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**INVESTIGATING THE ROLE OF CAUSATIVIZATION IN
OVERPASSIVIZATION OF UN-ACCUSATIVE VERBS BY
IRANIAN ENGLISH MAJORS**

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Abstract

The current study aims at exploring the role of causativization as one of the causes stated in the literature for overpassivization of English unaccusatives in an Iranian context. The study was conducted using three data collection procedures, an Oxford Placement Test, a Grammaticality Judgment Task, and a Production Task. The results revealed that causativization errors with non-alternating unaccusatives were common errors among Iranian English Majors. Level of language proficiency was a significant factor in the learners' performance at both comprehension and production levels. There was a statistical significant correlation between the participants' performances in the causativization and passivization errors with non-alternating verbs. The obtained results made it clear that language learners encounter serious problems in the acquisition of the verbs, and that more exposure to language input, explicit teaching of the verbs structures, and practice in different contexts can improve the situation.

Keywords: alternating unaccusatives, causativization, non-alternating unaccusatives, overpassivization

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1. Introduction

Unaccusative Hypothesis, presented by Perlmutter (1978) for the first time and then expanded by Burzio (1986), points out that intransitive verbs are divided into two types: unergative and unaccusative verbs. Unergative verbs take an external argument, that is a deep structure subject with no direct object (e.g. They ran.), whereas unaccusative verbs take an internal argument, a deep-structure object which is located in subject position, and do not have any real subjects (e.g. They escaped). As shown in Table 1, unergative verbs have the same deep and surface structures but these structures differ in the case of unaccusative ones.

D-structure	S-structure
Unaccusative: [] [VP died [NP she]]	→ [NP she] _i [VP died [t] _i]
Unergative: [NP she][VP danced]	→ [NP she] [VP danced]

Figure 1. Deep and Surface Structure of Unaccusative and Unergative verbs (Ambridge, Pine, Rowland & Young, 2008, p. 94)

Levin and Hovav (1995) divided the unaccusative verbs into two categories: with and without transitive counterparts. Unaccusatives with transitive counterparts (e.g. 'break', 'open', 'melt') have an external and an internal argument: one is the agent and the other is the theme derived from causatives. Unaccusatives with no transitive counterpart (e.g. 'happen', 'fall', 'disappear') have two internal arguments: one is Theme and the other is Location, which is not always explicit.

In English when a verb or the preposition indicates a change of state or location, the causative construction is produced (Cabrera & Zubizarreta, 2005). This is true for alternating unaccusatives but not for non-alternating ones. Thus:

Alternating unaccusatives can take a cause:

Example 1: a. The glass broke.

b. John broke the glass.

Non-alternating ones cannot take a cause:

Example 2: a. The book disappeared

b. *He disappeared the book.

Based on the Immediate Cause Linking Rule, internally caused verbs cannot be lexically causativized (Levin & Hovav, 1995): e.g. Sara arrived. Because in these verbs the internal cause moves to the surface external argument position, whereas in the causative counterpart the surface external argument position is occupied by a real external cause: e.g. The wind closed the door. Since the external argument of the internally caused verbs has already been occupied by the underlying object, there is no place for an external cause, thus no causativization occurs. Pinker (1989) points out that only direct causation is expressed by transitive verbs, but the internal cause of the verbs which is located in the external argument position is not able to represent this direct causation because they lack causative sub-event. As referred to by Burzio (1986)'s Generalization, unaccusative verbs which do not have external argument cannot assign accusative case or, in other words, when a subject is not given a theta role by the verb, then accusative case is also not assigned to the object and when there is no object case, object moves to the subject position to be assigned a case.

Some researchers have a syntactic view about causative constructions (Travis, 2000; Hale & Keyser, 2002), but syntactic operations occur at the lexical level, which is the pre-syntactic level (Travis, 1991; Hale, Keyser, & Bromberger, 1993). Semantic predicates (CAUSE, BE, BECOME, STATE), thematic roles, and the number and type of verbal projections that create the event interact with each other and the result of the interaction determines the type of the verb. Based on this interaction the verbs are divided into eventive and non-eventive types. The eventive verbs have two verbal projections (VP), an upper and a lower VP; a CAUSE (the causing event) heads the upper VP and BECOME (the resulting state) heads the lower VP, whereas, there is just one VP in the non-eventive verbs; they have no upper CAUSE projection and just include the resulting state. Levin and Hovav (1995) maintain that the semantic properties of verbs determine their syntactic configuration and as a result their alternation (A point of view verified by Aue-Apaikul, 2006). They say that there is a CAUSE in the lexical decomposition of the alternating unaccusatives whereas non-alternating unaccusatives lack such a CAUSE. Chierchia (2004) concludes that

alternating and non-alternating unaccusatives are different in their lexico-semantic structures.

Some researchers believe that the underlying cause of the be + en structure is in fact the non-target lexical causativization (e.g. Balcom, 1995,1997; Hirakawa, 1995; Ju, 2000; Montrul, 1997, 1999;; Shomura, 1996; Yip, 1994, 1995). They argue that L2 learners go through a non-target lexical process and add a causer to the argument structure of the non-alternating unaccusatives, which is considered as an external argument, and in this way a non-target causative verb is created. Then the causativized structure is passivized. For example:

1. The rabbit disappeared. (Intransitive verb)
2. *The magician disappeared the rabbit. (Incorrect causativized form)
3. *The rabbit was disappeared. (Incorrect overpassivized form)

L2 learners encounter learnability problems with unaccusatives because, as referred to by Montrul (1999), mapping of lexico- conceptual structure onto lexico-syntactic structure requires syntax-semantic interface and acquiring this interface is time-consuming and occurs at the late stages of Second Language Acquisition (SLA) (Juffs, 1998; Levin & Hovav, 1995; Pinker, 1989). Levin and Hovav (1995) state that there are some specific semantic constraints which play the role of determinants in giving a CAUSE meaning to the lexico-semantic representation of transitive forms. Furthermore, the probable syntactic forms of the verbs are also determined by the semantic nature of the cause.

L1 lexical transfer and overgeneralization are considered as the probable factors affecting wrong causativization (see Examples 3 and 4). Second language learners (SLL), in the same way as child native speakers of any language, need to receive positive evidence in order to expand a rule. When they do not receive this positive evidence, they reduce their grammar and overgeneralize the rules to other structures. Thus they go through a wrong process and overgeneralize the causativizable verbs properties to non-causativizable verbs. The only way learners may avoid this overgeneralization is through receiving negative evidence. Therefore, overgeneralization occurs due to incomplete knowledge not wrong knowledge (Bowerman, 1988; Moore 1993). L2 English learners also

overgeneralize the passive construction with unaccusative verbs (Balcom, 1997; Ju, 2000; Zobl, 1989); these studies point out that overpassivization occurs not just for the effect of L1 morphology but for the effect of argument structure and pragmatic factors, also.

Example 3: L1 transfer: Madar sara ra be madrese resand. (Farsi)

* Mom arrived Sara to school. (L1 negative transfer)

Example 4: L2 overgeneralization:

The door closed. He closed the door.

The vase fell. * He fell the vase.

There are some contradictory views on the role of L1 in SLA. Montrul (2001a) claims that based on the Full Transfer Hypothesis (FTH) (Schwartz and Sprouse, 1994, 1996) L2 learners in the early acquisition stages fully transfer L1 system to L2. Moore (1993) maintains that L2 learners may not transfer the L1 rules but transfer the L1 semantic constraints. On the other hand, Montrul (1997, 1999, 2001a) states that L1 transfer is not responsible for causative overgeneralization; she believes that the learner's lack of knowledge of the lexico-semantic features is the main determinant of alternating verb classes. But Moore (1993) and Cabrera and Zubizarreta (2003) concluded that the learners' tendency to causativize non-alternating unaccusatives more than unergatives reveals that they are under the influence of lexico-semantic verb properties of their L1 causative alternation. Montrul (2001b) states that L1 transfer plays a role in some parts but not in all parts of L2 acquisition.

The present research is an attempt to investigate the probable role of causativization of unaccusatives by Iranian English majors as one of the factors leading to the overpassivization of these verbs. The results of the study will have contribution in our better understanding of this common error reported to be a problematic area for many second language learners irrespective of their L1. The results can also expand the theory and enrich the related literature. The lack of adequate literature on this issue and the absence of any work done in Iran justify the significance of the study even more. From a practical point of view, it is significant since recognizing the key factors in causativization errors and providing practical implications will be helpful for L2 learners not to commit the errors which, in turn, will lead

to their correct use of English unaccusative verbs. English language teachers may find the results of this study helpful in promoting their teaching quality by adapting the techniques and procedures they use in their classes, and in so doing help their learners avoid causativization errors and subsequently overpassivization.

2. Literature Review

Subsequently after the presentation of the Unaccusative Hypothesis by Perlmutter (1978) in which intransitive verbs were divided into two unergative and unaccusative types, different investigations have been made in order to examine the learners' performance and tackle the problems they had in using the unaccusative verbs. Discourse-pragmatic factors, L1 influence, the effect of verbs semantic class and transitivity are among the factors investigated by different researchers. The following section briefly reviews some of these studies.

Ju (2000) investigated the role of the discursal conceptualizable agents in the overpassivization of the unaccusatives by the second language learners. The results of the study indicated that there was a significant difference in the overpassivization of the verbs in the externally caused and the internally caused events. But there was no significance difference between the alternating and non-alternating unaccusatives. The results revealed that a cognitive factor such as the conceptualizable agent might play a role in the overpassivization phenomenon.

Kondo (2005) also investigated the overpassivization in the second language learning with a focus on the conceptualizable agent and L1. The participants were native Japanese and Spanish learners of English. Notwithstanding with Ju's results, he concluded that contextual factors do not determine the overpassivization in English. The results also indicated that the degree of directness of causation in the events determines the difference between overpassivization of the two alternating and non-alternating unaccusative verbs. He found that the unaccusatives were overpassivized more than the unergatives and that the learners' proficiency level played a significant factor in their correct use of these verbs.

Chung (2014) investigated the role of discourse, semantics and L1 morphological influence. The participants were Korean and Chinese learners of English. The results of a forced-choice elicitation task indicated that condition and level of language proficiency and L1 play an important role in making overpassivization errors with unaccusatives. The most problematic condition for the learners was external causation.

The effect of L1 on the acquisition of unaccusative verbs was investigated by López (2008). He, in his qualitative study, aimed to find errors in the production of English unaccusative verbs by Spanish learners. The results of the study revealed that L1 structures were not re-lexicalized in L2 structures. In general, the researcher found that the learners' L1 greatly affected the acquisition of the English unaccusative structures and that the correct understanding of these structures in the target language played a crucial role in the correct perception and production of these structures.

Montrul (1997) studied transitivity alternation in second language acquisition in English, Spanish and Turkish to examine L2 learners' transitivity errors with unaccusative and unergative verbs and their L1 influence on the acquisition of L2 derivational morphology of alternating verbs. The results showed that in all three studies participants accepted transitive verbs more accurately than intransitive ones. Errors of transitivity with the transitive and intransitive non-alternating verbs occurred in all studies irrespective of the participants' L1; this is an indicator of developmental nature of these errors. Errors mostly occurred at the lower levels of language proficiency. The effect of L1 was significant at the morphological level.

Moore (1993) investigated acquisition of the causative alternations by second language learners of English in three experiments. He focused on overgeneralization as the main cause of wrong causativization. He found a significant difference between causativizable and non-causativizable verbs in all three experiments. Proficiency, L1 influence, and verb type proved to be significant.

Montrul (1999) studied causative errors with unaccusative verbs in L2 Spanish. The results indicated that L2 learners of Spanish made causative errors with unaccusative and unergative verbs and Turkish-speaking and

English-speaking learners of Spanish at the intermediate level of proficiency accepted the causative errors with intransitive verbs as natural. Overgeneralization of the structures of the transitive verbs was stated as the main reason of the error, where a cause is added to the structure. The results also suggested that L1 plays a more crucial role with the morphology of the intransitive verbs rather than with the argument structure of different subclasses of intransitive verbs.

Cabrera and Zubizarreta (2005) investigated overgeneralization of causatives and transfer in L2 Spanish and L2 English. The results of the study indicated that the participants in both groups at all proficiency levels (especially beginners) had problems with non-alternating unaccusatives and unergatives. The authors also found that overgeneralization (and undergeneralization) of causatives can be due to transfer of different L1 properties at different levels of proficiency. Both groups of L2 learners accepted more lexical causatives with verbs encoding change. The authors argue that change of state/location is a relevant semantic factor in the characterization of the verb classes, a factor that underlies the lexical causative construction in English and Spanish. Thus, this study shows that, in a specific state of interlanguage, all linguistic domains are not influenced by L1 in exactly the same way.

The researchers' attention to the L2 acquisition of the unaccusatives reveals the importance of the present study. The unaccusativity acquisition and the various factors affecting it have been examined so far: factors such as the L1 lexical and morphological influence and discourse- pragmatic factors. However, the researcher did not find an adequate literature on the role of the non-target causativization in L2 overpassivization of the intransitive verbs.

Regarding Persian learners of English, to the researchers' knowledge, no Iranian researcher has ever ventured to investigate this non-target causativization by Persian-speaking learners of English. Since overpassivization is considered a widespread problem in the L2 acquisition and because causativization, as one of the overpassivization reasons, lacks investigation especially among the Persian EFL learners, we decided to investigate the Iranian English Majors' preferences in causativizing the

unaccusative verbs which, in turn, may lead to their overpassivization. The researchers compare the production and comprehension of the causativization of the unaccusative verbs among three groups of learners: lower intermediate, upper intermediate and advanced Iranian English Majors; in this regard, the present study could be considered the first research done in Iran recently.

3. Statement of the Problem

Relevant literature shows that second language learners (SLLs) encounter learnability problems with intransitive verbs (Burzio, 1986; Levin & Hovav, 1995; Van Valin, 1990; Cabrera & Zubizarreta, 2005; Chay, 2006, among others). The most common problem regarding unaccusative verbs arises when L2 learners use these verbs in passivized forms. This wrong passivization of unaccusatives is called “overpassivization” (the term used for the first time by Yip, 1990). For example:

- The most memorable experience of my life *was happened* 15 years ago.
- Most of people *are fallen* in love and marry with somebody.
- My mother *was died* when I was just a baby. (Zobl, 1989: 204, 1–3)

Overpassivization occurs due to some factors such as syntactic NP movement (Balcom, 1997; Oshita, 1997; Zobl, 1989), L1 influences (Juffs, 1998; Oshita, 2000) conceptualizable agent (Ju, 2000) and deficit lexicosemantic knowledge (Montrul, 1997, 1999, 2001a). In the present study another probable reason of passivization of unaccusatives is explored, i.e. “non-target lexical causativization” (Oshita, 2000, p.293). This issue occurs when L2 learners mistakenly causativize the unaccusative form and then passivize it which leads to unaccusative errors. Oshita (2000, p.301) shows the above mentioned process as below:

- Unaccusative argument structure: (\emptyset <y>)
- \bar{U}^* causativization: addition of x
- Causative argument structure: (x <y>)
- \bar{U} passivization: suppression of x
- Passive argument structure: (x = % <y>)

This problem is a widespread one among SLLs irrespective of their L1 but lacks enough investigation in different L2 contexts and, to the

researcher's knowledge, no study has ever investigated causativization of English unaccusatives by Iranian English learners. Therefore, studies like this will have an original contribution to the understanding of the non-target overpassivization of unaccusative verbs among L2 learners of English.

3.1 Research questions

The following research questions are tapped in this study:

RQ1. Is there a significant difference between the causativization errors with alternating and non-alternating unaccusatives?

RQ2. Is there a significant relationship between the acceptance of causativization and overpassivization errors of unaccusatives?

RQ3. Does the level of language proficiency make a significant difference in the comprehension and production of causativization errors?

3.2 Research hypothesis

H01. The rate of causativization errors with alternating unaccusatives is not significantly different from that of non-alternating unaccusatives.

H02. The rate of the acceptance of the wrong causativization is not significantly different from that of the overpassivization.

H03. The level of language proficiency does not make a significant difference in the comprehension and production of the causativization of the unaccusatives.

4. Method

The current study employs a quantitative- non-experimental design in which three tests were used to gather the data required for answering the research questions. The participants were selected through convenient cluster sampling.

4.1 Participants

A total number of 159 students took part in the study. They were selected from the students studying English Literature and Translation at Vali-e-Asr and Shahid Bahonar universities in Rafsanjan and Kerman, respectively (Kerman Province, Iran) in the second semester of the academic year (2014-

2015) when the study was conducted. Following an initial examination of the results of the tests given, 20 students were excluded because they had not completed the tests given. The remainder were 139 including 21 males and 118 females whose answers were analyzed. Their age ranged from 18 to 35 with the average of 20. Table 1 shows the summary of the statistics.

Table 1. Summary of the statistics regarding the participants

Number of participants	139 = 100%	
Male	21 = 15.1 %	
Female	118 = 84.89 %	
Age	Min	18
	Max	35
	Mean	20.73

4.2 Instruments

4.2.1 Oxford placement test (OPT)

An OPT (version 1995) was administered to determine the participants' level of language proficiency. The test consisted of 100 grammatical multiple choice items. After administering the test, using the answer key, the scores were calculated out of 100. Each item was assigned one score. By putting the obtained scores in the related score band, the participants were divided into three groups: lower intermediate (Lower I), upper intermediate (Upper I) and advanced (AD). Table 2 summarizes the results.

Table 2. Proficiency scores

	Frequency	Minimum	Maximum
LI	40	60	66
UI	76	67	74
AD	23	75	82
Total	139	60	82

As indicated by the manual of the OPT, all the items in the test, used by the researcher in the current study, were derived from the standardized tests such as the Cambridge University Examinations Syndicate and the British Council in which lexicon and level of language difficulty have exactly been controlled.

6.2.2 Grammaticality judgment task (GJT)

A GJT was used to check the participants' ability in comprehending correct unaccusatives, causativization errors and also overpassivization. The task was adapted from Hirakawa (2000). It consisted of 24 items. Each item had a short context followed by four sentences, including a causativized and a passivized sentence, a grammatically correct sentence and also a null subject sentence. The verbs used in the task were 24 intransitive verbs, including eight alternating, eight non-alternating unaccusatives and eight unergatives. The test takers had the option to accept or reject the given sentences through judging them as grammatically possible or impossible. Example (5) is an illustration for one of the items used:

Example (5):

Yesterday, there was a meeting in the new oil company. It ended at noon and most of the committee members left the meeting room. But.....

- a) the chairman remained three members in the room ()
- b) three members were remained in the room. ()
- c) three members remained in the room ()
- d) remained three members in the room ()

The unaccusative verbs were chosen from the list presented by Ju (2000). They are the most frequently overpassivized unaccusative verbs verified by Yip (1990) and Oshita (1997) too. The verbs were distributed randomly in the task.

4.2.3 Short constructed response task (SCRT)

A short constructed-response task was administered in order to check the participants' rate of causativization of unaccusatives. The test included 24 items adapted from Helms-Park (1997). Its reliability index was 0.84 and was verified by three experts in the field. Each item started with a short context and was followed by a sentence with a cause. The test takers had to fill in the gaps with the verbs given wherever possible. Example (6) shows one of the given items.

Example (6):

I have always been interested in magic works and wondered how a magician a rabbit. (Disappear)

The verbs were the same as the ones used in the GJT and their corresponding items were distributed randomly in the test.

4.3 Procedure

Initially, the test tasks were piloted with a convenient sample of 24 subjects chosen from the target population. The results showed acceptable reliabilities for the tests. The Cronbach alpha indexes of reliability for the OPT, the SCRT and the GJT were .81, .81, and .90, respectively. Then, after giving appropriate instructions to the participants, the tests were administered to the main study sample in two separate sessions, the OPT in the first session and the SCRT and the GJT in the second session.

5. Results

The following results were obtained by the analysis of the data using the SPSS software (version 21). The results are presented and analyzed in the order of the research questions (RQ).

5.1 RQ1: Is there a significant difference between the participant's causativization errors with alternating and non-alternating unaccusatives?

The paired-sample t-test results showed that Iranian English Majors made causativization errors with unaccusative verbs, both at the production and comprehension levels. The paired-sample t-test indicated that at the production level, the participants performed significantly better in alternating verbs ($M=17.55$, $SD= 1.9$) than the non-alternating ones ($M=9.21$, $SD= 5.7$) with $t(138) = 15.48$, $p < .0005$ (two-tailed) (Tables 3). The eta squared was .6 which is an indicator of a large effect size (based on Cohen, 1988, pp.284-7). The participants' performance on the comprehension tasks was statistically significant with the alternating verbs ($M= 13.45$, $SD= 3.8$) but not with the non-alternating ones ($M= 9.08$, $SD= 5$) with $t(138) = 7.96$, $p < .0005$ (two-tailed) (Table 4). The eta squared of .1 indicated a large effect size.

Table 3. Paired sample statistics for the production and comprehension of unaccusative verbs

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	SumPA	17.55	139	1.984	0.168
	SumPN	9.21	139	5.782	0.49
Pair 2	SumCA	13.45	139	3.894	0.33
	SumCN	9.08	139	5.037	0.427

Note: PA=production of causativization in alternating verbs, CA= comprehension of causativization in alternating verb, PN=production of causativization in non-alternating verbs, CN=comprehension of causativization in non-alternating verbs

Table 4. Paired sample statistics for the production and comprehension of unaccusative verbs

		M	SD	SEM	t	df	Sig.
Pair 1	SumPA - SumPN	8.345	6.353	0.539	15.488	138	0
Pair 2	SumCA - SumCN	4.371	6.47	0.549	7.964	138	0

5.2 RQ2: Is there a significant relationship between the acceptance of the causativized and overpassivized unaccusatives in the different levels of language proficiency?

The results of Pearson product-moment correlation coefficient revealed that there was a small positive correlation between the acceptance of the causativization and passivization errors of alternating unaccusatives, $r = .18$, $n = 139$, $p < .05$ (Table 5).

Table 5. The correlation between the participants' performance in the acceptance of causativization and passivization of alternating unaccusatives

		SumCA	SumCPA
SumCA	Pearson Correlation	1	.181*
	Sig. (2-tailed)		0.033
	N	139	139
SumCPA	Pearson Correlation	.181*	1
	Sig. (2-tailed)	0.033	
	N	139	139

Note. CPA= Comprehension of Passivization of Alternating Unaccusatives. $*p \leq .05$
 $r = .10-.29$ _ small correlation coefficient
 $r = .30-.49$ _ medium correlation coefficient
 $r = .50-1.0$ _ large correlation coefficient

With regard to the non-alternating unaccusatives, the results of Pearson product-moment correlation coefficient indicated that there was a positive medium correlation coefficient between the acceptance of the causativized and overpassivized verbs , $r = .39, n = 139, p < .05$ (Table 6).

Table 6. The correlation between the participants’ performance in the acceptance of causativization and passivization in non- alternating unaccusatives

		SumCN	SumCPN
SumCN	Pearson Correlation	1	.391**
	Sig. (2-tailed)		0
	N	139	139
SumCPN	Pearson Correlation	.391**	1
	Sig. (2-tailed)	0	
	N	139	139

5.3 RQ3. Does level of language proficiency make a significant difference in the comprehension and production of the causativization errors?

Table 7 depicts the participants’ performance in the comprehension of causativization in the alternating unaccusatives: Lower intermediate: $M = 13.38, SD = 3.7$; Upper intermediate: $M = 13.16, SD = 4$; Advanced: $M = 14.57, SD = 3.6$ with total $M = 13.45, SD = 3.8$. The results of one way analysis of variance (ANOVA) indicated that there was no statistically significant difference at the $p > .05$ level between the performance of the three mentioned groups with $F(2,136) = 1.16, p = 0.3$ (Table 8).

Table 7. Comparing the participants' performance in production of the causativization of the alternating unaccusatives

SumCA			
	N	Mean	SD
Lower I	40	13.38	3.779
Upper I	76	13.16	4.008
Advanced	23	14.57	3.666
Total	139	13.45	3.894

Table 8. ANOVA results for the alternating unaccusatives

SumCA					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	35.314	2	17.657	1.167	0.314
Within Groups	2057.132	136	15.126		
Total	2092.446	138			

With regard to the non-alternating unaccusatives the means of the correct performance were as following: the lower intermediate: $M= 8.25$, $SD= 4.28$; upper intermediate: $M= 8.65$, $SD=5.15$; Advanced: $M= 11.96$, $SD= 5$ with the total $M= 9.8$, $SD= 5$ (Table 9).

The ANOVA result revealed that there was a statistically significant difference between the performance of the groups at the $p<.05$ level with $F(2,136) = 4.821$, $p= 0.009$ (Table 10). Eta squared was .06 which, based on Cohen (1988, pp.284-7), is considered as a medium effect.

Table 9. Comparing the participants' performance in production of the causativization of the non-alternating unaccusatives

SumCN			
	N	Mean	SD
Lower I	40	8.25	4.282
Upper I	76	8.65	5.155
Advanced	23	11.96	5.054
Total	139	9.8	5.037

Table 10. ANOVA results for non-alternating unaccusatives

SumCN					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	231.832	2	115.916	4.821	0.009
Within Groups	3269.966	136	24.044		
Total	3501.799	138			

Post-hoc comparison using the Tukey HSD revealed that the mean score of the advanced group was significantly different from those of the lower and upper intermediate groups at $p < .05$ level with $P = .01$; but the intermediate groups did not perform significantly differently at the $P > .05$ level with $p = .9$ (Table 11).

Table 11. Post-hoc analysis for non-alternating unaccusatives

Tukey HSD					
(I) L	(J) L	Mean Difference (I-J)	Std. Error	Sig.	
Lower I	Upper I	-0.401	0.958	0.908	
	Advanced	-3.707*	1.283	0.012	
Upper I	Lower I	0.401	0.958	0.908	
	Advanced	-3.305*	1.167	0.015	
Advanced	Lower I	3.707*	1.283	0.012	
	Upper I	3.305*	1.167	0.015	

* The mean difference is significant at the 0.05 level.

As shown in Table 12, the participants' performance on the production task in alternating unaccusatives, were as it follows: Lower intermediate: $M = 17.75$, $SD = 2.45$; Upper intermediate: $M = 17.034$, $SD = 1.7$; Advanced: $M = 17.93$, $SD = 1.94$ with total $M = 17.55$, $SD = 1.98$. The results of the ANOVA indicated that there was no statistically significant difference at the $p > .05$ level between the performance of the three groups with $F(2,136) = 1.08$, $p = 0.34$ (Table 13).

Table 12. Comparing the participants' performance in production of the causativization of the alternating unaccusatives

SumPA			
	N	Mean	Std. Deviation
Lower I	40	17.75	2.455
Upper I	76	17.34	1.7
Advanced	23	17.93	1.944
Total	139	17.55	1.984

Table 13. ANOVA results for the production of the alternating unaccusatives

SumPA					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	8.499	2	4.25	1.081	0.342
Within Groups	534.846	136	3.933		
Total	543.345	138			

In the case of non-alternating unaccusatives the means of the correct performance were as the following: the lower intermediate: $M= 8$, $SD=6$; upper intermediate: $M=8.75$, $SD=5.7$; Advanced: $M=12.83$, $SD=5$ with the total $M= 9.21$, $SD=5.7$ (Table 14). The ANOVA result indicated that there was a statistically significant difference between the performance of the groups at the $p<.05$ level with $F(2,136) = 6.02$, $p= .003$ (Table 15). Eta squared value was .008 which, based on Cohen (1988, pp.284-7), is considered as a medium effect.

Table 14. Comparing the participants' performance in production of the causativization of the non-alternating unaccusatives

SumPN	N	Mean	Std. Deviation	Std. Error
Lower I	40	8	6.05	0.957
Upper I	76	8.75	5.766	0.661
Advanced	23	12.83	3.792	0.791
Total	139	9.21	5.782	0.49

Table 15. ANOVA results for the production of the non-alternating unaccusatives

SumPN	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	375.395	2	187.698	6.024	0.003
Within Groups	4237.554	136	31.158		
Total	4612.95	138			

As indicated by the post-hoc comparison using the Tukey HSD, the mean score of the advanced group was significantly different from the lower and upper intermediate groups at $p < .05$ level; but the intermediate groups performed the same at the $p > .05$ level.

Table 16. Tukey post Hoc analysis for the production of the non-alternating unaccusatives

(I) Pscore (Binned)	(J) Pscore (Binned)	Mean Difference (I-J)	Std. Error	Sig.
Lower I	Upper I	-0.75	1.09	0.771
	Advanced	-4.826*	1.461	0.003
Upper I	Lower I	0.75	1.09	0.771
	Advanced	-4.076*	1.328	0.007
Advanced	Lower I	4.826*	1.461	0.003
	Upper I	4.076*	1.328	0.007

6. Discussion and Conclusion

According to the obtained results of the study, the main questions of the research are presented and discussed below in turn.

6.1 The rate of causativization errors with alternating unaccusatives

In the present study, the results indicated that Iranian English Majors made errors in both production and comprehension of causativization of alternating and non-alternation unaccusatives; since these errors differ in nature, errors with non-alternating verbs occur at a higher rate; in the case of alternating unaccusatives, the causativized verbs are grammatically correct and their decausativizationⁱ makes problem in special contexts but causativized non-alternating ones are considered ungrammatical. The

findings were in line with Moore, 1993; Balcom, 1995, 1997; Hirakawa, 1995; Ju, 2000; Montrul, 1999; Shomura, 1996; and Yip, 1994, 1995. Thus hypothesis one was rejected based on the obtained results. One of the probable reasons for the high rate of errors in comprehension and production of non-alternating unaccusatives is reported to be L1 influence (Cabrera & Zubizarreta, 2003; Juffs, 2000; Montrul, 2001; Moore, 1993; White, 2003) and overgeneralization (Bowerman, 1988; Zobl, 1989; Moore, 1993; Balcom, 1997; Ju, 2000; Ambridge et al., 2008). SLLs are likely to transfer L1 properties to L2 especially at the beginning levels of learning. In other words, they may overgeneralize the properties of one class of verbs to another class, in this case the causativizable verbs properties to non-causativizable ones. The reverse process also occurs for causativizable verbs. Cabrera and Zubizarreta (2005) and Sahragard, Sadighi, and Abbasi (2010) also found that the participants experience more problems with non-alternating unaccusatives than with alternating ones. But Ju (2000) found no significance difference between alternating and non-alternating unaccusatives in error making. The findings of the present study provided support for Transitivity Hypothesis (Balcom, 1997; Hirakawa, 1995; Ju, 2000; Montrul, 2004; Shomura, 1996; and Yip, 1995). According to this hypothesis learners experience more problems with non-alternating unaccusatives while acquiring the language (Cabrera and Zubizarreta, 2005). L2 learners go through a process of non-alternating verbs causativization first by considering the given verb as a causative one and then adding a causer to it, as an external argument (x), then the produced verb is passivized by the suppression of the external argument (Balcom, 1997).

6.2 The correlation between causativization and passivization errors

The results indicated that in the case of alternating verbs the participants' performance in causativization was not highly correlated with their performance in passivization errors with $r = .18$, which is considered a small index based on Cohen (1988, pp. 79-81). Calculating the coefficient determination (the squared of correlation index) revealed that the two variables just share 3.24 percent of their variance. But with regard to the non-alternating verbs the performance in the causativization was moderately

correlated with the performance in the passivization with $r = .39$ which, based on the Cohen (1988)'s index, is a medium correlation. The coefficient determination revealed that the two variables share 15 percent of their variance in non-alternating verbs. Thus the second hypothesis was rejected. There is a dearth of literature in this area but in general the findings were in contrast to those arrived at by Montrul (1997; 1999) who found no significant relationship between the two variables and in line with Yip (1994; 1995) and Balcom (1997), who considered causativization errors as a prerequisite of passivization errors with unaccusative verbs.

6.3 The effect of the level of language proficiency

The ANOVA analysis indicated that level of language proficiency had not significantly affected the participants' performance on production and comprehension of alternating unaccusatives. No proficiency effect was also found by Ambridge et al. (2008) and Sahragard et al. (2010). But with regard to the production and comprehension of non-alternating unaccusatives, as indicated by the results, the intermediate groups performed the same but the advanced group outperformed them. In this case, the level of language proficiency proved to be moderately effective with effect size of .06 and .08 for at the production and comprehension levels, respectively. These results were in line with Chung (2014); Kondo (2005); Moore (1993); and Rezai and Aryamanesh (2012), who also found the level of language proficiency an affecting factor on the learners' performance. Moore (1993), in his experimental study, concluded that level of language proficiency affected the production and comprehension of some particular verbs. Kondo (2005) also pointed out that proficiency was a determining factor in unaccusative errors and advanced learners had a native-like performance and used most of the verbs correctly in their given contexts. The findings about non-alternating unaccusatives supported the Oshita's (2000) Unaccusativity Trap Hypothesis (UTH) which refers to three stages in acquiring unaccusatives: 1. Learners are unable to distinguish unaccusative from unergative verbs 2. Learners are more likely to produce ungrammatical passive unaccusatives and they do not accept NP- V word order. 3. Learners recover from non-target unaccusatives use and overpassivization and acquire

the target form and are able to use “there”- insertion structures for the unaccusatives. Montrul’s (1999) study also provides support for the UTH but it is not supported by Deguchi and Oshita, 2004; Aldosari, 2007. EH (Braine & Brooks, 1995) was also supported in that more exposure to target input helps learners to make fewer errors because in this case the verbs are repeated frequently and the probability of production and acceptance of erroneous overgeneralization decreases. This hypothesis was also supported by Brooks et al., 1999; Theakston, 2004; and Ambridge et al., 2006. Therefore the third hypothesis was rejected in regard to alternating unaccusatives but accepted regarding non-alternating ones. The results also indicated that Iranian learners in this study did not show a U-shape pattern of development where beginners and advanced learners have native-like performance but the intermediate ones transgress from the native-like performance which is in line with Aldosari (2006) and contrary to Montrul (1999).

7. Practical Implications

Theories alone are not enough, and they need to put in practice and have implications for classroom teaching and learning (Hatch & Brown, 1995). L2 learners’ exposure to the input through classroom discussions and extensive reading can play a crucial role in expanding their vocabulary knowledge (Krashen, 1989; Stoller & Grabe, 1993). But it is believed that just exposure cannot be considered as a guarantee for perfect vocabulary learning; teachers and learners must use some activities too in order to complete the learning process (Morgan & Nation, 1990). In addition, syntactic properties of verbs must consciously be taught and learned. As pointed out by Schmidt (1990), in his noticing hypothesis, language learners acquire a grammatical form just through noticing and explicit attention to its form. Besides, Ellis (1990) suggested that teachers should use Consciousness Raising (CR) in teaching grammar. In this approach learners are made explicitly aware of the grammatical form which is more helpful for them than providing them with repeated practice. The suggested activities are discovery-learning activities such as problem-solving tasks in which, for

example, the teacher can give a set of sentences to the students and ask them to formulate the related grammatical rule.

Textbooks, class activities and interactions are the main sources of input exposure and familiarity with the syntax/ semantics links of verbs in L2 (Juffs, 1998). Learners need to be exposed to enough input of verbs classes in different syntactic structures in order to learn the syntax/semantics interface. Lack of comprehensible input on this area prevents the learners from mastering grammar. Therefore difficult verb classes and their relevant syntactic properties must be chosen by experience and be focused upon in the teaching process. As referred to by Canale and Swain (1980) grammatical aspects of communicative competence also must be taken into consideration in addition to the sociolinguistic, pragmatic and strategic aspects. Frequency and context are the most important factors that should be taken into account in developing materials (Nation, 1990). Teachers need to be completely familiar with the knowledge of syntax/semantics interface in order to be able to fully understand the probable errors and provide the necessary feedback. The errors with higher fossilization probability should be more focused upon (Hulstijn et al., 1996). L1 properties also should be accounted for in material development and learners with different L1s can be treated differently based on the verbs they mostly find problematic.

The number of participants who took part in the present study was 159 out of which 139 responses were analyzed. This study can be replicated with a larger number of participants to increase the generalizability of the results. Another limitation was that the relationship between causativization and passivization errors was measured at the level of comprehension; other studies could be conducted to examine the relationship at the level of production. It is our consensus that more experimental studies should be done to examine the effectiveness of possible techniques and procedures to eradicate the learnability problem Iranian learners of English have in correct use of unaccusative verbs.

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ⁱDecausativization occurs when a causativizable form of the verb is not used or accepted in a causativizable form. Reinarrt and Siloni (2005, p.419) define decausativization as a process of reduction of an external cause.

Appendices

Appendix A. The list of verbs used in in the tasks

Verb	Alternating Unaccusative	Non-alternating Unaccusatuiue	Unergative
1	Open	Arrive	Tremble
2	Increase	Stay	Cough
3	Continue	Remain	Swim
4	Burn	Disappear	Sleep
5	Start	Die	Cry
6	Melt	Fall	Walk
7	Cut	Escape	Run
8	Break	Happen	Laugh