Acquiring the English Causative Alternation: Evidence from the University of Jordan

Aseel Zibin
School of English Literature, Languages & Linguistics
Newcastle University, Newcastle upon Tyne/England
E-mail: a.zibin@newcastle.ac.uk

Abdel Rahman Altakhaineh (Corresponding author)
School of English Literature, Languages & Linguistics
Newcastle University, Newcastle upon Tyne/England
E-mail: a.r.m.s.altakhaineh@newcastle.ac.uk

Received: 02-11-2015 Accepted: 26-01-2016 Advance Access Published: March 2016
Published: 01-05-2016 doi:10.7575/aiac.ijalel.v.5n.3p.7 URL: http://dx.doi.org/10.7575/aiac.ijalel.v.5n.3p.7

Abstract
The main objective of the current study was to test whether Advanced Jordanian EFL learners have acquired the English causative alternation. To this end, we used a Grammaticality Judgment Task (GJT) to determine whether the participants would be able to distinguish between alternating and non-alternating causative/inchoative verbs. The verbs used in the GJT were chosen based on their frequency in the Corpus of Contemporary American English (COCA). The sample of the study consisted of eighty advanced Jordanian EFL learners, studying English Language and Literature at the University of Jordan. The results revealed that the participants have not acquired the English causative alternation (total mean=61%). Specifically, the results showed that the participants encountered some difficulties with certain verbs that do not alternate and were used ungrammatically on the GJT. We proposed that these difficulties could be attributed to the differences between English and Jordanian Arabic (JA) in terms of the semantically-based constraints that govern the causative-inchoative alternation in English and JA. The participants transferred the argument structure of verbs in JA into English without realising that the two languages are different in terms of the verbs that are allowed to alternate and those that are not. The study concludes with recommendations for further research.

Keywords: lexical semantics, causative-inchoative alternation, argument structure, second language acquisition, Jordanian EFL learners

1. Introduction
The causative-inchoative alternation has been subject to wide debate in the last couple of decades (Pinker; 1989; Croft, 1990; Levin & Rappaport Hovav, 1994; Wolff, 2003; Koontz-Garboden, 2009; Haspelmath et al., 2014; among others). Research in this area has focused mainly on the rules that allow some verbs to alternate between two types of structure. In the case of the causative-inchoative alternation, the alternating verb is allowed to be used in two structures, as in examples (1a, b):

(1) a. my sweater shrunk.
   b. the water shrunk my sweater.

The two variants of the verb *shrink* (i.e., transitive and intransitive), are derived from the same room (Haegeman, 1991). The intransitive verb in (1a) describes the change of state that took place, i.e. shrinking. Simply put, the state of the theme or the argument affected by the action (i.e., *my sweater*) changes without specifying the cause of that change. This type of meaning is called inchoative. Example (1b), on the other hand, shows the transitive variant of the verb *shrink*, which describes the cause that brought about the change of state. Consequently, it is called the causative variant (Levin & Rappaport Hovav, 2011, Horvath & Siloni, 2013; among others) However, the main problem in this type of alternation lies in the fact that not all intransitive verbs have associated causative transitive forms (Pinker, 1989; Haegeman, 1991). For example, the verb *smile* can only be used inchoatively, as in (2a):

(2) a. The girl smiled.
   b. *Jessica smiled the girl.*

In a similar vein, not all transitive verbs have intransitive forms. In other words, not all transitive verbs inchoativise. An example of this is the following:
Based on the above, it is suggested that the fact that some verbs in English alternate between two types of structures, while others do not, may cause acquisition problems to EFL learners, especially with regard to differentiating between alternating and non-alternating verbs (Alotaibi & Alajmi, 2015). Using a Grammaticality Judgement Task (GJT), this study aims to investigate the ability of Jordanian EFL learners to distinguish between alternating and non-alternating verbs in English. The focus of the present study is essentially on the causative-inchoative alternation.

2. Literature review

2.1 Overview

In his discussion of the four lexico-syntactic alternations (i.e., dative), locative, passive and causative that exhibit a learnability problem similar to that discussed by Baker (1979), Pinker (1989) noted that verbs select the number and type of arguments that are permitted to accompany them. Put differently, verbs have different argument structures. For example, the verb *give* is similar to the verb *donate* in meaning, but they do not appear in the same structures, as shown in examples (4-5):

(4) a. Jack gave the newspaper to Jennifer.
    b. Jack gave Jennifer the newspaper.

The verb *give* subcategorizes for \([NP PP]\), shown in (4a) and \([NP NP]\) in (4b). This means that the verb *give* alternates between the two structures. On the other hand, the verb *donate*, which has a similar meaning to the verb *give*, subcategorizes for \([NP PP]\) only:

(5) a. Peter donated ten thousand dollars to the institute.
    b. *Peter donated the institute ten thousand dollars.

This type of alternation is referred to as the dative alternation. The acquisition of dative alternation by first and second language learners has received great attention (Anderssen, et al., 2014). Among the researchers who investigated the dative alternation is Hamdan (1994). In his study, Hamdan (1994) investigated the effect of L1 on the acquisition of dative alternation by speakers of Jordanian Spoken Arabic (JSA).

In addition to the dative and the causative alternation, Pinker (1989) examined two other kinds of lexico-syntactic alternations, namely the passive, demonstrated in (6), and the locative in (7). Below are illustrative examples of the two types of alternation, respectively:

(6) a. Nick ate the apple.
    b. The apple was eaten by Nick.
    c. Chris resembles his father.
    d. *His father is resembled by Chris.

(7) a. Mike piled the papers on the desk.
    b. Mike piled the desk with papers.
    c. Mike spilled coke onto the table.
    d. *Mike spilled the table with coke.

Examples (6a, b) show that the verb *eat* can be passivised; it appears in the active and the passive structures, whereas the verb *resemble* in examples (6c, d) does not. Similarly, examples (7a, b) demonstrate that the verb *pile* appears in \([NP on/onto NP]\) structure and \([NP with NP]\) structure, while the verb *spill* appears only in the former structure. In other words, it does not alternate.

Among the researchers who investigated the acquisition of the passive alternation by Arab EFL learners are Alotaibi and Alajmi (2015). In their study, the two researchers examined whether 50 advanced Kuwaiti EFL learners have the ability to distinguish between alternating and non-alternating verbs, using a Grammaticality Judgement Task (GJT). The results showed that the participants' accurate answers on the test, especially with respect to the verbs that passivise, can be attributed to positive transfer from L1. That is, if the verb in L1 alternates, the participants would transfer their knowledge of the argument structure of that verb from L1 to L2 and the result would be correct. Alotaibi and Alajmi (2015) noted, however, that verbs that do not passivise in English presented a challenge to the participants. Over-generalisation of the passivisation rule or confusing non-causative verbs with the passive construction were the main reasons behind the errors made by the participants. Overall, the results demonstrate that the participants have not acquired the English passive alternation.
In another study that explored the acquisition of the locative alternation by Arab EFL learners, Al-Wahaib (2004) paid special attention to whether Jordanian EFL learners encounter any problems in the process of acquiring locative alternating verbs. For the purpose of the study, Al-Wahaib (2004) conducted a Grammaticality Judgment Task (GJT) on sixty 4th year Jordanian students, studying English Language and Literature at the University of Jordan. He discovered that participants did face serious difficulties in acquiring these verbs, based on their poor achievement on the GJT. The study concluded that these difficulties might be due to interlingual and intralingual reasons. Interlingual transfer is caused by L1 interference, whereas intralingual transfer is the result of partial learning of L2 (Erdoğan, 2005, p. 265). The fact that some verbs alternate in Arabic but not in English lies within the area of the former, whereas the lack of knowledge of certain argument structures in L2 is related to the latter (see section 4).

In the past, the focus of acquisition studies in Arabic has mainly been on syntactic structures. Only recently has the focus shifted to investigate lexical items. Several researchers have examined various aspects of lexical items in Arabic, in addition to their acquisition (e.g. Altakhaineh & Zibin, 2014a; Zibin & Altakhaineh, 2014; Altakhaineh & Rahrouh, 2015). Furthermore, different types of lexico-syntactic alternations have been investigated (Hamdan, 1994; Alotaibi & Alajmi, 2015). However, to the best of my knowledge, little attention has been given to the area of causative-inchoative alternation and its acquisition by EFL learners in general, and by Jordanian EFL learners in particular. Thus, this study explores the acquisition of the English causative alternation by advanced Jordanian EFL learners. The following section provides an overview of the English causative alternation.

2.2 English causative alternation

According to Pinker (1989, p. 48), a lexical causative is a "transitive verb signifying causation that is identical in form to an intransitive verb signifying the caused event." Lexical causatives are semantically governed, that is, they only operate in cases of causation in which physical or direct contact exists (Ammon, 1980). This is referred to as the "directness effect" as opposed to periphrastic causation, in which the intransitive or inchoative verb appears as a complement of a causative verb, such as make (Pinker, 1989, p. 48). The following is an example of a periphrastic causative verb:

(8) a. Penny frowned.
   b. *Fred frowned Penny.
   c. Fred made Penny frown.

Since the verb frowned cannot causativise (example 8b), a causative verb, made, is used instead to convey the causative meaning. The directness effect is missing in the verb frowned; thus, it does not alternate. According to Pinker (1989, p. 88), in the causative alternation, the causative verb is derived from the inchoative verb by adding an argument to the latter. In particular, an argument, namely, the causer or the agent, is added to the argument structure of the inchoative verb, specifying the cause behind the change of state. Additionally, the broad range-rules, which change the argument structure of the inchoative verb, changes the theme argument of the inchoative verb into the patient or the argument that undergoes the change of state. The addition of the causer and the transformation from theme to patient can be captured by a lexical rule which takes the following structure “X changes, acts, or moves” and changes it into another structure, (i.e., “Y acts on X, causing X to change, act, or move”). Therefore, verbs which act voluntarily or which are internally caused, e.g. laugh do not submit to the rule, since the presence of an internal cause would prevent any external one (Levin & Rappaport Hovav, 2011). The problem here is that not all verbs can undergo the change mentioned above. Specifically, the lexical rule, which changes one structure into the other, does not apply to some verbs in English. However, since there are many verbs that cannot be causativised, the broad-range rules are not enough for the alternation to happen; a verb should meet a narrow-range rule or semantically-based rule that allows the verb to alternate. Therefore, Pinker (1989, p. 130) indicated that there are three main classes of intransitive or inchoative verbs that are causativisable, or in other words that meet the narrow-range rules or the semantically-based rules in English. These classes are shown below:

a) Verbs of extrinsic change of physical state e.g. open, close.

b) Verbs of contained motion that takes place in a particular manner e.g. roll, float.

c) Verbs that undergo a semantic change. These are divided into two subclasses:

   a. Verbs that involve manner of locomotion e.g. run, gallop.

   b. Verbs that signify the instrument of transportation and in the causative use signifies enabling and accompanying the transportation. E.g. motor, cycle

These classes of verb are the only ones that can alternate in English. The question here is: would Jordanian EFL learners be able to decide which English verbs alternate and which do not? Thus, the current study aims at providing answers to the following research questions:

1) Can advanced Jordanian EFL learners distinguish between verbs that alternate between the causative and inchoative structures in English and those that do not?

2) Do they encounter difficulties with certain types of verb? If yes, why?
We assumed that the participants would be able to decide which verbs alternate and which verbs do not, since we selected only those with high English proficiency level. The following section describes the methodology.

3. Methodology

3.1 Sample

Eighty 4th year students in the Department of English Language and Literature at the University of Jordan were involved in the current study. They were all native speakers of Jordanian Arabic (JA), and they had a working knowledge of Modern Standard Arabic (MSA). The participants were chosen randomly out of 200 students. At the time of data collection (i.e., the summer semester of the academic year 2013-14), the participants had completed at least 80-90 credit hours of Advanced English courses such as, Syntax, Vocabulary, and Translation. The selection of this age group of participants was based on our belief that the participants at this age would have reached an advance level of English proficiency that would qualify them to be part of this study. A significant number of participants were essential for the assumptions of the statistical analysis to be satisfied and to ensure that the judgment of atypical participants does not distort the results.

3.2 Data collection

A Grammaticality Judgment Task (GJT) in English was chosen as the data elicitation tool in the current study. Several researchers, investigating other lexico-syntactic alternations attested in various languages, have adopted GJTs in their research (Mazurkerwich, 1984; Choi & Lakshmanan, 2002; Tremblay, 2005; Alotaibi & Alajmi, 2015; among others). The tool has asserted its validity in differentiating between production problems, e.g. slips and grammatical problems on the one hand, and separating the structural features of the language in which the researcher is interested, through minimizing the effect of the communicative functions of the language, on the other (Schütze, 1996). In order to test the validity of this tool, we gave a preliminary version of the GJT to 10 native speakers of British English. On the basis of their answers, in the final version of the GJT, we only included those sentences which received similar judgments by 80% and above of the native speakers. The GJT consisted of a total of 31 items, including 16 verbs; 6 verbs that do alternate, another 9 that do not, and one dative verb that was used ungrammatically as a distracter. The items were pseudo-randomised, so that the order in which they appeared is counterbalanced. The full list of verbs in the GJT was as follows:

1- Alternating verbs (n=6)
Open, melt, shrink, run, slid, motor.

2- Non-alternating verbs (n=9)
   a. Verbs that do not causativise; used only intransitively (n=5)
      Disappear, laugh, entre, cry, die.
   b. Verbs that do causativise; used only transitively (n=4)
      Raise, kill, create, convince.

3- Distracter: Non-alternating dative (n=1)
Donate.

The verbs used in the GJT were selected based on their frequency in the Corpus of Contemporary American English (COCA). The purpose of this procedure was to ascertain the occurrence of these verbs in contemporary speech. No minimum frequency level was established. However, the frequency was taken into consideration in the discussion of the results. Table 1 below shows the frequency of the verbs in (COCA) between the years 2010-2015.

Table 1. The frequency of the verbs on the GJT in (COCA) in the years 2010-2015

<table>
<thead>
<tr>
<th>Alternating verbs</th>
<th>Frequency of verbs in the COCA in 2010-2015 (per million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Float</td>
<td>287.66 (occurs 28766 times every 100 million words)</td>
</tr>
<tr>
<td>Melt</td>
<td>9.90</td>
</tr>
<tr>
<td>Shrink</td>
<td>7.16</td>
</tr>
<tr>
<td>Run</td>
<td>256.42</td>
</tr>
<tr>
<td>Slid</td>
<td>18.84</td>
</tr>
<tr>
<td>Motor</td>
<td>27.63</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Non-alternating verbs (verbs that do not causativise)</th>
<th>Frequency of verbs in the COCA in 2010-2015 (per million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>disappear</td>
<td>15.65</td>
</tr>
<tr>
<td>Laugh</td>
<td>44.11</td>
</tr>
<tr>
<td>Entre</td>
<td>42.80</td>
</tr>
<tr>
<td>Cry</td>
<td>33.64</td>
</tr>
<tr>
<td>Die</td>
<td>94.52</td>
</tr>
</tbody>
</table>
Non-alternating verbs (verbs that causativize)

<table>
<thead>
<tr>
<th>Verb</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raise</td>
<td>73.57</td>
</tr>
<tr>
<td>Kill</td>
<td>85.46</td>
</tr>
<tr>
<td>Create</td>
<td>143.59</td>
</tr>
<tr>
<td>Convince</td>
<td>18.43</td>
</tr>
</tbody>
</table>

Table 1 shows that the frequency of verbs varied between 28766 and 716 in every 100 million words. This indicates that some verbs are more frequent than others. This frequency is examined in the next section to determine whether it had an impact on the participants' answers on the test.

In the case of the alternating verbs, each one appeared in two sentences that were both grammatical. In contrast, each non-alternating verb appeared in one sentence that was grammatical and another that was ungrammatical, as in the following examples (see Appendix A):

(9) a. God created various species of animals.
   b. *Various species of animals created.

The results obtained from the experiment are presented and discussed in the following section.

4. Results and discussion

Out of the 2400 judgments (excluding the distracter) provided by the participants, 1470 were accurate. Hence, the percentage of accuracy on the whole task was 61%. The results showed that the participants' performance varied with regard to certain verbs; this difference could be due to various reasons which are explained in this section. Table 2 shows that with the exception of motor, the alternating verbs seem to be responsible for the high percentages obtained on the GJT. Conversely, non-alternating verbs in English yielded the low percentages on the GJT. The following table presents the number and percentage of accurate judgments on the alternating verbs.

Table 2. Numbers and percentages of accurate judgments on the alternating verbs

<table>
<thead>
<tr>
<th>Stimulus verb</th>
<th>Inchoative</th>
<th>Causative</th>
<th>Mean %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Open</td>
<td>71</td>
<td>89</td>
<td>75</td>
</tr>
<tr>
<td>Melt</td>
<td>70</td>
<td>88</td>
<td>72</td>
</tr>
<tr>
<td>Shrink</td>
<td>66</td>
<td>83</td>
<td>62</td>
</tr>
<tr>
<td>Slid</td>
<td>63</td>
<td>79</td>
<td>64</td>
</tr>
<tr>
<td>Ran</td>
<td>65</td>
<td>81</td>
<td>67</td>
</tr>
<tr>
<td>Motor</td>
<td>34</td>
<td>43</td>
<td>39</td>
</tr>
<tr>
<td>Overall mean</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2 demonstrates that in addition to their high frequency in (COCA) (see Table 1), the fact that these verbs alternate in JA could be responsible for the high percentages on the GJT. Specifically, the high number of accurate answers could be accounted for on semantic grounds. Verbs of extrinsic change of physical state, e.g. open (92%), melt (89%) and shrink (81%), verbs of contained motion, e.g. slid (80%), and verbs that involve manner of locomotion, e.g. run (83%) alternate in both English and JA. The same semantic constraints controlling the causative shift in the English verbs above also operate in JA, yielding a high percentage of accurate judgments (see section 2.2). An example of an alternating verb in JA is presented below:

(10) a. ahmad fatah l-ba:b
      Ahmad opened.MSG the-door
      ‘Ahmad opened the door’

b. l-ba:b n-fatah
   the-door opened.MSG
   ‘The door opened’

Since the verb open alternates in both English and JA, the participants only had to literally translate the English example (see the examples below as they appeared on the GJT) into JA to arrive at the conclusion that open also alternates in English:

21. Jena opened the door to see who was outside.
4. The door opened while she was reading the novel.
The similarity between the two languages vis-à-vis the applicability of the two structures responsible for the causative shift contributed positively to the participants’ performance on the GJT. Making use of this similarity between English and JA increased the percentage of accurate judgments on the GJT (cf. Alotaibi & Alajmi, 2015). This type of transfer where the structure of the L1 is transferred into the L2, in which such structure is considered correct, is referred to as positive transfer (Saville-Troike, 2012). The fact that the participants only needed to translate the English verb into JA, in which that verb can also alternate, suggests that they have not acquired the English causative alternation.

From another perspective, even though verbs that signify the instrument of transportation alternate in English, the verb *motor* generated the lowest percentage of judgments on the GJT in the category of alternating verbs. Here, an explanation that pertains to interlanguage difficulties is in order (cf. Al-Wahaib, 2004). Lack of familiarity with verbs that indicate the transportation instrument in English, e.g. *motor, ferry, boat*, etc. resulted in an unsatisfactory performance on the GJT. The absence of these verbs from the lexicon of JA verbs can be taken in part as an argument that an additional level of difficulty on the GJT was created, clouding the participants’ judgment on sentences containing such verbs (i.e., *motor* (46%)).

Despite the low percentage of *motor*, a look at the total mean of accurate judgments (i.e., 79%) suggests that alternating verbs were, generally, not a stumbling block for the participants. Moving to the non-alternating verbs, Table 3 presents the numbers and percentages of the accurate judgments on the non-alternating verbs that do not causativise and appeared in grammatical sentences.

Table 3. Numbers and percentages of accurate judgments on the non-alternating verbs that do not causativise and used in grammatical sentences on the GJT

<table>
<thead>
<tr>
<th>Stimulus verb</th>
<th>No. of accurate judgements</th>
<th>% of accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cry</td>
<td>70</td>
<td>88</td>
</tr>
<tr>
<td>Disappear</td>
<td>65</td>
<td>86</td>
</tr>
<tr>
<td>Laugh</td>
<td>72</td>
<td>90</td>
</tr>
<tr>
<td>Entre</td>
<td>67</td>
<td>84</td>
</tr>
<tr>
<td>Die</td>
<td>68</td>
<td>85</td>
</tr>
<tr>
<td>Mean</td>
<td>68.4</td>
<td>87</td>
</tr>
</tbody>
</table>

Table 4 below reports the numbers and percentages of accurate judgments on the same non-alternating causative verbs, which were used in ungrammatical sentences on the GJT (i.e., used transitively).

Table 4. Numbers and percentages of accurate responses on the non-alternating verbs that do not causativise and used in ungrammatical sentences on the GJT

<table>
<thead>
<tr>
<th>Stimulus verb</th>
<th>No. of accurate responses</th>
<th>% of accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cry</td>
<td>24</td>
<td>30</td>
</tr>
<tr>
<td>Disappear</td>
<td>36</td>
<td>45</td>
</tr>
<tr>
<td>Laugh</td>
<td>19</td>
<td>24</td>
</tr>
<tr>
<td>Entre</td>
<td>32</td>
<td>40</td>
</tr>
<tr>
<td>Die</td>
<td>26</td>
<td>33</td>
</tr>
<tr>
<td>Mean</td>
<td>31</td>
<td>34</td>
</tr>
</tbody>
</table>

Tables 3 and 4 clearly show that the percentages of accuracy for the non-alternating verbs were higher for grammatical sentences (mean: 87%) than for the ungrammatical ones (mean: 34%). Table 4 provides indisputable evidence that the participants encountered difficulties with English verbs that can only be used inchoatively, since the percentages of accuracy for the non-alternating verbs were fairly low, in comparison to those used in grammatical sentences. However, it is observed that the non-alternating verbs in English do alternate in JA, as in:

(11) a. lana  bak-at
     Lana cried-FSG

b. yezzan  bakka  lana
     Yezzan cried.MSG Lana

Example (11) above shows that the verb *cry*, which does not alternate in English (see the examples below as they appeared on the GJT), alternates in JA:
1. Christina cried last night.

17. *Robert cried Christina last night.

The fact that the verb *cry* does not alternate in English but does in JA suggests that if the participants translated the English verbs literally into JA, they would conclude that the verb *cry* alternates in English; thus, provide erroneous judgments on the GJT. This means that the participants would judge sentence (17) on the GJT as correct. The same applies to the other verbs, *disappear, laugh, entre, and die*, because all of these verbs also alternate in JA, but do not in English. This type of transfer in which the structure transferred from L1 into L2 is considered incorrect is called negative transfer (Meisel, 1997; Helms-Park, 2001; Al-Wahaib, 2004). The differences between the two languages in terms of the verbs that are allowed to alternate are responsible for the low percentages on the GJT (i.e., *cry* (30%), *disappear* (45%), *laugh* (24%), *entre* (40%), and *die* (33%). In this regard, one may suggest that JA has different semantic constraints that stipulate which classes of verb are allowed to alternate other than those in English. Because these constraints are different in both languages, it can be argued that the semantic structure of the verbs plays a major role in the problems encountered by Jordanian EFL learners, most notably in relation to the causative-inchoative alternation phenomenon. Thus, a study that specifies the semantic constraints that allow verbs in JA to alternate is required. However, this issue will not be pursued here any further, since it is beyond the scope of this study. Finally, Tables 5 and 6 display the numbers and percentages of the accurate judgments on the non-alternating verbs that do causativise and appeared in grammatical sentences on the GJT.

**Table 5. Numbers and percentages of accurate judgments on the non-alternating verbs used only transitively and appeared in grammatical sentences on the GJT**

<table>
<thead>
<tr>
<th>Stimulus verb</th>
<th>No. of accurate responses</th>
<th>% of accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raise</td>
<td>64</td>
<td>80</td>
</tr>
<tr>
<td>Kill</td>
<td>71</td>
<td>89</td>
</tr>
<tr>
<td>Create</td>
<td>63</td>
<td>79</td>
</tr>
<tr>
<td>Convince</td>
<td>67</td>
<td>84</td>
</tr>
<tr>
<td>Mean</td>
<td>66.3</td>
<td>83</td>
</tr>
</tbody>
</table>

**Table 6. Numbers and percentages of accurate judgments on the non-alternating verbs used only transitively and appeared in ungrammatical sentences on the GJT**

<table>
<thead>
<tr>
<th>Stimulus verb</th>
<th>No. of accurate responses</th>
<th>% of accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raise</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>Kill</td>
<td>27</td>
<td>34</td>
</tr>
<tr>
<td>Create</td>
<td>20</td>
<td>25</td>
</tr>
<tr>
<td>Convince</td>
<td>17</td>
<td>21</td>
</tr>
<tr>
<td>Mean</td>
<td>19</td>
<td>24</td>
</tr>
</tbody>
</table>

The same pattern of judgments is observed in Tables 5 and 6, in which the percentages of accuracy for the non-alternating verbs were higher for grammatical sentences (mean: 83%) than for the ungrammatical ones (mean: 24%). The discrepancy in the results on this category is possibly attributable to the semantic constraints that are available for JA verbs but not to English verbs. In this respect, certain verbs in English only appear in the causative form, disallowing the change to the inchoative form. Conversely, the same categories of verbs that do not accept the inchoative form in English do alternate in JA, giving rise to a plethora of problems for Jordanian EFL learners. In fact, all the verbs presented in Table 6 alternate in JA, as in:

(12a) Allah xalaʔ l-baʃar
God created.MSG the-humans

'God created humans'
b. l-ba'tar nxalaʔu
the-humans created.PL
lit. humans created
(intended meaning 'humans became created')

The fact that these verbs alternate in JA but not in English resulted in low percentages on the GJT (i.e., raise (15%), kill (34%), create (25%), and convince (21%)).

5. Conclusion and recommendations
The present study tested whether eighty advanced Jordanian EFL learners would be able to distinguish between causative verbs that alternate (i.e., used transitively and intransitively) and other verbs that do not (i.e., used either transitively or intransitively), using a Grammaticality Judgment Task (GJT). The results showed that their achievement on the GJT was not satisfactory (mean: 61%). The high percentages on the alternating verbs were attributed to positive transfer. The fact that these verbs alternate in both English and JA encouraged the participants to literally translate the English verbs into L2, in which the structure happens to be correct. In contrast, the participants encountered certain difficulties with acquiring non-alternating verbs, either those that can only be used inchoatively or those that can only be used causatively (i.e., disappear, laugh, entre, cry, die, raise, kill, create and convince). These difficulties were particularly apparent when these verbs were used ungrammatically. The main reason for the low percentages on the non-alternating verbs was ascribed to the fact that these verbs alternate in JA, but not in English. It was suggested that the semantic constraints, governing the causative alternation in JA are different from those in English. Therefore, the participants' negatively transferred some structures from JA into English, resulting in erroneous answers. Finally, the study recommends the examination of the semantic constraints that allow verbs to alternate in JA. This kind of study may shed light on the syntactic and semantic structures of causative and inchoative verbs in Arabic in general, and JA in particular.

References

1 It is worth noting that nfaʃ 'is usually pronounced as ʔnfaʃ where the ʔ is added in order to avoid having two consonants in a word-initial position (Altakhaineh & Zibin, 2014b, p. 2).
Appendix A

Grammaticality Judgment Task

Read the following sentences. Put a tick (√) next to any sentence you think grammatical and a cross (X) next to any sentence you think ungrammatical. Your first decision is the one we want. Please do not change your answers.

1. Christina cried last night. ✓
2. The Magician disappeared the bird. ✗
3. The fire died Michael last year. ✗
4. The door opened while she was reading the novel. ✓
5. The thief killed yesterday. ✗
6. John slid the ball on the sidewalk. ✓
7. The sun melted the snow outside. ✓
8. Bill entered Cathie to his house. ✗
9. The red shirt shrank. ✓
10. Khalid convinced to travel abroad. ✗
11. Mr. Smith donated the orphanage 20 thousand dollars. ✗
12. Bob ran the dog to the end of the road. ✓
13. Jacob motored to California last summer. ✓
14. The national flag raised. ✗
15. God created various species of animals. ✓
16. The water shrank the red shirt. ✓
17. Robert cried Christina last night. ✗
18. Jacob motored his girlfriend to California last summer. ✓
19. The bird disappeared. ✓
20. Cathie entered his house. ✓
21. Jena opened the door to see who was outside. ✓
22. Michael died in the fire last year. ✓
23. Ali killed the thief yesterday. ✓
24. The ball slid on the sidewalk. ✓
25. The audience laughed because of her bad acting. ✓
26. The snow melted outside. ✓
27. Salma raised the national flag. ✓
28. The dog ran to the end of the road. ✓
29. Eva laughed the audience because of her bad acting. ✗
30. Various species of animals created. ✗
31. Layla convinced Khalid to travel abroad. ✓