is used with unergatives. However, the quantifier floating is ambiguous when it is used with unaccusatives because it is optional, i.e. unaccusatives are grammatical with or without QF.

Montrul (2005) did not find the Spanish native speakers sensitive to the hierarchy. With respect to English learners of Spanish, they were sensitive to the hierarchy only in the case of the participle absolute construction. These studies reviewed above suggest that the sensitivity of both native speakers and L2 learners to the hierarchy is influenced by the degree of the ambiguity of the syntactic reflexes of unaccusativity in the input. That is, the more prominent and consistent the syntactic reflexes of unaccusativity in the input, the more likely for native speakers and learners to show sensitivity to the hierarchy.

Yusa (2003) observed Japanese learners of English incorrectly accepting the core unaccusatives more than peripheral ones in the passive form. Yusa claims that learners' use of the auxiliary *be* in passive is a result of the hierarchy observed by Sorace (2000). Hirakawa (2006) tested Yusa's claim and did not find Japanese learners of English treat the core unaccusatives differently from peripheral ones in the passive form. Hirakawa argued that this result suggests that learners' use of the auxiliary *be* with unaccusatives is a result of learners' overgeneralization of the passive with unaccusatives rather than a result of Sorace's hierarchy as Yusa claims. Like Hirakawa (2006), Deguchi and Oshita (2004) did not observe the Japanese learners of English treat the core unaccusatives differently from peripheral ones.

### **5. Unaccusativity in Najdi Arabic**

It has been assumed by Perlmutter (1978) and by many linguists that the syntactic distinction between unaccusatives and unergatives is a universal phenomenon that exists in all languages in the world, but languages differ from one to another in reflecting this syntactic distinction. Like Japanese in which the different interpretation of the adverb *takusan* "a lot" can be used as a diagnostic for unaccusativity (Kageyama 1993), the different interpretation of the adverb *wajid* "a lot" in Najdi Arabic can be used as a syntactic/semantic diagnostic for unaccusativity.

In Najdi Arabic, the subject of an intransitive verb and both the subject and the object of a transitive verb can sometimes be dropped. When the adverb *wajid* "a lot" is used with a transitive verb as examples in (56) show, the adverb *wajid* always

modifies the dropped object and does not modify the dropped subject. When the adverb *wajid* “a lot” is used with an unergative verb as examples in (57) show, the adverb *wajid* always modifies the verb and it does not modify the dropped subject.

- (56) a. kitb                      wajid.  
           write (tr)-Past        a lot  
           “he wrote a lot (of things)”
- b. gara                      wajid  
           read (tr)-Past        a lot  
           “he read a lot (of things)”
- (57) a. jimah                      wajid.  
           run (int)-Past        a lot  
           “he ran a lot”
- b. dhahak                      wajid  
           smiled (int)-Past a lot  
           “he smiled a lot”

However, when the adverb *wajid* is used with an unaccusative verb as examples in (58) show, the adverb *wajid* always modifies the subject and it does not modify the verb. It is worth mentioning that this diagnostic cannot apply to all unaccusatives and unergatives in Najdi Arabic because there are some unaccusative and unergative verb exceptions (e.g. *fall*, *stand*, and *sit*).

- (58) a. wisal                      wajid  
           arrive (int)-Past a lot (of people)  
           “a lot of people arrived”
- b. jaa                      wajid  
           came (int)-Past a lot (of people)  
           “a lot of people came”

Najdi Arabic also has a counterpart of the English agentive suffix *-er*. However, this agentive suffix does not distinguish unaccusative verbs from unergative verbs in Najdi Arabic. Unlike English, this suffix can appear with both unaccusatives as shown in example (59) and unergatives as shown in example (60). It can also appear with transitive verbs as shown in (61).

- (59) al-wasil        kaan    t9bann.                      (unaccusative)  
           Def- arrival be-Past tired  
           “The arrival was tired”



(60) al-jamih      kaan      t9baan.      (unergative)  
 Def.-runner   be-Past   tired  
 “The runner was tired”

(61) al-kaatib      kaan      t9baan.      (transitive)  
 Def.-writer   be-Past   tired  
 “The writer was tired”

Moreover, Najdi Arabic has a counterpart of the adjectival suffix *-en*, which is the participle form of a verb. However, this adjectival suffix *-en* also does not distinguish unaccusative verbs from unergative verbs in Najdi Arabic. Unlike English, the adjectival suffix *-en* can appear with both unaccusative verbs as shown in example (62) and unergative verbs as shown in example (63). Najdi Arabic does not have a counterpart of the English *there*-insertion construction, which is a syntactic diagnostic for unaccusativity in English.

(62) Al-walid      alwasil      kaan      t9baan.      (unaccusative)  
 Def- boy   arrive-Part   be-Past   tired.  
 “The boy who has arrived was tired”

(63) Al-walid      aljamih      kaan      t9baan.      (unergative)  
 Def- boy   run-Part   be-Past   tired.  
 “The boy who has run was tired”

In this section, we have shown evidence for the universal distinction between unaccusative verbs and unergative verbs in Najdi Arabic, which is the native language of the subjects of the present study to be reported in the following section. We have also shown that the syntactic reflexes of unaccusativity in English and Najdi Arabic are different.

## **6. The Present Study**

The present study investigates the acquisition of English unaccusative verbs by Arabic native speakers. The study tests, in particular, the validity of the two hypotheses reviewed in detail in the previous section: The Unaccusative Trap Hypothesis proposed by Oshita (2001) and the Unaccusativity Hierarchy Hypothesis proposed by Sorace (2000).

### *6.1. Motivation for the Study*

The motivation for the present study is that there is only one study that tested these two hypotheses systematically. Although Deguchi and Oshita (2004) tested these two hypotheses, they tested only two constructions, i.e. the active and passive constructions, which are not diagnostic of unaccusativity in English. The present study tests three diagnostics of unaccusativity in English in addition to the active and passive constructions. Moreover, there is no previous study that examined the acquisition of English unaccusatives by Arabic speakers except for Zobl (1989) that tested only ten Arabic speakers focusing on only production data that do not necessarily show the competence of L2 learners. This study tests three Arabic groups with different proficiency levels of English using a grammaticality judgment task.

### *6. 2. Research Questions*

The objective of this study is to investigate two research questions. The first research question is whether Arabic native speakers' acquisition of English

unaccusative verbs will exhibit development patterns similar to those patterns predicted by the Unaccusative Trap Hypothesis (Oshita 2001). The second research question is whether Arabic native speakers' acquisition of English unaccusative verbs will be sensitive to the hierarchy proposed by Sorace (2000). The present study will help us to understand the development patterns involved in L2 acquisition of unaccusatives, and it will show us whether and how quite subtle semantic aspects of the grammar are acquired by L2 learners.

### *6. 3. Methodology*

#### *6. 3. 1. Participants*

The study tested 37 volunteer Arabic-speaking learners of English. All the Arabic speakers are from Saudi Arabia and they all, except three participants, share one Arabic dialect called Najdi Arabic. The participants were undergraduate or graduate students at the University of Kansas. Most of them, including some graduate students, were taking English courses in the Applied English Center at the University. All the participants were adults and males except for three female participants. The Arabic speakers studied English in Saudi Arabia in intermediate and secondary schools, and arrived at the United States after an age of 17 years.

All Arabic speakers were asked to take an English proficiency test, i.e. the Michigan listening comprehension test that consists of 45 questions. Their scores ranged from 16 to 44. The mean of scores was 32.11. The Arabic speakers were divided into three groups, i.e. elementary, intermediate and advanced groups, based

on the proficiency test. The study also tested 15 English native speakers who got extra credit in LING 106 for participating in the study. The native English speakers were included in the study to serve as a control group. Table 1 shows the Arabic speakers' proficiency test scores, ages and residence length in the United States.

Table 1: Subjects' proficiency test scores, ages, and residence in the USA

Group	No. of subj.	Proficiency Test		Range of years	
		range	mean	Age	Residence in USA
Native	15				
Elementary	6	16-20	18.5	17-25	6 months -1 year
Intermediate	22	24-38	31.68	18-30	1-7 years
Advanced	9	39-44	42.22	23-34	1-7 years

### 6. 3. 2. Test Materials

The study used a grammaticality judgment task that consisted of a total of 100 sentences. The complete list of sentences is given in Appendix A. There were 90 test sentences and 10 filler sentences. The number of grammatical and ungrammatical sentences was counterbalanced so that there were 50 grammatical sentences and 50 ungrammatical sentences. These sentences were presented in randomized order in two batteries. The task included nine unaccusative verbs, nine unergative verbs, and ten transitive verbs as distractor items.

As Table 2 shows, the nine unaccusative verbs used in the task consisted of three semantic unaccusative classes along Sorace's hierarchy, with three verbs used for each semantic class. The first class, i.e. "change of location", represents the core unaccusatives, the second class, i.e. "change of state", represents the less core unaccusatives, and the third class, i.e. "existence of state", represents the peripheral

unaccusatives. Similarly, the nine unergative verbs also consisted of three semantic unergative classes along the hierarchy. As shown in Table 3, the first class, i.e. “controlled non-motional process”, represents the core unergatives, the second class, i.e. “controlled motional process”, represents less core unergatives, and the third class, i.e. “uncontrolled process”, represents the peripheral unergatives.

Table 2: Unaccusative verbs used in the task.

<b>Core unaccusatives</b>	<b>Less core unaccusatives</b>	<b>Peripheral unaccusatives</b>
“change of location”	“change of state”	“existence of state”
1. <i>arrive</i> 2. <i>escape</i> 3. <i>fall</i>	1. <i>emerge</i> 2. <i>appear</i> 3. <i>rise</i>	1. <i>exist</i> 2. <i>remain</i> 3. <i>stay</i>

Table 3: Unergative verbs used in the task.

<b>Core unergatives</b>	<b>Less core unergatives</b>	<b>Peripheral unergatives</b>
“nonmotional process”	“motional process”	“uncontrolled process”
1. <i>work</i> 2. <i>sing</i> 3. <i>cry</i>	1. <i>run</i> 2. <i>walk</i> 3. <i>swim</i>	1. <i>cough</i> 2. <i>sneeze</i> 3. <i>shiver</i>

All the unaccusative and unergative verbs appeared in five constructions (See Appendix A for complete test sentences used in the task). The first construction is the nominal suffix *-er* which is ungrammatical with unaccusatives (64.a.) but grammatical with unergatives (64.b.). The second construction is the adjectival suffix *-en* which is grammatical only with telic unaccusatives, i.e. “change of location” and “change of state” classes (65.a.), but ungrammatical with atelic unaccusatives, i.e. “existence of state” class and unergatives (65.b.). The third construction is the

*there*-insertion construction which is grammatical with unaccusatives (66.a.) but ungrammatical with unergatives (66.b.). These three constructions mentioned above are diagnostic constructions that distinguish unaccusatives from unergatives in English. These constructions will test whether learners have acquired the constraints on unaccusative and unergative verbs in English.

- |   |              |
|---|--------------|
| (64) a. * The faller seriously harmed his back and his legs.  | unaccusative |
| b. The runner was really tired after an hour of exercise.     | unergative   |
| (65) a. The recently arrived students joined the orientation. | unaccusative |
| b.* The beautiful sneezed lady drank a glass of lemonade.     | unergative   |
| (66) a. Suddenly there emerged a little boy crying for help.  | unaccusative |
| b. * Suddenly there coughed one committee member.             | unergative   |

The fourth construction is the passive construction which is ungrammatical with both unaccusative verbs (67.a.) and unergative verbs (67.b.) The last construction is the active construction, i.e. NP-V word order which is grammatical with both unaccusatives (68.a.) and unergatives (68.b.). The last two constructions are important for the test of the Unaccusative Trap Hypothesis.

- |  |              |
|--|--------------|
| (67) a. * Bill and Tom were appeared at the library on time. | unaccusative |
| b.* The student was sneezed a lot in the classroom.          | unergative   |
| (68) a. The parrot escaped through the window yesterday.     | unaccusative |
| b. John and his wife walked for an hour in the park.         | unergative   |

### 6. 3. 3. Procedure

Both English native speakers and Arabic speakers were tested individually in the Second Language Acquisition Laboratory at the University of Kansas. Each subject was presented with a series of test items on a computer screen. Each test item, which remained on the screen for 30 seconds, consisted of two sentences as shown in the following example:

(69) *KU had an orientation for the new students last Monday.*  
***The recently arrived students joined the orientation.***

The first sentence, which was always grammatically well-formed, was designed to set a context for the second. The subjects were asked to judge only the second sentence using a rating scale on a separate answer sheet. The rating scale used ranged from 1 for (completely impossible in English), 2 for (impossible in English), 3 for (might be possible in English), 4 for (possible in English), to 5 for (completely possible in English). The subjects were told to circle "I DON'T KNOW" if they could not make a judgment.

The native speakers finished the test within about half an hour, while the Arabic speakers took about 50 minutes. Before taking the grammaticality judgment task, each Arabic-speaking subject was given an English-Arabic word list that contained all the verbs and difficult words used in the task. The purpose of this was to ensure that the subject knows the vocabulary used in the test. Before taking the grammaticality judgment task, each Arabic-speaking subject was also asked to sign a consent form, fill out a background information questionnaire, and then take the proficiency test which took about 15 minutes.

#### 6. 4. Predictions

The present study tests the predictions of two hypotheses: the Unaccusative Trap Hypothesis (Oshita 2001) and the Unaccusativity Hierarchy Hypothesis (Sorace 2000 & Sorace and Shomura 2001). We will review the predictions for the first hypothesis in the next section and the prediction for the second hypothesis in section 6.4.2.

##### 6.4.1. Predictions for the Unaccusative Trap Hypothesis (Oshita 2001)

The Unaccusative Trap Hypothesis claims that L2 learners, at the first stage, do not distinguish between unaccusatives and unergatives syntactically and treat all intransitive verbs as unergatives with an underlying subject. Therefore, the first prediction that will be tested is that Arabic-speaking elementary learners will not distinguish between unaccusatives and unergatives in the constructions tested and will treat them similarly. Specifically, if they treat these verbs as unergatives, they will accept both ungrammatical unaccusatives (*\*faller*) and grammatical unergatives (*runner*) with the nominal suffix *-er* because unergatives are grammatical with this nominal suffix. However, they will reject both grammatical unaccusatives (*fallen leaves*) and ungrammatical unergatives (*\*cried child*) with the adjectival suffix *-en* because unergatives are ungrammatical with this adjectival suffix. They will also reject both grammatical unaccusatives and ungrammatical unergatives in *there*-insertion construction because unergatives are ungrammatical in this construction. As for the active construction, i.e. NP-V word order, they will correctly accept both



grammatical unaccusatives and grammatical unergatives because unergatives are grammatical in this construction. In the case of the passive construction, they will correctly reject both ungrammatical unaccusatives and ungrammatical unergatives because unergatives are ungrammatical in the passive construction.

The Unaccusative Trap Hypothesis also claims that L2 learners at the second stage begin to restructure their interlanguage grammar and realize that unaccusatives and unergatives have different underlying argument structure. Therefore, the second prediction that will be tested is that Arabic-speaking intermediate learners will distinguish between unaccusatives and unergatives. Specifically, they will correctly reject ungrammatical unaccusatives but accept grammatical unergatives with the nominal suffix *-er*. They will also correctly accept grammatical unaccusatives but reject ungrammatical unergatives with the adjectival suffix *-en* and in *there*-insertion constructions. We make these predictions because learners at this stage are expected to be sensitive to the distinction between internal and external arguments and, therefore, they should realize that the nominal suffix *-er* and the adjectival suffix *-en* can only refer to external and internal arguments respectively. They should also accept unaccusatives in *there*-insertion constructions because the underlying object is in its base position in the sentence.

However, as the Unaccusative Trap Hypothesis claims, learners at this stage will be predicted to incorrectly accept ungrammatical unaccusatives more than ungrammatical unergatives in the passive construction. When L2 learners project the internal argument to the object position, Oshita claims that the only way for them to

fill the empty subject position is to move the internal argument from the object position to the subject position. In doing so Oshita argues that they may incorrectly overgeneralize the syntactic movement involved in the passive construction. This means that they will incorrectly supply passive morphology. Learners, at this stage, will also be more reluctant to accept grammatical unaccusatives than grammatical unergatives in the active construction, i.e. NP-V word order. This is because learners at this stage, as the Unaccusative Trap Hypothesis argues, tend to associate the internal argument with the object position.

The Unaccusative Trap Hypothesis also claims that L2 learners at the third stage are expected to have learned how to move the internal argument from the object position to the subject position without incorrectly passivizing unaccusatives and they are also expected to have overcome the problem of being reluctant to accept unaccusatives in NP-V word order. Therefore, the third prediction is that Arabic-speaking advanced learners will show native-like performance. Specifically, they will correctly reject ungrammatical unaccusatives but accept grammatical unergatives with the nominal suffix *-er*. They will also correctly accept grammatical unaccusatives but reject ungrammatical unergatives with the adjectival suffix *-en* and in *there*-insertion construction. The advanced learners will differ from intermediate learners in that they will correctly reject both ungrammatical unaccusatives and ungrammatical unergatives in the passive construction and accept both grammatical unaccusatives and grammatical unergatives in the active construction.

#### 6.4.2. Predictions for the Unaccusativity Hierarchy Hypothesis (Sorace 2000)

The second set of predictions that was tested pertains to the hierarchy proposed by Sorace (2000) and extended by Sorace and Shomura (2001). As I outlined in section 4.2., the hierarchy predicts that lexical semantics plays an important role in the unaccusative-unergative syntactic distinction. If Sorace's hierarchy is universal and has a role to play in L2 acquisition, both English native speakers and all Arabic learners are expected to perform better on the core unaccusatives and unergatives than on more peripheral ones in the case of the nominal suffix *-er*, the adjectival suffix *-en*, and *there*-insertion construction.

The passive and active constructions that we tested are not relevant to Sorace's hierarchy because these constructions are not diagnostics of unaccusativity in English. However, recent work by Oshita and his colleagues tries to integrate the predictions of the Unaccusative Trap Hypothesis and the Unaccusativity Hierarchy Hypothesis. Recall that according to the Unaccusative Trap Hypothesis (2001), intermediate learners should be reluctant to accept unaccusatives in the active construction and should be inclined to accept unaccusatives in the passive construction. Deguchi and Oshita (2004) have further proposed that intermediate learners' acceptance and rejection of unaccusatives and unergatives in the passive and active constructions may be influenced by Sorace's hierarchy.

As for the passive construction, the Unaccusative Trap Hypothesis predicts that intermediate learners tend to passivize unaccusatives more than unergatives. Therefore, intermediate learners are expected to accept the core unaccusatives more

than peripheral ones, and reject the core unergatives more than peripheral ones. The advanced and elementary groups are expected to reject all unaccusative and unergative classes as the Unaccusative Trap Hypothesis predicts.

As for the active construction, the Unaccusative Trap Hypothesis predicts that intermediate learners tend to be more reluctant to accept unaccusatives than unergatives. Therefore, intermediate learners are expected to reject the core unaccusatives more than peripheral ones, and accept the core unergatives more than peripheral ones. The advanced and elementary groups are expected to accept all unaccusative and unergative classes as the Unaccusative Trap Hypothesis predicts.

## *6. 5. Results*

We will first present the results that address the predictions of the Unaccusative Trap Hypothesis. Next, we will turn to the results relevant to Sorace's hierarchy. Then we will present the results of the passive and active constructions based on Deguchi and Oshita's integration of the predictions of both the Unaccusative Trap Hypothesis and the Unaccusativity Hierarchy Hypothesis.

### *6. 5. 1. Results of the Unaccusative Trap Hypothesis*

In this section, we show the results of all four groups in turn to see whether English native speakers and Arabic-speaking learners of English distinguished between unaccusative verbs and unergative verbs syntactically in the constructions tested. We first present the results for the native English speakers so we can make a

comparison between them as a control group and the three groups of Arabic-speaking learners of English.

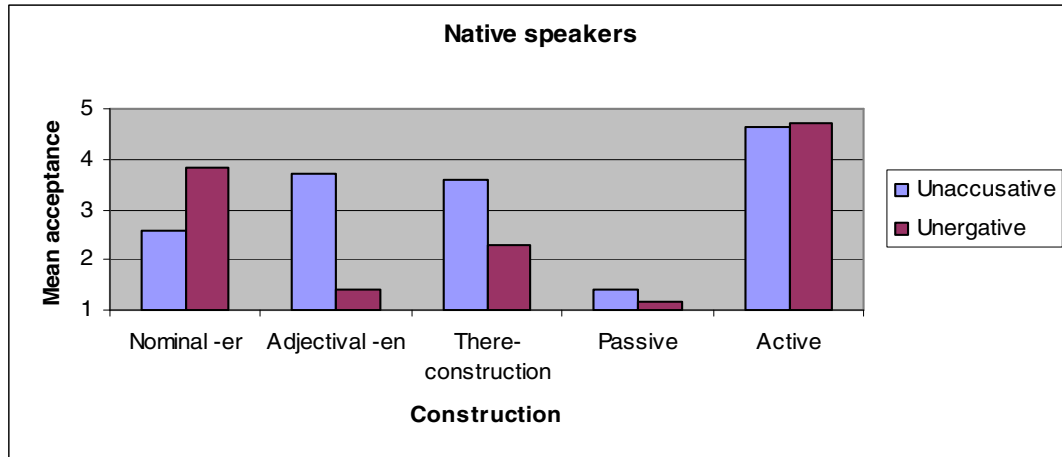


Figure1: Native speakers (n = 15). 1 = completely impossible, 5 = completely possible

As Figure 1 shows, the native English speakers distinguished between unaccusative and unergative verbs with the nominal suffix *-er*, with the adjectival suffix *-en*, and in *there*-insertion construction. They also correctly rejected both ungrammatical unaccusatives and ungrammatical unergatives in the passive construction, and correctly accepted both grammatical unaccusatives and grammatical unergatives in the active construction.

They distinguished between unaccusatives and unergatives with the nominal suffix *-er* ( $t = -9.333, p < 0.0001$ ), correctly rejecting ungrammatical unaccusatives (mean 2.56) and correctly accepting grammatical unergatives (mean 3.81). They distinguished between unaccusatives and unergatives with the adjectival suffix *-en* ( $t = 11.789, p < 0.0001$ ), correctly accepting grammatical unaccusatives (mean 3.72) and correctly rejecting ungrammatical unergatives (mean 1.39). They also

distinguished between unaccusatives and unergatives in *there*-insertion construction ( $t = 8.578, p < 0.0001$ ), correctly accepting grammatical unaccusatives (mean 3.59) and correctly rejecting ungrammatical unergatives (mean 2.29). In the case of the passive construction, they correctly rejected both ungrammatical unaccusatives (mean 1.39) and ungrammatical unergatives (mean 1.15). In the case of the active construction, they correctly accepted both grammatical unaccusatives (mean 4.63) and grammatical unergatives (mean 4.73).

In general, these results show that English native speakers distinguished between unaccusatives and unergatives in the constructions tested. In the case of the adjectival suffix *-en*, the native speakers showed the clearest distinction between unaccusatives and unergatives. The distinction in the other two constructions was not as clear so we looked to the individual results. What interesting is that, in the *there*-insertion construction, all individual native speakers rejected the ungrammatical unergatives rating them lower than (mean 3.00), and all of them except for two native speakers accepted the grammatical unaccusatives rating them (mean 3.00) or above. In the case of the nominal suffix *-er*, however, the native speakers showed the weakest distinction between unaccusatives and unergatives. In fact, five out of fifteen native speakers accepted the ungrammatical unaccusatives with the nominal suffix *-er* rating them (mean 3.00) or above.

#### *Stage 1: elementary learners*

Figure 2 shows the results for elementary learners. Recall that the Unaccusative Trap Hypothesis claims that learners at this stage will not distinguish unaccusatives

from unergatives syntactically, treating them as unergatives. The results of the elementary learners showed that they did not distinguish unaccusatives from unergatives in the constructions tested. However, they did not treat unaccusatives as unergatives as the Unaccusative Trap Hypothesis claims.

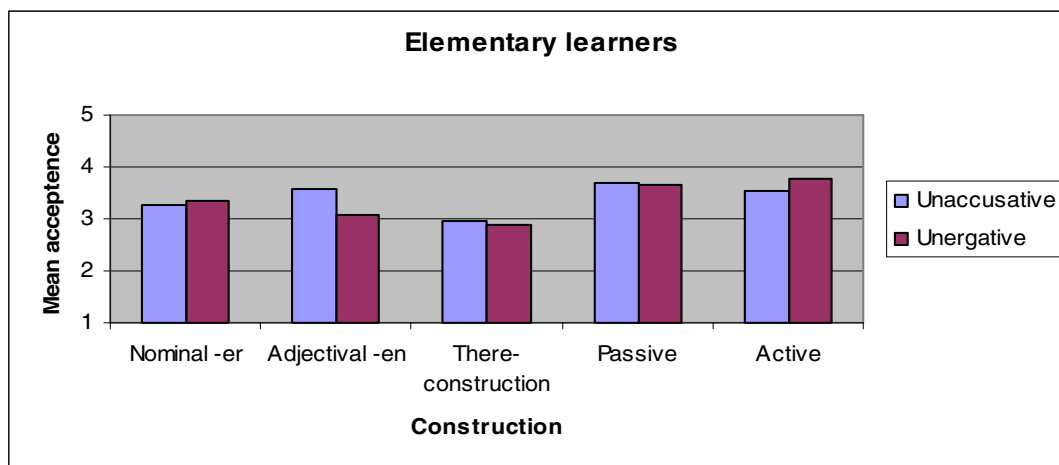


Figure2: Elementary learners (n = 6). 1 = completely impossible, 5 = completely possible

We predicted that elementary learners would accept both ungrammatical unaccusatives and grammatical unergatives with the nominal suffix *-er* because unergatives are grammatical with this suffix. As we predicted, they accepted both ungrammatical unaccusatives (mean 3.26) and grammatical unergatives (mean 3.35) with the nominal suffix *-er*, without distinguishing between the two classes. Four out of six subjects rated the two classes above (mean 3.00).

It was also predicted that elementary learners would reject both grammatical unaccusatives and ungrammatical unergatives with the adjectival suffix *-en*. The results showed that they accepted grammatical unaccusatives (mean 3.56) and accepted ungrammatical unergatives (mean 3.09) with the adjectival suffix *-en*, not

distinguishing between unaccusatives and unergatives. Only one subject rated the two classes below (mean 3.00). As for *there*-insertion construction, we expected that elementary learners would reject both grammatical unaccusatives and ungrammatical unergatives. Not as we expected, they almost accepted both grammatical unaccusatives (mean 2.98) and ungrammatical unergatives (mean 2.89), with only two subjects rating the two classes below (mean 3.00). This shows that while they are not distinguishing between the two classes, they are not necessarily treating the verbs like unergatives.

For the passive construction, we predicted elementary learners to reject both ungrammatical unaccusatives and ungrammatical unergatives because unergatives are ungrammatical in the passive construction. However, they incorrectly accepted both ungrammatical unaccusatives (mean 3.69) and ungrammatical unergatives (mean 3.67). All the subjects rated the two classes above (mean 3.00). This goes against our prediction because they were expected to treat the two classes as unergatives, which are ungrammatical in the passive construction. Finally, they correctly accepted both grammatical unaccusatives (mean 3.54) and grammatical unergatives (mean 3.76) in the active construction as we predicted.

In general, these results show that elementary learners did not distinguish unaccusatives from unergatives in the constructions tested. However, they did not treat both unaccusatives and unergatives as unergatives as the Unaccusative Trap Hypothesis claims. They probably treated the two classes as unergatives only in the case of the nominal suffix *-er*, but not in the case of the adjectival suffix *-en*,



*there*-insertion construction, and the passive construction. Therefore, these results in general do not support the first prediction based on the Unaccusative Trap Hypothesis.

*Stage 2: intermediate learners*

Figure 3 shows the results of the intermediate learners. At this stage, the Unaccusative Trap Hypothesis claims that L2 learners begin to restructure their interlanguage grammar and realize that unaccusatives and unergatives have different underlying argument structure. The results of the intermediate learners, in general, showed that they have started restructuring their interlanguage grammar and realized that the two classes are different because they treated the two classes differently in the most of the constructions tested.

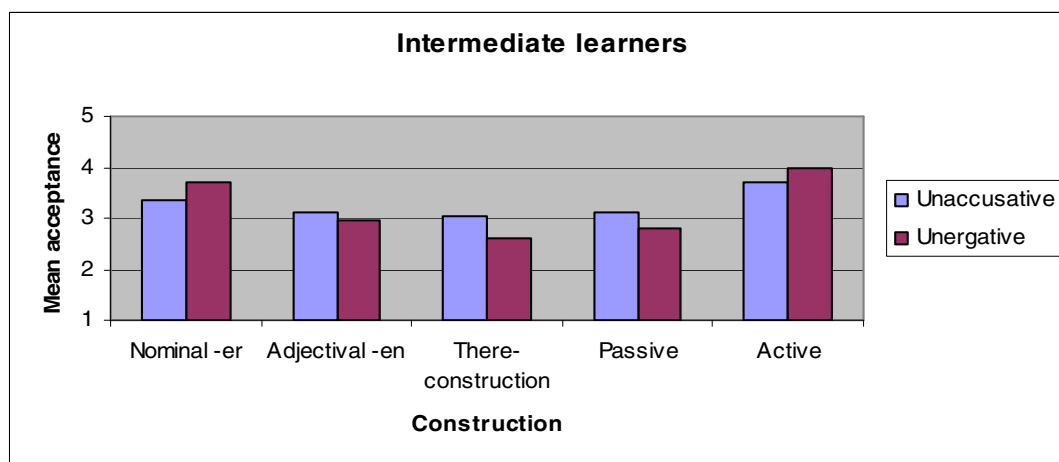


Figure3: Intermediate learners (n = 22). 1 = completely impossible 5 = completely possible

We predicted that intermediate learners would distinguish unaccusatives from unergatives with the nominal suffix *-er*, correctly rejecting ungrammatical unaccusatives and correctly accepting grammatical unergatives. As we predicted, they distinguished unaccusatives from unergatives ( $t = -2.504, p < 0.021$ ), incorrectly

accepting ungrammatical unaccusatives (mean 3.36) and correctly accepting grammatical unergatives (mean 3.71). So, they made a distinction in right direction, but still incorrectly accepted ungrammatical unaccusatives with the nominal suffix *-er*. At the individual level, seven out of twenty two subjects rated the grammatical unergatives higher than ungrammatical unaccusatives by 0.50 or above<sup>1</sup>.

In the case of *there*-insertion construction, it was predicted that intermediate learners would distinguish unaccusatives from unergatives, correctly accepting grammatical unaccusatives and correctly rejecting ungrammatical unergatives. As we predicted, they distinguished unaccusatives from unergatives ( $t = 3.060$   $p < 0.006$ ). They correctly accepted grammatical unaccusatives (mean 3.03) and correctly rejected ungrammatical unergatives (mean 2.60). At the individual level, ten subjects rated the grammatical unaccusatives higher than ungrammatical unergatives by 0.50 or above.

Contrary to our prediction, they did not distinguish unaccusatives from unergatives with the adjectival suffix *-en*. They correctly accepted grammatical unaccusatives (mean 3.11), but they did not reject ungrammatical unergatives (mean 2.95). At the individual level, eight subjects rated grammatical unaccusatives higher than ungrammatical unergatives by 0.50 or above. So, intermediate learners treated unaccusatives and unergatives differently with the nominal suffix *-er* and in *there*-insertion construction as we predicted, with clearer distinction in the case of

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<sup>1</sup> I choose the measure 0.50 for individual results in the study because I believe this is the lowest possible difference that can show that learners have a distinction between unaccusatives and unergatives.

*there*-insertion construction. However, they did not distinguish unaccusatives from unergatives in the case of the adjectival suffix *-en*.

The Unaccusative Trap Hypothesis also claims that learners, at this stage, tend to incorrectly passivize unaccusatives and also tend to be reluctant to accept unaccusatives in the active construction, i.e. NP-V word order. In the case of the ungrammatical passive construction, we predicted that intermediate learners would incorrectly accept unaccusatives more than unergatives. As we predicted, they accepted unaccusatives (mean 3.11) more than unergatives (mean 2.79) in the ungrammatical passive construction ( $t = 2.287$   $p < 0.033$ ). At the individual level, five subjects rated unaccusatives higher than unergatives by 0.50 or above.

It was also predicted that the intermediate learners would be more reluctant to accept unaccusatives than unergatives in the grammatical active construction. The results showed that they rated unaccusatives (mean 3.72) lower than unergatives (mean 3.99), but the difference was not significant ( $t = -1.967$ ,  $p < 0.063$ ). When we looked into individual data, we found five subjects out of twenty two rating unaccusatives lower than unergatives by 0.50 or above in the active construction.

To sum up, intermediate learners treated unaccusatives and unergatives differently with the nominal suffix *-er* and in *there*-insertion construction as the Unaccusative Trap Hypothesis predicts at this stage, but not in the case of the adjectival suffix *-en*. Moreover, they tended to accept unaccusatives in the passive construction as the hypothesis claims, but they also incorrectly accepted unergatives in the passive construction. In the active construction, the intermediate learners were not reluctant to

accept unaccusatives more than unergatives. In general, these results support the second prediction based on the Unaccusative Trap Hypothesis.

*Stage 3: advanced learners*

As for the advanced learners, the Unaccusative Trap Hypothesis claims that learners at this stage are expected to have completely restructured their interlanguage grammar and they should perform like native speakers. More specifically, learners at this stage are expected to have learned how to move the internal argument to the subject position without incorrectly passivizing unaccusatives. They are also expected to have overcome the problem of being reluctant to accept unaccusatives in NP-V word order. As Figure 4 shows, the advanced learners behaved like the native speakers to some extent, distinguishing unaccusatives from unergatives in the three diagnostic constructions. They also correctly rejected unaccusatives and unergatives in the passive construction and accepted them in the active construction.

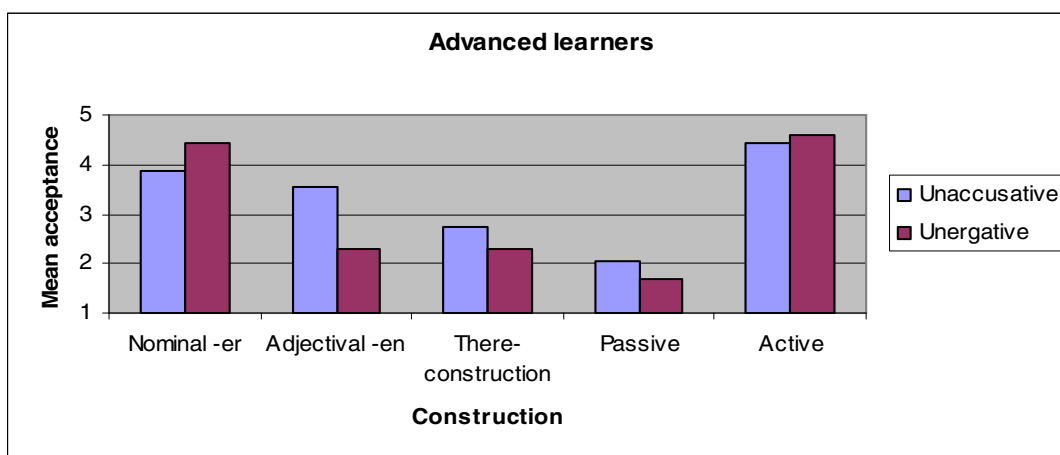


Figure3: Advanced learners (n = 9). 1 = completely impossible 5 = completely possible

We predicted that advanced learners would distinguish unaccusatives from unergatives with the nominal suffix *-er*, correctly rejecting ungrammatical unaccusatives and correctly accepting grammatical unergatives. As we predicted, the advanced learners distinguished unaccusatives from unergatives ( $t = -2.873$ ,  $p < 0.021$ ), rating grammatical unergatives (mean 4.43) higher than ungrammatical unaccusatives (mean 3.88). However, the high mean for ungrammatical unaccusatives shows that they, like some individual native speakers, did not reject ungrammatical unaccusatives with the nominal suffix *-er*. At the individual level, three of nine advanced subjects rated ungrammatical unaccusatives lower than grammatical unergatives by 0.50 or above.

In the case of the adjectival suffix *-en*, it was predicted that advanced learners would distinguish unaccusatives from unergatives, correctly accepting grammatical unaccusatives and correctly rejecting ungrammatical unergatives. As we expected, the advanced learners distinguished unaccusatives from unergatives ( $t = 3.451$ ,  $p < 0.009$ ). They correctly accepted grammatical unaccusatives (mean 3.56) and correctly rejected ungrammatical unergatives (mean 2.31). At the individual level, seven of nine advanced learners rated grammatical unaccusatives higher than ungrammatical unergatives by 0.50 or above. As for *there*-insertion construction, we predicted that advanced learners would distinguish unaccusatives from unergatives, correctly accepting grammatical unaccusatives and correctly rejecting ungrammatical unergatives. As we expected, they distinguished unaccusatives from unergatives ( $t = 2.449$ ,  $p < 0.040$ ), rating grammatical unaccusatives (mean 2.75) higher than

ungrammatical unergatives (mean 2.31). At the individual level, four out of nine subjects rated unaccusatives higher than unergatives by 0.50 or more.

It was predicted that advanced learners would differ from intermediate learners in rejecting both unaccusatives and unergatives in the ungrammatical passive construction. As we predicted, they correctly rejected both unaccusatives (mean 2.07) and unergatives (mean 1.69) in the passive construction. The advanced learners were also predicted not to be reluctant to accept unaccusatives in the active construction. As expected, they were not reluctant to accept unaccusatives. They correctly accepted both unaccusatives (mean 4.43) and unergatives (mean 4.58) and the difference was not significant.

To sum up, advanced learners distinguished unaccusatives from unergatives with the nominal suffix *-er*, with adjectival suffix *-en*, and in *there*-insertion construction. However, they did not reject ungrammatical unaccusatives with the nominal suffix *-er* and they did not clearly accept grammatical unaccusatives in *there*-insertion construction. Like the native speakers, the advanced learners' clearest distinction between unaccusatives and unergatives was with the adjectival suffix *-en*. The advanced learners' distinction between unaccusatives and unergatives in the case of *there*-insertion construction was not as clear as their distinction in the case of the nominal suffix *-er* and the adjectival suffix *-en*. Similar to native speakers, they correctly rejected both unaccusatives and unergatives in the ungrammatical passive construction, and correctly accepted them in the grammatical active construction as we predicted.

In summary, the Unaccusative Trap Hypothesis argues that learners at the first stage do not distinguish unaccusatives from unergatives syntactically treating them both as unergatives. The results of the elementary learners showed that they did not distinguish unaccusatives from unergatives in any of the constructions tested. However, they did not treat the two classes as unergatives as the Unaccusative Trap Hypothesis claims at this stage. The results of the elementary learners in general do not support the first prediction based on the Unaccusative Trap Hypothesis.

The Unaccusative Trap Hypothesis also predicts that learners at the second stage begin to restructure their interlanguage grammar and start to realize that unaccusatives and unergatives have different underlying argument structure. The results of the intermediate learners showed that they have started to restructure their interlanguage grammar as the hypothesis claims because they treated the two classes differently in the most of the constructions tested. Moreover, they accepted unaccusatives in the ungrammatical passive construction as the hypothesis claims at this stage, but they also incorrectly accepted unergatives in the passive construction. Contrary to the prediction of the hypothesis, they were not reluctant to accept unaccusatives in the grammatical active construction. The results of the intermediate learners in general support the second prediction based on the Unaccusative Trap Hypothesis.

The Unaccusative Trap Hypothesis also states that learners at the third stage are expected to have completely restructured their interlanguage grammar and should behave like the native speakers. The results of the advanced learners, in general, were

to some extent similar to the results of the native speakers. Like the native speakers, the advanced learners distinguished unaccusatives from unergatives on the three constructions tested. In fact, both advanced learners and native speakers' strongest distinction between unaccusatives and unergatives was with the adjectival suffix *-en*. Moreover, advanced learners did not reject ungrammatical unaccusatives with the nominal suffix *-er* like five native speakers who incorrectly accepted them.

Like native speakers and unlike intermediate learners, advanced learners correctly rejected both unaccusatives and unergatives in the ungrammatical passive construction, and correctly accepted them in the grammatical active construction as the hypothesis predicts at this stage. The results of the advanced learners, in general, suggest that they have restructured their interlanguage grammar more than intermediate learners and they were much more similar to native speakers than to intermediate learners. In general, these results support the third prediction based on the Unaccusative Trap Hypothesis.

#### *6. 5. 2. Results of the Unaccusativity Hierarchy*

In the following, we present the results by semantic verb classes of unaccusatives and unergatives for all groups. These results will show us if English native speakers and Arabic native speakers would treat the core unaccusative verbs and unergative verbs differently from more peripheral ones as Sorace's unaccusativity hierarchy predicts.



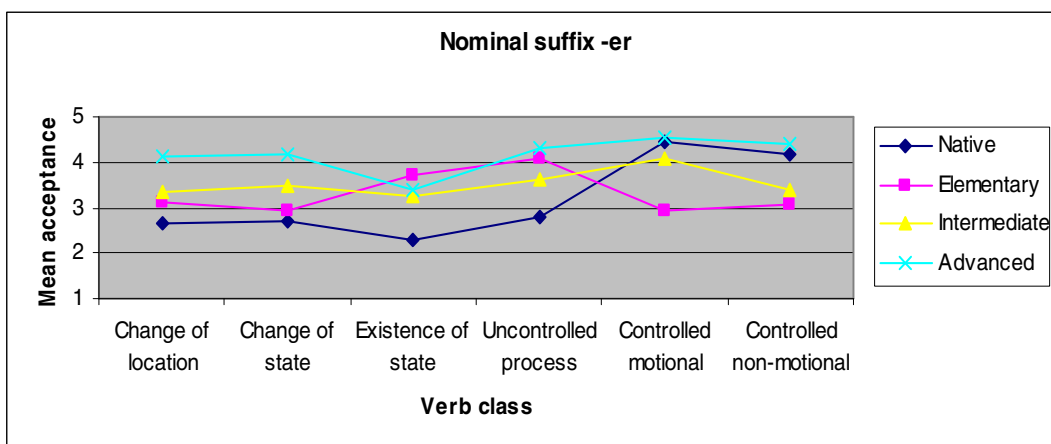


Figure 5: Nominal suffix *-er*. Mean acceptance by verb semantic class for all the groups

Figure 5 displays the results of the nominal suffix *-er* for the four groups. The first three verb classes in the graph are unaccusatives and the last three verb classes are unergatives. On the left extreme of the graph we have the core unaccusatives (change of location), and on the right extreme we have the core unergatives (controlled non-motional). The two classes in the middle, i.e. existence of state and uncontrolled process are the most peripheral unaccusatives and unergatives respectively.

Recall that the nominal suffix *-er* is ungrammatical with unaccusatives but grammatical with unergatives. The native speakers correctly rejected all ungrammatical unaccusative classes, i.e. “change of location” (mean 2.67), “change of state” (mean 2.71), and “existence of state” (mean 2.31) and correctly accepted only the two core unergative classes, i.e. “controlled non-motional” (mean 4.16) and “controlled motional” (mean 4.47) ( $F(5,10) = 25.472, p < 0.0001$ ). However, they did not accept the grammatical peripheral unergative class, i.e. “uncontrolled process”

(mean 2.80), which was not rated different from all ungrammatical unaccusative classes. This shows that they assigned high mean ratings to the two grammatical core unergative classes and a lower mean rating to the grammatical peripheral unergative class, which was not rated different from the ungrammatical peripheral unaccusative class. This result supports Sorace's hierarchy, which expects the grammatical core unergatives to be accepted more than grammatical peripheral unergatives which, in turn, are expected to be not different from ungrammatical peripheral unaccusatives.

The advanced learners incorrectly accepted all ungrammatical unaccusative classes i.e. "change of location" (mean 4.11), "change of state" (mean 4.15), and "existence of state" (mean 3.37), and correctly accepted all grammatical unergative classes, i.e. "controlled non-motional" (mean 4.41), "controlled motional" (mean 4.56), and "uncontrolled process" (mean 4.33) ( $F(5,4) = 8.925, p < .027$ ). The advanced learners did not reject ungrammatical core unaccusatives more than ungrammatical peripheral ones. This pattern goes against Sorace's hierarchy, which expects the ungrammatical core unaccusatives to be rejected more than ungrammatical peripheral ones. With respect to unergatives, the advanced learners rated the two grammatical core unergative classes, i.e. "controlled non-motional" (mean 4.41) and "controlled motional" (mean 4.56), but not the peripheral unergative class, higher than the ungrammatical peripheral unaccusative class, i.e. "existence of state" (mean 3.37). This finding supports Sorace's hierarchy, which predicts grammatical core unergatives, but not the peripheral ones, to be accepted more than the ungrammatical peripheral unaccusatives. However, they did not rate the two

grammatical core unergative classes higher than the two ungrammatical core unaccusative classes, which goes against the hierarchy.

The intermediate learners incorrectly accepted all ungrammatical unaccusative classes i.e. “change of location” (mean 3.33), “change of state” (mean 3.48), and “existence of state” (mean 3.27), and correctly accepted all grammatical unergative classes, i.e. “controlled non-motional” (mean 3.41), “controlled motional” (mean 4.09), and “uncontrolled process”(mean 3.62) ( $F(5,17) = 4.222, p < .011$ ). The intermediate learners did not distinguish unaccusative classes from unergative classes except for the grammatical less core unergative class, i.e. “controlled motional” (mean 4.09), which was rated higher than the two ungrammatical core and peripheral unaccusative classes, i.e. “change of location” (mean 3.33) and “existence of state” (mean 3.27). Finally, elementary learners did not discriminate between any classes of unaccusatives and unergatives ( $F(5,1) = 1.152, p < .606$ ).

To sum up, the native speakers and advanced learners, but not the intermediate and elementary learners, showed sensitivity to Sorace’s hierarchy in the case of the nominal suffix *-er*. The native speakers, as the hierarchy predicts, assign high mean ratings to the two grammatical core unergative classes and a lower mean rating to the grammatical peripheral unergative class, which was not rated different from the ungrammatical peripheral unaccusative class. As for the advanced learners, they rated the two grammatical core unergative classes, but not the grammatical peripheral unergative class, higher than the ungrammatical peripheral unaccusative class.

Figure 6 displays the results of the adjectival suffix *-en* which is grammatical with only telic unaccusatives, i.e. change of location class and change of state class, but ungrammatical with atelic unaccusatives, i.e. existence of state class. The adjectival suffix *-en* is ungrammatical with all unergative classes. The native speakers correctly accepted the grammatical unaccusative classes, i.e. “change of location” (mean 3.89) and “change of state” (mean 3.56), and correctly rejected ungrammatical unergative classes, i.e. “controlled non-motional” (mean 1.31), “controlled motional” (mean 1.44), and “uncontrolled process” (mean 1.42) ( $F(5,10) = 21.579 p < 0.0001$ ). The native speakers clearly accepted grammatical unaccusative classes and clearly rejected ungrammatical unergative classes and no effects of the hierarchy were observed.

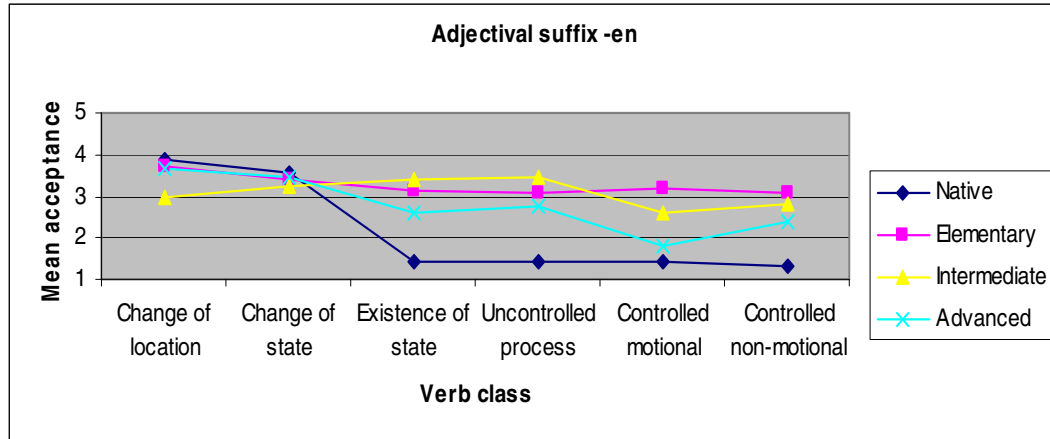


Figure 6: Adjectival suffix *-en*. Mean acceptance by verb semantic class for all the groups

The advanced learners did not distinguish between grammatical unaccusative and ungrammatical unergative classes ( $F(5,4) = 5.122 p < 0.069$ ), accepting grammatical unaccusative classes, i.e. “change of location” (mean 3.67) and “change of state”

(mean 3.44), and rejecting ungrammatical unergative classes, i.e. “controlled non-motional” (mean 2.37), “controlled motional” (mean 1.81), and “uncontrolled process” (mean 2.74).

The intermediate learners accepted the grammatical unaccusative classes, i.e. “change of location” (mean 3.00) and “change of state” (mean 3.23) and rejected the two ungrammatical core unergative classes, i.e. “controlled non-motional” (mean 2.80) and “controlled motional” (mean 2.62), but did not reject the ungrammatical peripheral unergative class, i.e. “uncontrolled process” (mean 3.44) ( $F(5,17) = 6.788, p < 0.001$ ). So, they correctly rejected the two ungrammatical core unergative classes, but they incorrectly accepted the ungrammatical peripheral unergative class, which was not rated different from all grammatical unaccusative classes. This result supports Sorace’s hierarchy, which predicts the ungrammatical core unergatives to be rejected more than the ungrammatical peripheral ones.

The elementary learners did not discriminate between unaccusative and unergative classes ( $F(5,1) = .251, p < .898$ ), accepting all unaccusative and unergative classes. The results of the adjectival suffix *-en* showed that only intermediate learners were sensitive to Sorace’s hierarchy because they rejected the ungrammatical core unergatives more than the ungrammatical peripheral ones.

Figure 7 shows the results of the *there*-insertion construction which is grammatical with unaccusatives but ungrammatical with unergatives. The native speakers correctly accepted grammatical unaccusatives, i.e. “change of location” (mean 3.56), “change of state” (mean 4.09), and “existence of state” (mean 3.13) and correctly rejected

ungrammatical unergatives, i.e. “controlled non-motional” (mean 2.02), “controlled motional” (mean 2.56), and “uncontrolled process” (mean 2.29) ( $F(5,10) = 13.349$ ,  $p < 0.0001$ ). Pairwise comparisons indicated that the two grammatical core unaccusative classes, i.e. “change of location” (mean 3.56) and “change of state” (mean 4.09) were rated higher than all ungrammatical unergative classes. However, the grammatical peripheral unaccusative class was not rated higher than ungrammatical unergative classes. This result supports Sorace’s hierarchy, which predicts grammatical core unaccusatives, but not peripheral ones, to be accepted more than ungrammatical unergatives.

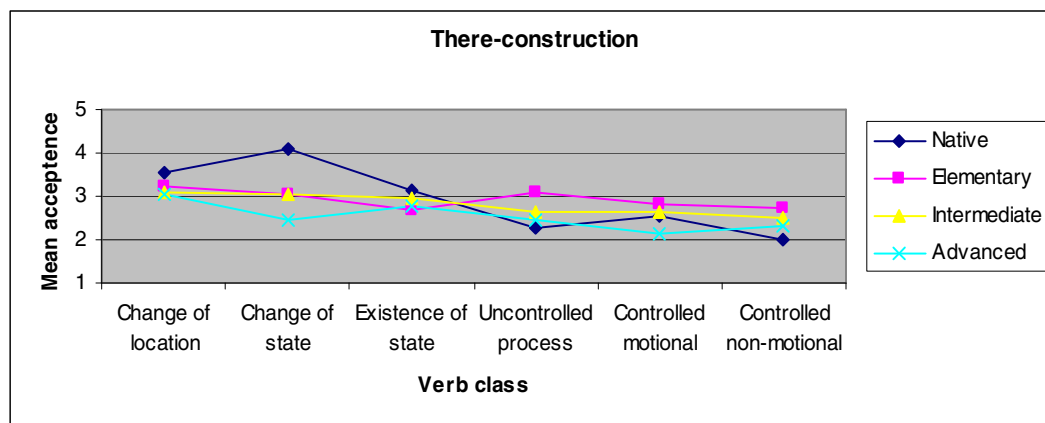


Figure 7: *There*-insertion construction. Mean acceptance by verb class for all the groups

As for Arabic speakers, they all did not discriminate between any classes of unaccusatives and unergatives (advanced:  $F(5,4) = .802$ ,  $p < .601$ , intermediate:  $F(5,17) = 1.963$ ,  $p < .136$ , and elementary:  $F(5,1) = .514$ ,  $p < .778$ ).

In summary, the results by verb classes show that native English speakers were sensitive to Sorace’s hierarchy. In the case of the nominal suffix *-er*, the native speakers assigned high mean ratings to the two grammatical core unergative classes

and a lower mean rating to the grammatical peripheral unergative class, which was not rated different from ungrammatical peripheral unaccusative class. This supports Sorace's hierarchy, which expects the grammatical core unergatives to be accepted more than grammatical peripheral unergatives which, in turn, are expected to be not different from ungrammatical peripheral unaccusatives.

In the case of *there*-insertion construction, the two grammatical core unaccusative classes, i.e. "change of location" (mean 3.56) and "change of state" (mean 4.09), but not the grammatical peripheral unaccusative class "existence of state" (mean 3.13), were rated higher than all ungrammatical unergative classes. This result support Sorace's hierarchy, which predicts grammatical core unaccusatives, but not peripheral ones, to be accepted more than ungrammatical unergatives.

As for the advanced learners, they show sensitivity to Sorace's hierarchy only in the case of the nominal suffix *-er*. They rated the two grammatical core unergative classes, i.e. "controlled non-motional" (mean 4.41) and "controlled motional" (mean 4.56), but not the peripheral unergative class, higher than the ungrammatical peripheral unaccusative class, i.e. "existence of state (mean 3.37). This finding supports Sorace's hierarchy, which predicts grammatical core unergatives, but not the peripheral ones, to be accepted more than the ungrammatical peripheral unaccusatives.

Intermediate learners were sensitive to the hierarchy only in the case of the adjectival suffix *-en*. They correctly rejected the two ungrammatical core unergative classes, but incorrectly accepted the grammatical peripheral unergative class. This result supports Sorace's hierarchy, which predicts the ungrammatical core unergatives

to be rejected more than the ungrammatical peripheral ones. As for elementary learners, they were not sensitive to the hierarchy in any of the three constructions we tested.

### 6. 5. 3. Results of passive and active constructions

In this section, we show the results of the passive and active constructions by semantic verb class. The aim of the analysis is to test the predictions of Deguchi and Oshita, who tried to integrate both the Unaccusative Trap Hypothesis and the Unaccusativity Hierarchy Hypothesis. Figure 8 shows the results of the passive construction, which is ungrammatical with both unaccusatives and unergatives.

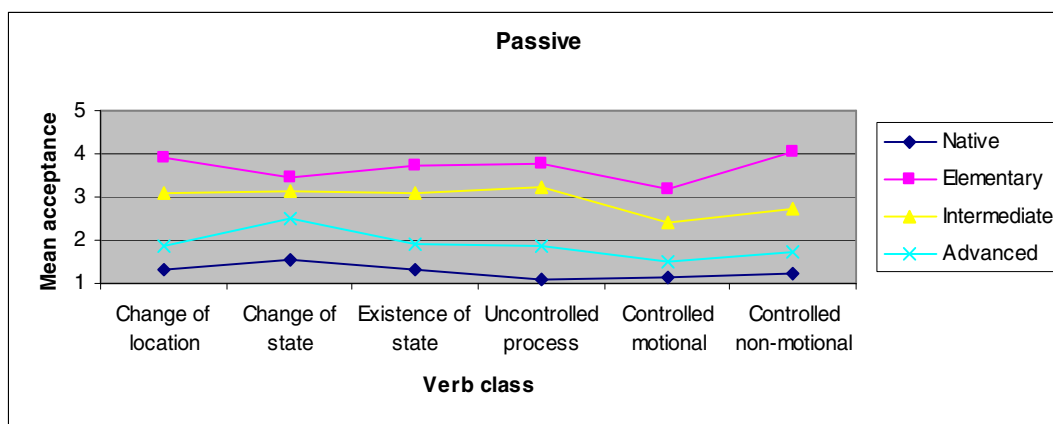


Figure 8: passive construction. Mean acceptance by verb semantic class for all the groups

If intermediate learners' tendency to passivize unaccusatives more than unergatives is influenced by the hierarchy as Deguchi and Oshita proposed, then the core unaccusatives are expected to be accepted more than peripheral ones, and the core unergatives are expected to be rejected more than peripheral ones.



The results showed that the core unaccusatives, i.e. “change of location” (mean 3.09) were not accepted more than peripheral unaccusatives, i.e. “existence of state” (mean 3.11), which goes against the original Deguchi and Oshita proposal. However, the two core unergative classes, i.e. “controlled non-motional” (mean 2.71) and “controlled motional” (mean 2.42) were rated lower than the peripheral unergative class, i.e. “uncontrolled process” (mean 3.23). This finding supports the above proposal, which predicts the core unergatives to be rejected more than peripheral ones in the passive construction.

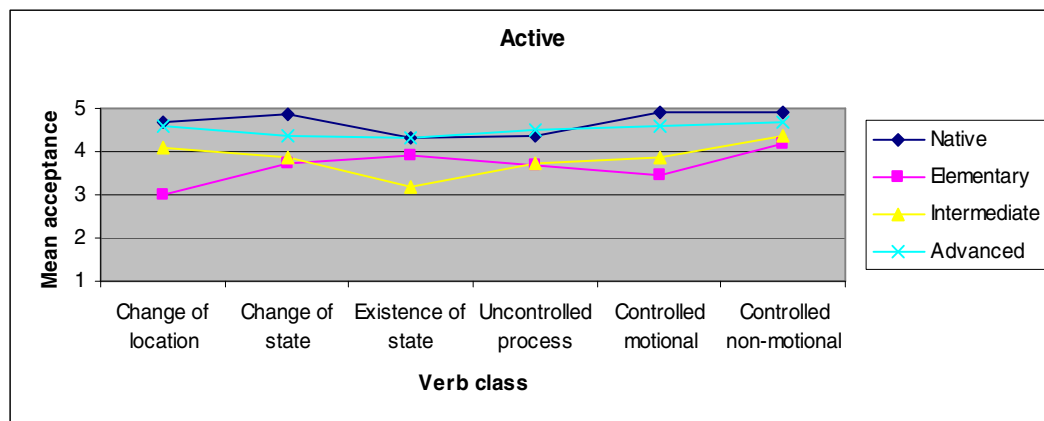


Figure 9: Active construction. Mean acceptance by verb semantic class for all the groups

Figure 9 shows the results of the active construction, which is grammatical with both unaccusatives and unergatives. If intermediate learners’ reluctance to accept unaccusatives more than unergatives in the active construction is influenced by the hierarchy as Deguchi and Oshita (2004) proposed in an extension to the Unaccusative Trap Hypothesis, then, the core unaccusatives are expected to be rejected more than

peripheral ones, and the core unergatives are expected to be accepted more than peripheral ones.

The results showed that the mean ratings that intermediate learners assigned to the unaccusative classes were not significantly different, which goes against the above proposal. However, they rated the core unergatives, i.e. “controlled non-motional” (mean 4.36) higher than peripheral unergatives, i.e. “uncontrolled process” (mean 3.73). This supports Deguchi and Oshita proposal because intermediate learners tended to accept the core unergatives more than peripheral ones in the active construction.

In summary, intermediate learners’ acceptance and rejection of unaccusative verbs and unergative verbs in the passive construction and the active construction were somewhat influenced by Sorace’s hierarchy as Deguchi and Oshita have proposed. In the passive construction, the peripheral unergative verbs were rated higher than core unergative verbs. This finding supports Deguchi and Oshita proposal because peripheral unergative verbs are expected, based on their proposal, to be accepted more than core unergative verbs in the passive construction. In the active construction, intermediate learners rated the core unergative verbs higher than peripheral unergative verbs. This finding also supports Deguchi and Oshita proposal because, based on their proposal, core unergative verbs are expected to be accepted more than peripheral unergative verbs in the active construction.

## 7. Discussion

The objective of this study was to test two general research questions. The first research question was whether Arabic speakers' acquisition of English unaccusatives would exhibit developmental patterns similar to those patterns predicted by the Unaccusative Trap Hypothesis (Oshita, 2001). The second research question was whether Arabic speakers' acquisition of English unaccusatives would be sensitive to Sorace's hierarchy (Sorace 2000 & Sorace and Shomura 2001).

With regard to the first research question, the acquisition of the intermediate and advanced groups but not the elementary group tended to exhibit the developmental patterns predicted by the Unaccusative Trap Hypothesis. As for the elementary group, they did not treat the two classes as unergatives as the Unaccusative Trap Hypothesis claims. They, for example, did not reject both unaccusatives and unergatives in the case of the adjectival suffix *-en*, *there*-insertion construction, and passive construction although unergatives were ungrammatical in these constructions. Both Montrul (2005) and Deguchi and Oshita (2004) found similar results. Montrul observed early English learners of Spanish accepting both unaccusatives and unergatives in participle absolute, bare plural, and passive constructions although unergatives were ungrammatical in these constructions. Deguchi and Oshita (2004) also found elementary Japanese learners of English incorrectly accepting both English unaccusatives and unergatives in passive although unergatives were ungrammatical in this construction.

If elementary Arabic learners of English in this study were really treating unaccusatives as unergatives with an underlying subject, they should have at least rejected unergatives in the ungrammatical constructions. However, they did not do so, suggesting that they did not treat unaccusatives as unergatives. I think they just accepted the two classes because they were not familiar with these constructions which proved to be somewhat difficult for other more advanced learner groups. I believe that they just needed more time to figure out these constructions depending on the positive evidence in the input especially if we take into consideration that these constructions are not taught in classrooms. I agree with Montrul who suggested that unaccusative-unergative syntactic distinction is universal, but languages vary from one to another in the syntactic reflexes of this distinction.

Although the elementary learners in this study did show a distinction between English unaccusatives and unergatives, I believe their interlanguage grammars were constrained by the Universal Grammar (UG) at least through their L1, which distinguishes between the two classes. However, an L1 transfer can not help here because although unaccusativity is universal, its syntactic reflexes in English and Arabic are not the same. Unlike English, the counterpart of the nominal suffix *-er* and the counterpart of the adjectival suffix *-en* in Najdi Arabic do not distinguish unaccusatives from unergatives and can be used with both classes. So, the results of elementary learners in this study can be considered as a transfer of L1 properties because they accepted these English suffixes with both classes as is the case in Najdi Arabic.

As predicted by the Unaccusative Trap Hypothesis, the results of the intermediate learners in this study showed that they had started restructuring their interlanguage grammars because they treated unaccusatives and unergatives differently in most of the constructions tested. The results showed that they treated the two classes differently with the nominal suffix *-er* and in *there*-insertion construction, but not with the adjectival suffix *-en*.

These results raise a question which is why intermediate learners distinguished unaccusatives from unergatives with the nominal suffix *-er* but not with the adjectival suffix *-en*. There are two possible reasons for this. First, the nominal suffix *-er* is more common in the input than the adjectival suffix *-en*. This is because the nominal suffix *-er* is more productive than the adjectival suffix *-en* in English. For example, the suffix *-er* can be used to refer to agentive nominals (e.g. *writer, reader, and speaker*) and to refer to non-agentive nominals (e.g. *heater, peeler, and toaster*). The second reason could be related to the syntactic structure involved in using the adjectival suffix *-en* which is more complex than that involved in using the nominal suffix *-er*. That is, the participle form with the suffix *-en* needs to be followed by a noun while the nominal suffix *-er* is just attached to the verb.

Moreover, intermediate learners' unaccusative-unergative distinction in the *there*-insertion construction, which is very rare in the input, was clearer than their distinction with the nominal suffix *-er*. The intermediate learners' clearer distinction in *there*-insertion construction could be explained by the Unaccusative Trap Hypothesis, which predicts that L2 learners at this stage tend to strongly associate the

internal argument to the object position and the external argument to the subject position. For learners at this stage, this construction is only possible with unaccusatives. This is because the external argument of unergatives can not be projected to the subject position which is already filled by the expletive *there* while the internal argument of unaccusatives can be projected to the object position.

If we take into consideration that the properties of unaccusatives and unergatives are not taught in classrooms and can not be learned from the positive evidence in the input, the results of the intermediate learners in this study suggest that their interlanguage grammars were constrained by UG. With the nominal suffix *-er*, although they did not reject ungrammatical unaccusatives, they rated them lower than grammatical unergatives. In the *there*-insertion construction, although they accepted ungrammatical unergatives, they rated them lower than grammatical unaccusatives. So, these results show that intermediate learners treated the two classes differently making a distinction between them in the right direction. I believe that intermediate learners' tendency to accept both unaccusatives and unergatives with the nominal suffix *-er* and the adjectival suffix *-en* could be influenced by a transfer of Najdi Arabic, where these two suffixes can be used with both unaccusatives and unergatives.

With respect to the passive construction, intermediate learners incorrectly accepted unaccusatives more than unergatives as predicted by the Unaccusative Trap Hypothesis at this stage. This result confirms the phenomenon of passive unaccusatives observed in L2 acquisition of English unaccusatives (Zobl, 1989; Yip, 1995; Hirakawa, 1995; Oshita, 1997). The intermediate learners' tendency to

passivize unaccusatives can not be considered as an effect of L1 transfer. This is because, in Najdi Arabic, both unaccusatives and unergatives can be used in passive form. As suggested by Zobl (1989) and Oshita (1997), it seems that the passive of unaccusatives is a marker of the movement of the internal argument to the subject position rather than an influence of the hierarchy in the auxiliary selection observed in some European languages as Yusa (2003) claims.

The Unaccusative Trap Hypothesis predicts intermediate learners to be reluctant to accept unaccusatives in the NP-V word order because they tend to associate the internal argument with the object position. The intermediate learners in this study did not show clear reluctance to accept unaccusatives in the active construction. Deguchi and Oshita (2004) also found similar results. They found intermediate learners passivizing unaccusatives but they did not find them reluctant to accept unaccusatives in the NP-V word order. Deguchi and Oshita (2004) suggested that the reluctance to accept unaccusatives in the NP-V word order should logically occur before the passive of unaccusatives.

However, does this mean when learners passivize unaccusatives, they should not be unwilling to accept them in the NP-V word order? In other words, does this mean when learners passivize unaccusatives, they should have already overcome the problem of associating the internal argument with the object position because they are at the stage of how to move the internal argument to the subject position? Yip (1995) found Chinese learners rejecting English unaccusatives in the NP-V word order (70) and changing them to be in the passive form (71). If the phenomenon of passive

unaccusatives entails getting rid of the reluctance phenomenon, why were these learners reluctant to accept unaccusatives in the NP-V word order and were at the same time passivizing unaccusatives? This issue needs to be further investigated.

(70) The mirror shattered during the last earthquake.

(71) \*The mirror was shattered during the last earthquake.

As predicted by the Unaccusative Trap Hypothesis, the results of the advanced learners indicated that they have restructured their interlanguage grammar more than intermediate learners and behaved to some extent like the native speakers. With respect to the nominal suffix *-er*, the advanced learners distinguished unaccusatives from unergatives. However, they showed a strong tendency to incorrectly accept unaccusatives with the nominal suffix *-er*, rating them high (mean 3.88). What is interesting is that even the native speakers did not clearly reject unaccusatives with nominal suffix *-er*. In fact, individual results showed that at least eight native speakers out of 15 accepted the nominal suffix *-er* with seven out of nine unaccusative verbs used in the task (i.e. *\*faller*, *\*arriver*, *\*escaper*, *\*emerger*, *\*appearer*, *\*riser*, and *\*remainder*), rating them (mean 3.00) or above. I believe the reason behind the acceptance of this suffix with unaccusatives is that advanced learners, and also native speakers but with a lower degree, had a strong tendency to overgeneralize the use of this suffix to unaccusatives. This could be because of the high productivity of this suffix in English.

Like the native speakers, the advanced learners' clearest distinction between unaccusatives and unergatives was with the adjectival suffix *-en*. They clearly accepted grammatical unaccusatives and clearly rejected ungrammatical unergatives.



This result strongly suggests that advanced learners had access to UG. This is because this distinction can neither be learned through the input nor through the negative evidence. However, this raises an interesting question which is why it was easier for advanced learners to distinguish unaccusatives from unergatives with the adjectival suffix *-en* than with the nominal suffix *-er*. This could probably be related to the degree of the ambiguity of these two suffixes in the input. The more productive the suffix is, the more ambiguous its distribution in the input becomes. Compared to the nominal suffix *-er*, the adjectival suffix *-en* is less productive in English which could have made the task easier for advanced learners to figure out which verbs go with the adjectival suffix *-en*.

The advanced learners' weakest distinction between unaccusatives and unergatives was in *there*-insertion construction. This could be attributed to the scarcity of this construction in the input because it is not commonly used by the native speakers. In contrast with the advanced learners, the native speakers clearly accepted the grammatical unaccusatives and clearly rejected the ungrammatical unergatives in *there*-insertion construction. Oshita (1997) investigated the distinction between unaccusatives and unergatives on this construction and found native English speakers incorrectly rejecting unaccusatives in this construction. Hirakawa (2000) attributed this result to a lack of naturalness in the sentences tested.

With respect to access to UG, the results of both intermediate and advanced learners show that their interlanguage lexical entries of unaccusatives and unergatives were constrained by UG. This is because they treated the two classes of verbs

differently and in the right direction in almost all diagnostic constructions tested. This suggests that these learners are aware of three types of information with regard to lexical entries of English unaccusatives and unergatives. First, they know that both unaccusatives and unergatives have only one obligatory argument. Second, they know that the theta role of the single argument of an unaccusative verb is a theme while the theta role of an unergative verb is an agent. Third, they also know the agent argument is projected as an external argument into the subject position while the theme argument is projected as an internal argument into the object position.

However, the results of intermediate learners show that they had difficulty in how to map the argument structure encoded in lexicon onto the syntactic structure. This was evident in their acceptance of unaccusatives in passive construction. This presumably indicates they know that the theme argument of unaccusatives is projected as an internal argument into the object position based on UTAH universal principles. However, the problem they have is the contradiction on the surface structure between UTAH universal principles and the existence of the theme argument in the subject position. The advanced learners overcame this problem presumably through the interaction between UG and the input that shows that the argument in all NP-V word order structures is in the subject position.

With respect to the results for Sorace's hierarchy, the native speakers in this study showed sensitivity to the hierarchy with the nominal suffix *-er* and in *there*-insertion construction. This clearly gives evidence that Sorace's hierarchy is universal and is not restricted to the auxiliary selection observed in Western European languages.

However, the native speakers showed sensitivity to the hierarchy only in the case of the grammatical classes but not in the case of the ungrammatical ones. This issue needs to be further investigated because it could be the case that Sorace's hierarchy is clearer with grammatical unaccusative and unergative classes than with ungrammatical ones.

The Arabic speakers did not show much sensitivity to Sorace's hierarchy. The elementary learners did not exhibit any sensitivity to the hierarchy because they did not discriminate between the semantic classes of the unaccusatives and unergatives in the constructions tested. This could be because the constructions were somewhat difficult for them especially the adjectival suffix *-en* and *there*-insertion construction. This probably did not help them to exhibit their sensitivity to the lexical semantics of the unaccusative and unergative verbs used in the task. Montrul (2005) also found the early English learners of Spanish not distinguishing the semantic classes of unaccusatives and unergatives and attributed this to the unfamiliarity of the tested constructions to them.

In the case of the nominal suffix *-er*, both the advanced and intermediate learners did not show much sensitivity to the hierarchy. What was probably sensitive to the hierarchy is only the advanced learners' rating of the two grammatical core unergative classes, but not the peripheral unergatives, higher than the ungrammatical peripheral unaccusatives. In fact, both the advanced and intermediate learners incorrectly accepted all unaccusative semantic classes, rating them all above (mean 3.00). I think both advanced and intermediate learners did not show much

sensitivity to the hierarchy because their sensitivity to the lexical meaning of unaccusative verbs was much influenced by their strong tendency to incorrectly generalize the use of the productive suffix *-er* to the unaccusative verbs.

In the case of the adjectival suffix *-en*, the intermediate learners showed sensitivity to the hierarchy. They correctly rejected the core ungrammatical unergatives, but incorrectly accepted the ungrammatical peripheral unergatives. So, they performed better on the core unergatives than on peripheral ones as Sorace's hierarchy predicts. In the case of *there*-insertion construction, none of the Arabic learner groups including the advanced group distinguished between any semantic classes of unaccusatives and unergatives. One possible reason for this is that *there*-insertion construction is not very common in the input, which makes the task harder for learners to figure out which verb semantic classes can be used in this construction.

Both Montrul (2005) and Sorace and Shomura (2001) did not show that their subjects had much sensitivity to Sorace's hierarchy. In Montrul (2005), both the advanced and intermediate English learners of Spanish showed some sensitivity to the hierarchy only in the case of the participle absolute construction. Sorace and Shomura (2001) found their English learners of Japanese showing sensitivity to Sorace's hierarchy only in the case of unergatives but not in the case of unaccusatives where the quantifier floating is ambiguous in the input, i.e. unaccusatives are grammatical with or without the quantifier floating.

On the other hand, Sorace (1993a) observed a clear sensitivity to Sorace's hierarchy in the acquisition of the Italian auxiliary selection. She found both English and French learners of Italian correctly accepting the core unaccusatives more than less core unaccusatives which in turn were accepted more than peripheral unaccusatives. The studies reviewed above suggest that it was difficult to observe a clear sensitivity to the hierarchy in languages like English, Spanish, and Japanese, while it was possible to observe a clear sensitivity to the hierarchy in the acquisition of unaccusatives in Italian.

One possible reason for this is that in Italian the syntactic reflexive of the unaccusativity, i.e. auxiliary selection, is clear and not ambiguous in the input. All the unaccusatives generally select the auxiliary *be* while all unergatives generally select the auxiliary *have*. This makes the task of acquisition easier for the L2 learner because all what he has to do is just to figure out the lexical meaning of the verbs that select the auxiliary *be* and the lexical meaning of the verbs that select the auxiliary *have*. However, in languages like English, the syntactic reflexes of unaccusativity such as the nominal suffix *-er* and the adjectival suffix *-en* are somewhat ambiguous in the input. These suffixes have many uses in English, making the task for the L2 learner harder than that of L2 learner of Italian.

With respect to the proposal of Deguchi and Oshita that learners' errors in the acquisition of unaccusatives and unergatives could be influenced by Sorace's hierarchy, the results of Deguchi and Oshita (2004) did not support their proposal. However, in the present study, the results of intermediate learners for the passive and

active constructions were somewhat influenced by Sorace's hierarchy. In the passive construction, the intermediate learners passivized the peripheral unergatives more than core unergatives as Deguchi and Oshita proposal predicts. In the active construction they accepted the core unergatives more than peripheral unergatives as the above proposal predicts.

## **8. Conclusion**

The study investigated the acquisition of English unaccusatives by Arabic speakers. The study tested two hypotheses proposed in literature to investigate the L2 acquisition of unaccusatives. The first hypothesis is the Unaccusative Trap Hypothesis (Oshita 2001). The second hypothesis is the Unaccusativity Hierarchy Hypothesis (Sorace 2000 & Sorace and Shomura 2001).

The Unaccusative Trap Hypothesis's claim that early learners treat the two classes of intransitives as unergatives proved to be not true in this study. Both Deguchi and Oshita (2004) and Montrul (2005) found similar results. This indicates that the Unaccusative Trap Hypothesis needs a revision with regard to this claim. Montrul (2005) argued that early learners should be sensitive to the unaccusative-unergative distinction because it is a universal phenomenon. So she conducted a follow-up study, simplifying the task in terms of the verbs and constructions. She found the early learners distinguishing unaccusatives from unergatives in some constructions. I think if we conduct a follow-up study simplifying our task like what Montrul did, we would find early learners distinguishing unaccusatives from unergatives.

Another issue regarding the Unaccusative Trap Hypothesis is that it is not clear how the hypothesis predicts that intermediate learners will be reluctant to accept English unaccusatives in the NP-V word order and, at the same time, predicts them to passivize unaccusatives. When intermediate learners passivize unaccusatives, this suggests that they do not associate the internal argument with the object position any more and their problem is only how to move the internal argument from the object position to the subject position. Logically speaking, when L2 learners passivize unaccusatives, they should be beyond the stage of being reluctant to accept the internal argument in the subject position. In the present study and Deguchi and Oshita (2004), the intermediate learners passivized unaccusatives but they were not reluctant to accept them in NP-V word order. However, Yip (1995) found Chinese learners of English reluctant to accept unaccusatives in the NP-V word order and, at the same time passivizing unaccusatives. The hypothesis does not explicitly explain how the phenomenon of reluctance and the phenomenon of passivizing can occur at the same time in the interlanguage grammar of L2 learners. It does not even say anything about the possibility of one phenomenon occurring before the other.

The results of Arabic learner groups in this study did not show a U-shaped pattern of development, where the early learners look on the surface better than intermediate learners and similar to the advanced learners. Unlike the advanced learners, the elementary learners did not reject ungrammatical unergatives with the adjectival suffix *-en* and in *there*-insertion construction. They also did not reject unaccusatives and unergatives in the passive construction as the advanced learners did.

With regard to Sorace's hierarchy, the native speakers in this study showed sensitivity to the hierarchy in the case of the nominal suffix *-er* and in *there*-insertion construction. This result is very important because it gives empirical evidence that Sorace's hierarchy is universal and is not restricted to the auxiliary selection observed in Western European languages.

The Arabic speakers did not show much sensitivity to the hierarchy. I believe the morphological reflexes of unaccusativity in English are not so clear in the input. That is, the suffix *-er* and the suffix *-en* have a number of uses in English, which makes the task harder for learners. L2 learners of English unaccusatives first need to observe that the nominal suffix *-er* and the adjectival suffix *-en* refer only to the internal and external arguments respectively, and then they need to figure out the common lexical meaning of the verbs that go with each suffix. The task for L2 learner of English unaccusatives is more difficult than the task for L2 learner of Italian which has consistency in the auxiliary selection.

In Montrul (2005), the English learners of Spanish did not show much sensitivity to the hierarchy. Sorace and Shomura (2001) also did not find English learners of Japanese sensitive to the hierarchy when testing the quantifier floating. However, in Sorace (1993a), both English and French learners of Italian showed a clear sensitivity to the hierarchy in their acquisition of the Italian auxiliary selection, which is clear and consistent in the input. These studies in addition to the present study suggest that the morphosyntactic properties of the target language may influence learners' sensitivity to the hierarchy.



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## Appendix A. Test Sentences Used in the Grammaticality Judgment Task

### 1. The nominalization suffix *-er*

#### 1. 1. Unaccusatives

##### *Unaccusatives: Change of Location*

1. The man fell off the ladder while trying to fix the lamp.  
\* **The faller seriously harmed his back and his legs.**
2. Few planes arrived at the airport due to the bad weather.  
\* **The arrivers at the airport were very few yesterday.**
3. Two dangerous prisoners escaped from the jail last night.  
\* **The escapers from the jail disappeared immediately.**

##### *Unaccusatives :Change of State*

4. Someone unexpected emerged from the big car yesterday.  
\* **The emerger from the big car was our friend, David.**
5. The judge asked John to appear in court yesterday.  
\* **The appearer swore in court to tell the truth.**
6. Two beautiful birds suddenly rose from that big tree.  
\* **The risers flew quickly away from the big tree.**

##### *Unaccusatives: Existence of State*

7. Some dinosaurs existed in this area 65 million years ago.  
\* **The existers in this area were extinct many years ago.**
8. I finished the exam quickly, but two students remained.  
\* **The remainers had difficulty finishing the exam.**
9. The doctor asked John to stay at home and not go out.  
\* **The stayer got very bored and wanted to go out.**

#### 1. 2. Unergatives

##### *Unergatives: Uncontrolled Process*

10. The chairman coughed too much in the meeting today.  
**The cougher went to the doctor after the meeting.**

11. My classmate had a cold, and he sneezed a lot in class.  
**The sneezer drank two glasses of lemonade yesterday.**

12. John shivered with cold when he went out yesterday.  
**The shiverer soon returned home to get his coat.**

*Unergatives: Controlled Process Motional*

13. David ran in the stadium for an hour without stopping.  
**The runner was really tired after an hour of exercise.**

14. The man walked in the morning to stretch his legs.  
**The walker felt really good after taking a walk.**

15. The little boy went to the beach and swam in cold water.  
**The swimmer got sick after swimming in the cold water.**

*Unergatives: Controlled Process Nonmotional*

16. William worked in his office for many hours yesterday.  
**The worker was tired from grating tests all afternoon.**

17. John sang all his popular songs at the party last night.  
**The singer stayed at the party until about midnight.**

18. The baby cried in his small bed for an hour last night.  
**The crier did not have milk for about six hours.**

## **2. The adjectival suffix -en**

### **2. 1. Unaccusatives**

*Unaccusatives: Change of location*

19. There were too many leaves under these big trees last fall.  
**The many fallen leaves were spread all over in the garden.**

20. KU had an orientation for the new students last Monday.  
**The recently arrived students joined the orientation.**

21. Three dangerous prisoners escaped from the jail last night.  
**The three escaped prisoners stole a car and drove away.**

*Unaccusatives: Change of State*

22. There was a plane crash in Thailand three years ago.  
**Newly emerged facts were on the news yesterday.**

23. Oxford University Press published a new book last week.  
**The recently appeared book was sold out at the bookstore.**
24. A lot of smoke recently rose from that chimney.  
**The recently risen smoke spread in the sky.**

*Unaccusatives: Existence of State*

25. Some dinosaurs lived in this wild area many years ago.  
**\* The old existed dinosaurs died many years ago.**
26. There were only three people in that meeting room.  
**\* The only remained people were Bill, John, and Mary.**
27. Many tourists stayed in Paris and London last summer.  
**\* The many stayed tourists were from various countries.**

2. 2. Unergatives

*Unergatives: Uncontrolled Process*

28. An old person coughed in the restaurant yesterday.  
**\* The old coughed person drank a glass of water.**
29. One beautiful lady sneezed in the restaurant yesterday.  
**\* The beautiful sneezed lady drank a glass of lemonade.**
30. A little boy shivered when he went out in the cold weather.  
**\* The little shivered boy put his coat on when he felt cold.**

*Unergatives: Controlled Process Motional*

31. An old man was running for two hours in the big stadium.  
**\* The old run man was tired after two hours of exercise.**
32. A few people walked in the new park yesterday morning.  
**\* The few walked people spent half an hour in the park.**
33. Two boys and two girls swam in the pond in the morning.  
**\* The four swum children were happy this morning.**

*Unergatives: Controlled Process Nonmotional*

34. The young man worked on the farm for ten hours yesterday.  
**\* The young worked man went home to relax at night.**
35. Two girls sang at the party at Victoria's house last night.  
**\* The two sung girls danced together at the party.**

36. The little child cried when his mother left for work.  
\* **The little cried child wanted to go with his mother.**

### **3. There-insertion construction**

#### 3.1. Unaccusatives

##### *Unaccusatives: Change of Location*

37. John and I were walking in downtown Lawrence yesterday.  
**Suddenly there fell a gold coin from a high building.**
38. Kasper was waiting for a tall man at the railway station.  
**Unexpectedly there arrived a short man at the station.**
39. We were watching big lions in their cages at the zoo.  
**Suddenly there escaped a big lion from its cage.**

##### *Unaccusatives: Change of State*

40. David was walking alone in the park yesterday evening.  
**Suddenly there emerged a little boy crying for help.**
41. I was driving my new car very fast yesterday.  
**Suddenly there appeared a man in front of me.**
42. We were looking at the big chimney on that small house.  
**Suddenly there rose a puff of smoke from the house.**

##### *Unaccusatives: Existence of State*

43. That wild area was very suitable for dinosaurs long ago.  
**Previously there existed several species of dinosaurs.**
44. The pilot asked all the passengers to get out of the plane.  
**Unexpectedly there remained three people chatting.**
45. John and his wife Mary spent all summer in Paris last year.  
**Interestingly there stayed tourists from many countries.**

#### 3.2 Unergatives

##### *Unergatives: Uncontrolled Process*

46. We were listening to the chairman in the meeting room. .  
\* **Suddenly there coughed one committee member.**



47. Mary was not comfortable in the classroom yesterday.  
\* **Frequently there sneezed a student who had a cold.**

48. It was warm when we went to the sandy beach yesterday.  
\* **Unexpectedly there shivered a little boy with cold.**

*Unergatives: Controlled Process Nonmotional*

49. I used to go to the stadium every Saturday morning.  
\* **Frequently there ran an old man with white hair.**

50. Most people did not like to walk in the dangerous park.  
\* **Unexpectedly there walked a young man yesterday.**

51. There was a very beautiful pond on this small farm.  
\* **Frequently there swam little boys and little girls.**

*Unergatives: Controlled Process Nonmotional*

52. Mary and I used to go to this shopping mall quite often.  
\* **Frequently there worked many university students.**

53. We went to Bill's birthday party at David's house.  
\* **Unexpectedly there sang a movie star for an hour.**

54. We were watching a horror film at the movie theatre.  
\* **Unfortunately there cried a little boy for an hour.**

#### **4. Passive construction**

##### 4. 1. Unaccusatives

*Unaccusatives: Change of Location*

55. Mary washed the kitchen floor with a lot of soap.  
\* **William was fallen down on the slippery floor.**

56. Bill went to the airport to pick up Susan last night.  
\* **The plane was arrived at the airport on time.**

57. The policemen looked for three prisoners yesterday.  
\* **The three prisoners were escaped from the jail.**

*Unaccusatives: Change of State*

58. There was an unusual car in front of my garage.  
\* **Two strange men were emerged from the car.**

59. Bill and Tom decided to meet at the library at 9:00 am.  
\* **Bill and Tom were appeared at the library on time.**

60. There was a fire in that gas station five months ago.  
\* **A lot of smoke was risen from it into the blue sky.**

*Unaccusatives: Existence of State*

61. My teacher asked me to look up a word in the dictionary.  
\* **That word was existed only in one English dictionary.**

62. Most of the committee members left the meeting room.  
\* **Only three members were remained in the room.**

63. My friend Bill woke up very late on Wednesday.  
\* **He was stayed in bed until 11 o'clock yesterday.**

4. 2. Unergatives

*Unergatives: Uncontrolled Process*

64. The young man smoked three packs of cigarettes.  
\* **The smoker was coughed too much last night.**

65. One of my good students had a severe cold yesterday.  
\* **The student was sneezed a lot in the classroom.**

66. The young man worked in the cold weather yesterday.  
\* **The young man was shivered because he felt cold.**

*Unergatives: Controlled Process Motional*

67. The man went to the big stadium yesterday morning.  
\* **The man was run for three hours and felt tired.**

68. There were many people in the park this morning.  
\* **John and his wife Mary were walked in the park.**

69. David and John decided to go swimming yesterday.  
\* **They were swum in the university swimming pool.**

*Unergatives: Controlled Process Nonmotional*

70. I decided to work for three extra hours yesterday.  
\* **I was worked very hard at my office yesterday.**

71. There was a singer at Bill's birthday party last night.  
\* **The singer was sung for two hours at the party.**

72. The child did not sleep well in his bed last night.  
\* **The child was cried because he was so hungry.**

## 5. NP-VP word order construction

### 5. 1. Unaccusatives

#### *Unaccusatives: Change of Location*

73. The little boy carried the beautiful vase carelessly.  
**The beautiful vase fell on the slippery floor.**
74. Bill invited many guests to his house two weeks ago.  
**All the invited guests arrived at his house on time.**
75. John and Mary kept a red parrot as a pet at their house.  
**The parrot escaped through the window yesterday.**

#### *Unaccusatives: Change of State*

76. John swam under the water in the swimming pool.  
**John emerged from the water after two minutes.**
77. John was writing an article about marriage last week.  
**The article appeared in the local newspaper today.**
78. The weather was very hot in Texas for three days.  
**The temperature rose to nearly ninety degrees.**

#### *Unaccusatives: Existence of State*

79. Few animals lived in this hot and mountainous area.  
**One species of big monkeys existed in this area.**
80. The class finished and almost everyone went home.  
**Two hard working students remained in the class.**
81. John and his wife went to the movie theater last night.  
**They stayed in the movie theater for two hours.**

### 5. 2. Unergatives

#### *Unergatives: Uncontrolled Process*

82. John took his younger brother Fred to the doctor.  
**Fred coughed too much in his bed last night.**

83. David went swimming in the cold weather today.  
**He sneezed after swimming in the cold weather.**

84. John and his little boy watched a lion in the zoo.  
**The boy shivered with fright in the zoo today.**

*Unergatives: Controlled Process Motional*

85. John and Bill were in the stadium in the morning.  
**They ran for half an hour without stopping.**

86. The weather was nice in the park yesterday morning.  
**John and his wife walked for an hour in the park.**

87. We went to the university swimming pool today.  
**We swam in the swimming pool for two hours.**

*Unergatives: Controlled Process Nonmotional*

88. John came late because he had much work to finish.  
**He worked very hard for many hours last night.**

89. There were two movie stars at the party last night.  
**The movie stars sang for one hour at the party.**

90. The little boy was sad when his mother traveled.  
**The little boy cried in his bedroom yesterday.**

**6. Filler Sentences (*Transitive verbs*)**

91. John's beautiful car was very dirty yesterday.  
**John washed the car with water and soap.**

92. William did not go to Bill's birthday party last night.  
**William visited his Chinese friend at the hospital.**

93. The English teacher gave William much homework.  
**William did all his English homework on time.**

94. John was very thirsty after running for two hours.  
**John drank a glass of water after running.**

95. Mary had a birthday party at her house last night.  
**Mary made a chocolate cake for her party.**

96. John did not eat for twelve hours and was hungry.  
**John ate two chicken sandwiches yesterday.**

97. David and Mary did not like the color of their house.  
**They painted their green house yellow yesterday.**
98. John and his friend David stayed at home yesterday.  
**They watched a good football game on the T.V.**
99. There were many oranges and apples in the kitchen.  
**\* William took two orange from the kitchen.**
100. David was typing his homework on the computer.  
**\* David typed three page and printed them.**