The Effect of Textual Enhancement on System Learning of English Dative Alternation

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Abstract: The study set out to explore whether textual enhancement, as an implicit instructional technique, could override explicit metalinguistic instruction in inducing system learning. System learning, as contrasted with item learning, refers to the extraction by learners of the abstract rule underlying some linguistic feature in the input. To investigate which type of instruction (i.e. textual enhancement or rule explanation) resulted in better system learning of English dative alternation, two intact classes consisting of 64 lower-intermediate L2 learners served as the participants of the study: one group known as the textual enhancement group (TEG, n = 32) and the other group called the rule-oriented group (ROG, n = 32). A Grammaticality Judgement (GJ) task was used both as the pre-test and the post-test. The post-test results revealed that the ROG learners considerably outperformed the TEG learners in overgeneralizing their knowledge and learning the system underlying the dative verbs of English. The results of the study cast doubt on the effectiveness of the implicit instructional technique of textual enhancement in triggering the implicit system-learning of the abstract knowledge underlying language structures.

Key words: Second Language Acquisition · Textual enhancement · System learning · Item learning · Grammaticality Judgement (GJ) task

INTRODUCTION

Second Language Acquisition (SLA) researchers appear to unanimously concur with the fact that learning a second language without input is something impossible. However, regarding the kind, quality and quantity of the input required for second language development, their approval is a qualified one. Some researchers maintained that being exposed to a large dose of native language input in a meaning-oriented context over a long period of time or what is called ‘comprehensible input’ (i.e. i+1) is the necessary and sufficient condition for second language acquisition [1]. The idea was evident in Krashen and Terrell’s Natural Approach [2] which provided the learners with opportunities to use language in communicative contexts without any primary concern for structures of language. Another well-known pedagogical approach, which drew upon the principles of comprehensible input and strong meaning-based versions of communicative language teaching, was the immersion programmes of the 1970’s in Canada [3-5].

Although meaning-based approaches more or less proved to be successful in developing L1 learners’ native-like communicative fluency, they seemed to fail to account for how accuracy of forms could be developed at the same time. The finding led researchers to come up with the idea that comprehensible input is not sufficient - albeit necessary - for L2 development. In addition to comprehensible input (which developed fluency to the exclusion of accuracy), it seemed crucial to consider other instructional options which could simultaneously develop accuracy.

As a result of dissatisfaction with Krashen’s innatist model of SLA, some adherents of cognitive models of SLA began to argue for the positive role of attention to form within a communicative context so that besides fluency, formal accuracy could be fostered, too. This prompted the surfacing of a variety of terms including consciousness-raising [6, 7], focus on form [8-10], attention and noticing [11-13], awareness [14] and input enhancement [15-17]. The bottom line of all of these pedagogical proposals is that “SLA is largely driven by what learners pay attention to and what they understand of the significance of the noticed input to be” [13] and that L1 learners “learn about the things they attend to and do not learn much about the things they do not attend to”
The controversy now arises as to how learners’ attention should be drawn to forms in the input for input to become intake (i.e., the part of input which is incorporated into the learner’s interlanguage). One presumably optimal solution to the problem is to encourage learners to attend to formal features manipulated in the input. This refers to what Sharwood-Smith [7] initially coined as consciousness-raising. However, considering consciousness as an ambiguous folk term, which could have a plethora of meanings, he modified the term to the more cautious input enhancement [15, 16]. The plausible reason for this modification was that we can only manipulate the input which is external to the learner and we do not know what internal consequences will ensue on the part of the learner.

Input enhancement can be achieved through a number of ways: explicit discussion of the form, metalinguistic description of the form, implicit error correction through the use of special patterns of stress or intonation or through the use of gestures or facial expressions, input flooding and textual (or visual or typographical) input enhancement [15, 16]. Along with the development of cognitive theories of SLA during the past two decades, the role and efficacy of ‘textual enhancement’ technique in L2 learning has provoked considerable controversy. Being a representative example of data-driven pedagogical techniques based on the information-processing framework, textual enhancement prompts learners to analyse, notice and organise the implicit rule-like behaviour and the probabilistic patterns on the basis of the grammatical and morphological regularities which are repeatedly reactivated in the input data. In other words, textual enhancement is an implicit attention-drawing device which draws learners’ attention to a perceptually salient and enriched linguistic feature in a typical written text used as input. More specifically stated, it refers to the manipulation of typographical cues through highlighting techniques such as font enlarging, italicizing, bold-facing, underlining, capitalizing, shadowing, or a combination of more than one of these techniques. This pedagogical technique is assumed to achieve learners’ noticing of the targeted form while dealing with meaning, with the hope that input becomes intake.

The plethora of studies conducted to date to investigate the effects of textual enhancement have yielded quite mixed results. Whereas in a majority of the studies, textual enhancement proves to be of no benefit [18-25], some studies show positive effects for this pedagogical technique [26-28] and some others consider limited effects [29-31].

The conflicting findings of these studies make it really difficult to come to a soundly-based conclusion regarding the advantages this technique might or might not afford second language acquisition process. Furthermore, the bulk of textual enhancement (TE) studies to date have investigated the effect of this technique on implicit learning of individual items in the input known as ‘item learning’ [9, 32] and have dispensed with the question of whether drawing learners’ attention to a single grammatical element might induce the learners to proceed beyond the individual item in the input and implicitly learn the system underlying that item (i.e. system learning). The next section elaborates on the concepts of item learning and system learning in detail.

**Item Learning vs. System Learning:** The basic idea behind the dichotomy between item learning and system learning is that L2 learning involves two completely different modes of learning, usually occurring in two consecutive stages. Item learning involves learning a single concrete linguistic item (i.e. chunk or formula) at a time, whereas system learning involves internalization of a set of abstract and inter-related linguistic rules, which are gradually reorganized into a system. Cruttenden [33], who first introduced the distinction, maintains that the two modes (stages) of learning can be applied to various levels of language including phonology, intonation, morphology, syntax and semantics.

Capitalizing on a simple example, Ellis [34] points out the difference between the two modes of learning. He contends that when learners learn the expression ‘Can I have a ___?’ they are engaging in item learning - they learn the expression as an unanalysed chunk. In contrast, when they learn that ‘can’ is followed by a variety of verbs (‘have’, ‘run’, ‘help’, etc.) and that it can express a variety of functions (ability, possibility, permission, etc.), they are engaging in system learning - they are learning some kind of rule for ‘can’.

As implied in the example above, learner’s initial interlanguage stage is best characterized by a critical mass of individual linguistic items which vary freely until in later stages some kind of overgeneralization of cognitive response is triggered through exposure to input and the learner attempts to group presumably irrelevant items, discover relationships among them and extract syntactic categories from the items that are implicitly acquired. This systematic variation of the learner language known as “free variation ... reflects the role of item learning in
acquiring an L2 [and] arises when learners add items to those they have already acquired and before they analyze these items and organize them into a system.” [35]

More specifically, in advanced stages of L2 learning, the learner usually comes across sudden moments of enlightenment where unanalysed forms already acquired implicitly merge into a unified whole, leading the learner to some kind of system. In fact, in system learning, some linguistic rules are so complex that cannot be stated clearly or exhaustively, so the learners have to go beyond the surface information available in the input and extract the rule underlying some linguistic feature in the input by seeking recourse to some mental device called “projection device” [36]. Therefore, utilizing such a device, the acquisition of one linguistic feature triggers the acquisition of other relevant features.

In an investigation into the effect of instructional Focus on Form [8] on young learners’ acquisition of grammatical gender in French, Harley [37] designed a study in which the experimental group were exposed to activities drawing their attention to the formal clues to the gender of French nouns and the comparison groups received no systematic instruction in this grammatical domain. The instructional package designed for the experimental group included information on both the masculine/feminine determiners and the noun endings marking gender. One of the major questions addressed in Harley’s study was whether the students receiving instruction on gender assignment would be able to generalize the knowledge they acquired about noun endings to new nouns that were unfamiliar to them. The results of the study revealed that although the students in the experimental group performed accurately in producing familiar nouns with correct masculine/feminine articles and were able to correctly attribute gender to such nouns, they failed to generalize their knowledge about noun endings to unfamiliar nouns. In sum, the learners were successful in “item learning”, but not in “system learning”.

**Research Question:** The study endeavours to address the following research question: Which type of instruction (i.e. textual enhancement or explicit rule explanation) leads to system learning of dative alternation, inducing the learners to properly generalize their implicit/explicit knowledge beyond the input data?

**MATERIALS AND METHODS**

**Participants:** A total of 64 male Persian native speakers, aging from 15 to 25, took part in the study. The participants were a mixture of high school and undergraduate students in two classes enrolling in intensive English classes of a language institute in Isfahan. They had been placed in lower-intermediate classes (level 3 of an 8-level programme) and their proficiency level had been assessed through a battery of Headway placement tests prior to admission to the language institute and later on through their grades in each level. Due to the institute’s class enrolment policy, allowing only for intact classes, the researchers adopted a quasi-experimental design by arbitrarily assigning one group of participants to the Textual Enhancement Group (n=32) and the other group to the Rule Oriented Group (n=32).

**The Target Structure:** The target of instruction was the English dative alternation - one of the most problematic areas for L2 learners [38]. The types of verbs subsumed under the English dative alternation fall into two categories: alternating verbs and non-alternating verbs. Alternating verbs (e.g. pay, save, read, build, write, buy, send, throw, bring, lend) (i) allow two complements (i.e. [NP NP] and [NP PP]), (ii) are mono-syllabic and (iii) have animate recipient; non-alternating verbs (e.g. report, announce, transfer, present, describe, dictate, propose, select, explain, return) (i) allow just [NP PP] complements, (ii) are typically disyllabic and (iii) have inanimate recipient [25]. The examples below well indicate the differences between the two types of verbs and the constraints on each type:

(1) a) John bought a present for me.
   
   *buy [NP PP]*

   b) John bought me a present.
   
   *buy [NP NP]*

(2) a) Peter explained the problem to me.
   
   *explain [NP PP]*

   b) Peter explained me the problem.
   
   *explain [NP NP]*

Whereas in example 1, both [NP PP] and [NP NP] complement types are possible for the verb buy, in example 2, the verb explain receives just the [NP PP] complement type. Thus, as learners are not usually aware of such complex constraints on each category of verbs in the English dative alternation, the phenomenon was selected as the target of instruction in this study. To this end, 10 semantically simple dative verbs were chosen, half of which alternate (e.g. buy, pay, read, write, bring) and the other half (e.g. select, explain, return, describe, report) do not.
Elicitation Tasks: The instrument used for the measurement of the effectiveness of instruction types in system learning was a Grammaticality Judgement (GJ) task, used both as the pre-test and the post-test. The task consisted of 60 items: 40 genuine items, representing possibilities and constraints on dative verbs and 20 items used as distractors. To investigate learners’ ability in generalizing their knowledge of English dative verbs received during the treatment period to novel dative verbs, half of the genuine items of the GJ task (i.e. 20 items) represented the seen dative verbs used in instructional texts and the other half comprised the unseen dative verbs. Each seen/unseen half in turn included a group of 10 alternating verbs and 10 non-alternating verbs. Also, each group of alternating/non-alternating verbs consisted of 5 grammatical and 5 ungrammatical verbs.

Before the treatment, the pre-test GJ task was administered to both groups of learners. The reliability coefficient of the test - calculated based on Cronbach’s alpha - was reported to be .91 (α = .91). After the treatment, the post-test GJ task was also administered to both groups. The post-test was the same as the pre-test GJ task, with approximately the same reliability coefficient (Cronbach’s α = .88).

Treatment: The treatment lasted for two weeks, two sessions each week (i.e. 4 sessions of treatment on the whole) for both groups. During the treatment period, the TEG learners were exposed to 4 simple texts, each one having 10 textually enhanced instances of English dative alternation, 5 alternating verbs and 5 non-alternating verbs. The verbs were highlighted through bolding, underlining and capitalizing. The ROG group also received the same texts, but with non-enhanced verbs and a one-page grammatical explanation additionally supplied on the rules governing the use of English dative alternation.

RESULTS

As for the data analysis stage, the pre- and post-tests were scored and the results for the participants of the Textual Enhancement Group (TEG) and the Rule Oriented Group (ROG) learners were tabulated. The descriptive statistics including the number of participants (N), the mean (X), the standard deviation (SD), the variance (V) and the minimum and maximum scores for the results of the TEG and ROG participants on the pre-test GJ task are as shown in Table 1.

Since the mean, the variance and the standard deviation of the TEG and ROG learners were not much different, the two groups were regarded as homogeneous groups. However, in order to empirically establish their homogeneity prior to the treatment period, the pre-test data were submitted to an independent two-tailed t-test (Table 2).

The observed t value was 1.33, which was less than the critical t value of 2.00 at the probability level of p < 0.05. So, no significant difference was found between the two groups. After the two-week treatment period, the same GJ task, used as the pre-test, was used as the post-test. The descriptive statistics illustrating the performance of the TEG and ROG learners on the post-test GJ task are as shown in Table 3.

Table 3 clearly delineates that the mean of TEG learners’ scores had relatively minor increase, which could mostly be due to the effect of the type of instruction they received. In addition, the apparent increase in TEG learner’s Standard Deviation (SD) could be attributed to the differential and tacit knowledge induced by the textual enhancement technique, leading the learners to variably infer the point underlying the textually enhanced items in the texts and not enabling them to properly learn the systematic knowledge underlying these items. In stark contrast, as is observed, the mean of the ROG learners’ post-test scores reflects a substantial increase in comparison with the mean of the pre-test and with the
mean of the TEG learners’ post-test, representing the fact that explicit instruction could enable the learners to generalize their knowledge to novel items not previously taught in the input (i.e. system learning). Also, ROG learners’ post-test SD had a minor increase, implying that the group’s dispersion on the post-test has not considerably changed in comparison with their pre-test SD.

The scores of the TEG and ROG learners on the post-test GJ task were also submitted to an independent two-tailed t-test to realize whether the two instruction types were really different in terms of their effect on system learning (Table 4).

Table 4 indicates that the difference between the two groups on the post-test is significant, since the observed t value is far greater than the critical t value at the probability level of p < 0.05. Consequently, it could be claimed that L₁ learners exposed to the rule-oriented instruction had significantly greater achievement in system learning than their counterparts in the textual enhancement group.

Also, in order to examine the within-group differences for both TEG and ROG groups, two paired samples t-test were run. Table 5 and 6 show the within-group differences for TEG and ROG respectively.

By comparing the pre-test and post-test results of TEG group, it is seen that the textual enhancement technique has been successful in improving learners’ score on the post-test GJ task since the observed t value is greater than the critical t value at p < 0.05. It is also the case with the comparison of the pre-test and post-test results of ROG learners, reflecting a significant increase in learners’ scores after receiving explicit rule-oriented instruction on the English

dative alternation. However, as seen in Table 4, the degree of the improvement of the two groups has not been the same, with ROG learners outperforming TEG learners on the post-test GJ task.

CONCLUSION AND DISCUSSION

Second Language Acquisition (SLA) researchers investigating the focus-on-form framework splinter over “whether the enhanced input will ultimately trigger the relevant mental representation” [15]. It is this question that has spurred a considerable amount of empirical research as to the effectiveness of input enhancement. Some studies [21, 22, 31] demonstrate that this form of *implicit* instruction may not be sufficient to induce changes in L₁ learners’ performance. Moreover, studies conducted under explicit instructional conditions have generally demonstrated positive effects on learners’ L₂ development. In this regard, exploring the effect of instructional conditions on learners’ language progress, some researchers [29, 37, 39, 40] have concluded that L₁ learners exposed to explicit learning conditions outperformed those exposed to implicit learning conditions.

Based on the results of this study, the difference between the textual enhancement (TEG) and the rule-oriented (ROG) groups lends support to the decisive effect of *explicit* metalinguistic explanations on system learning and its superiority over the *implicit* textual enhancement technique. The results fully concur with the findings of previous studies considering unsatisfactory outcomes for textual enhancement [18-25].

Concerning the pitfalls in the textual enhancement technique, the bottom line of the present and previous studies is that the problem stems from learners’ tendency to *notice* regularities in the input and subsequently form overgeneralizations of these regularities to cases where they do not apply; hence *acquisition* is seemingly limited to items *noticed* during instruction (i.e. item learning), leading to the failure of system learning. This shortcoming corroborates the finding by Harely [37] in that learners stop short of generalizing the textually enhanced features in the input to correctly judge the grammaticality of unfamiliar-albeit associated-structures. Therefore, for system-learning to occur, a moderate amount of explicit metalinguistic explanation is deemed essential. In a nutshell, the level of awareness correlates positively with system learning and acquisition, so that the higher the level of awareness, the more likely for system-learning to occur.
Taking the relationship between level of awareness and language learning into consideration, the results of this study are in line with Robinson [39], showing that when L2 acquisition is concerned, awareness at the level of noticing (i.e. surface level phenomenon characterizing item learning) is not sufficient and that awareness at the level of understanding (i.e. abstraction of underlying rules known as system learning) is a more reliable barometer of success in L2 acquisition. Simply put, although textual enhancement is allegedly useful in drawing L1 learners’ attention to notice specific features in the input, it is not particularly instantiated as a successful technique leading to acquisition.

Bearing in mind that “the efficacy of TE is, in part, a function of the learner’s prior knowledge (or lack thereof) and of the nature of the linguistic element enhanced” [41] and due to other constraints (e.g. the limited number of participants, the short duration of treatment period, institutional constraints and the learners’ proficiency level, to name a few), we should be cautioned to discreetly generalize the findings to other relevant areas of concern within the focus-on-form framework. Based on the findings obtained under such circumstances, the following implications are presented:

The first implication is for language teachers in EFL settings. Based on the results obtained, teachers of foreign languages should regard grammar learning as an indispensable component of L2 learning and try to complement their typically implicit second language instruction - currently in vogue in Communicative Language Teaching - with more salient methods of teaching language structures. Provided with a more concrete footing, teachers are then advised to abandon teaching syntactic structures - characterizing a system with abstract underlying rules - through implicit methods such as textual enhancement in favour of more explicit methods of instruction and reserve the textual enhancement technique for individual morphological features. Nevertheless, they should heed the fact that the amount of explicit instruction should be moderate, so that learners are not overwhelmed by cognitive overload and that they do not conceive of language learning as learning about language rather than learning the language per se.

The second implication should receive the attention of textbook writers. Textbook writers are advised to carry out a careful investigation of the syntactic structures amenable to system learning and focus on them through more explicit methods of teaching grammar. The choice of the input structures should be based on careful scrutiny of learners’ problems in system learning, implying that the forms posing serious system-learning problems for the learners are those which are more appropriate to be selected as the structural part of instructional materials.

REFERENCES


