The Role of Noticing in the Acquisition of the Past Tense Form in English through Oral Corrective Feedback

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ABSTRACT

This study investigates the effects of noticing triggered by oral corrective feedback on the accuracy of the use of the past tense form in English. The participants consisted of 105 students in Sabah, Malaysia. They were engaged in four communicative tasks during which they were provided with oral corrective feedback in the form of recasts or prompts. Noticing was assessed using immediate and delayed retrospective verbal reports. The learning outcomes of the corrective feedback intervention were measured using an oral and a written production test, and grammaticality judgment tests. The findings indicate that the effects of noticing were manifested in some of the tasks. In addition, noticing the rule appears to have a more durative effect on the acquisition of the past tense form. On the whole, higher levels of noticing appeared to increase the effectiveness of both explicit and implicit types of oral corrective feedback. The study suggests that higher levels of noticing triggered by oral corrective feedback are likely to promote the acquisition of English past tense forms and in view of this, this paper also presents implications for the practice of oral corrective feedback in the classroom.

KEYWORDS: **English past tense, language acquisition, language learning, noticing, oral corrective feedback**

Introduction

Noticing is a crucial factor in second language acquisition (Kassim & Ng, 2014; Gass, 1997, 2003; Schmidt, 1995, 2001; Swain, 2005) and an important theoretical construct that supports the effectiveness of corrective feedback (CF) (Loewen, 2012). To what extent L2 learners are able to benefit from interactional input, including CF, is mediated by the cognitive act of noticing. Gass (2003) believes that CF triggers noticing of the form and/ or the meaning, and also the mismatch between learners' non target-like form and the target form. These eventually lead to grammar restructuring. Many studies on CF have cited noticing as the premise for the effectiveness of CF in second language (L2) development. However, to date, there is a lack of concrete findings about the relationship between noticing and L2 development. As noted by Lyster, Saito and Sato (2013), it is still premature to claim that noticing leads to learning or that learning is dependent on noticing. In order to understand how noticing affects the effectiveness of CF, more empirical research is warranted to understand the nature of noticing and how it possibly impacts L2 development. Thus, the present study examines the relationships between noticing levels and the acquisition of the past tense. More specifically, the research questions this study addresses are as follows:

1) Do learners who report higher total frequency of noticing triggered by oral corrective feedback show better performance in accuracy of past tense use?

2) Do learners who report higher frequency of noticing the rule triggered by oral corrective feedback show better performance in accuracy of past tense use?

Oral Corrective Feedback

Corrective feedback (CF) is defined as "utterances that indicate to the learner that his or her output is erroneous in some way" (Nassaji & Kartchava, 2017, p. ix). In the current study, oral corrective feedback (OCF) refers to feedback in oral form as a reaction to correct the learner's oral production which contains one or more linguistic errors. Oral corrective feedback can be implicit or explicit. The explicitness of OCF often hinges on whether there is an indication that a linguistic error has occurred in the learner's utterance or the learner's utterance is in need of correction. For implicit OCF (e.g., recasts), the corrective intent of the OCF can be ambiguous. The ambiguity of the recast is often linked to overlaps between its corrective function and discourse function (e.g., to confirm, to clarify).

An example of ambiguity arising from the provision of recasts is as follows:
>   T: Where did you go last weekend?
>   L: I *go* to the library.
>   T: went to the library? (go > went)
>   L: Yes, teacher

In this example, while the teacher may have intended the feedback for corrective purpose, the learner may interpret it as a confirmation check from the teacher or as error correction. In classroom interaction, both interpretations are valid, thus teachers' OCF in the form of recasts may be ambiguous to learners, reducing the noticeability of the corrective function of recasts (Choo, Zainuddin & Pillai, 2019).

One of the key issues in OCF is learners' noticing of OCF. Many studies have shown that L2 classroom learners may not be aware of the corrective intent and/ or the target of teachers' recasts (e.g., Lyster, 1998a, 1998b; Lyster & Ranta, 1997; Mackey, Gass & McDonough, 2000; Panova & Lyster, 2002; Roberts, 1995; Slimani, 1992; Yoshida, 2008, 2010). Due to these constraints, some scholars (e.g., Lyster & Ranta, 1997, 2013; Panova & Lyster, 2002) have proposed a shift to alternative CF types which are more explicit and are generally believed to be less ambiguous (e.g., prompts).

In general, scholars in second language acquisition (SLA) are of the view that explicit feedback is more effective than implicit feedback because explicit feedback increases the possibility of noticing the corrective force of OCF (e.g., Carroll, 2001; Ellis, Loewen & Erlam, 2006). However, to date, little is known about how noticing affects the efficacy of OCF. Moreover, there is also a lack of empirical evidence to support the claim that more noticing of corrective intent is linked to greater efficacy of OCF.

The Role of Noticing in Corrective Feedback

Theoretically, proponents of CF have used noticing induced by interactional feedback as a premise to substantiate the facilitative role of interactional feedback in L2 development (e.g., Ellis, 1991; Gass, 1997; Long, 1996; Pica, 1994). Schmidt's (1990) Noticing Hypothesis serves as the core basis for affirming the role of noticing in L2 development. The Noticing Hypothesis posits that awareness at the level of noticing is the necessary and sufficient condition for acquisition to take place (Schmidt, 1990). He claims that input will turn into intake if and only if learners notice the input to which they are exposed to. Schmidt (1995) distinguishes between noticing and understanding. Noticing is said to refer to conscious registration of the

occurrence of some event whereas understanding implies recognition of a general principle, rule or pattern (Schmidt, 1995). In relation to noticing, Gass (1997: 4) considers noticing the gap or "apperception" as an initial step towards conversion of input into intake. The psychological term "apperception" is taken to mean the cognitive act of recognizing that there is a gap between what the learner knows and what he is yet to know. According to Gass, it is at this moment of noticing the gap that L2 learning begins to take place. Gass (1997) proposes that noticing a mismatch between learner interlanguage (IL) forms and Target Language (TL) forms is a catalyst for IL change. She concludes that the first step towards IL grammar change is noticing the gap between learner IL forms and TL forms.

The role of noticing in second language acquisition has been a controversial issue. On the one hand, Krashen (1982) proposed that language acquisition takes place in an unconscious manner, indicating that awareness does not play a vital role in second language acquisition. To Krashen's claim of unconscious acquisition, Schmidt (1990) argued that there are three meanings to the notion of unconscious acquisition. These are, first, learning without intention; second, learning without knowing the metalinguistic rules and third, learning without awareness or noticing. While it is possible for the first two types of learning to take place in an unconscious manner, it is nearly impossible for learning to occur without awareness or noticing. Schmidt's (1990) Noticing Hypothesis claims that noticing is an essential factor for language acquisition to occur. However, Schmidt (1995) argues that awareness at the level of understanding, which is of a higher hierarchical order of awareness, is not necessary for learning but predicted to be facilitative. Schmidt's claim has drawn criticisms from other SLA researchers. One of the biggest criticisms is from Tomlin and Villa (1994) who claim that detection and not selection followed by noticing can lead to acquisition, and since detection can operate without awareness, acquisition can take place without awareness. Another criticism is directed at the fact that the hypothesis does not specify the inherent properties of input that trigger noticing. In response to the latter criticism, Schmidt (2001: 4) clarifies that what must be noticed are "exemplars or aspects of the surface structure, but not any abstract rules or principles that the exemplars adhere to". Figure 1 shows the range of noticing categories induced by CF.

Schmidt's Noticing Hypothesis appears to collaborate well with Long's (1996: 451) Interaction Hypothesis which states that "(n)egotiation for meaning and especially negotiation work that triggers interactional adjustments by the NS or the more competent interlocutor facilitates acquisition because it connects input, internal learner capacities, particularly

selective attention and output in productive ways." Long's Interaction Hypothesis supplements the input signals that trigger noticing in Schmidt's Noticing Hypothesis. CF, as applied in the interactionist approach of language learning, has provided the noticing contents to Schmidt's Noticing Hypothesis by giving rise to a new spectrum of noticing categories when learners attend to CF during communicative tasks.
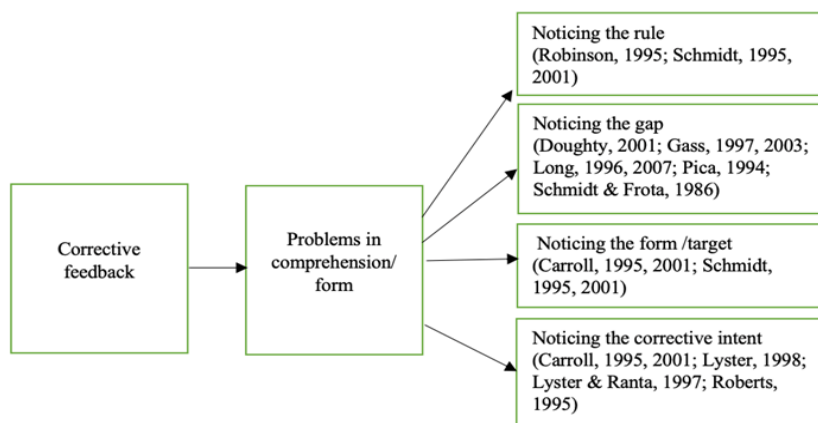

Figure 1. The spectrum of noticing categories triggered by corrective feedback

Studies on the Role of Noticing in Second Language Acquisition

Many SLA researchers have claimed that interactional feedback facilitates L2 development as it triggers learners to notice L2 forms (e.g., Ellis, Loewen & Erlam, 2006; Han, 2002; Long, Inagaki & Ortega, 1998; Lyster, 2004; Mackey, Gass & McDonough, 2000). However, little research has been done to explore the role of noticing in promoting L2 development through CF. Mackey (2006) explored the relationship between noticing and L2 development and found that there is a positive relationship between CF and noticing, more noticing leads to more development. However, the rate of development of the learners who noticed varied between the target structures.

Egi (2007) found that Japanese as a foreign language learners' interpretation of recasts as positive evidence or a combination of positive and negative evidence induced greater short-term gains than learners' interpretation of recasts as content. In a later study, Egi (2010) found a significant relationship between learners' perceptions of recasts and uptake both quantitatively and qualitatively. For learners who responded with uptake, their frequencies of reporting perceptions of recasts as CF were higher.
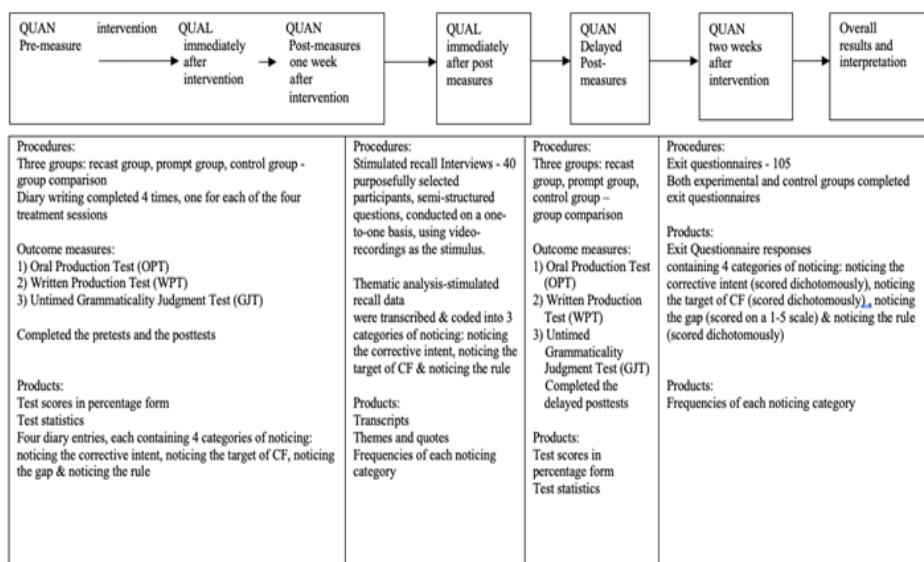
Qualitatively, learners who successfully repaired their errors reported recognizing the corrective intent of recasts more frequently than those who were unsuccessful (i.e., uptake-needs-repair). In addition, learners of uptake with repair also reported noticing IL-L2 discrepancies significantly more frequently. Similar results were found with regard to the relationship between learners' perceptions and modified output. In sum, the findings in Egi (2010) seem to suggest that successful uptake following feedback is more likely to take place when learners not only recognize the corrective intent of recasts but also notice the IL-L2 mismatch. This finding is consistent with the notion that noticing the gap is crucial for L2 development (i.e., Ellis, 1991; Gass, 1997; Long, 1996; Pica, 1994).

Kartchava and Ammar (2014) found that learners treated with prompts or prompts mixed with recasts were able to promote more noticing than recasts. It was found that prompts or prompts mixed with recasts may trigger more noticing of the corrective intent, but it remains unknown if prompts are capable of inducing more noticing the gap. Further, it was noted that past tense forms demonstrated better learning effects than the past question forms. Despite greater amounts of noticing triggered by prompts or prompts mixed with recasts, both prompts and prompts mixed with recasts did not seem to yield better learning outcomes.

Similar to other CF noticing studies that utilized verbal reports, there is a methodological issue with underreporting of noticing reports. As acknowledged by Egi (2010) and Mackey (2006), learners might recognize some linguistic contents of CF but are unable to verbalize them. For instance, for cognitive processes triggered by prompts, it is doubtful that participants were not aware of the grammatical rule as prompts are often operationalized as metalinguistic information (e.g., use the past tense) and/or elicitation (e.g., the past tense of "go" is…). It was probably the case that they were aware of the grammatical rule but were not able to verbalize it. In a similar vein, for cognitive processes triggered by recasts, it is possible that participants were aware of the discrepancies between their erroneous utterance and the correct form embedded in recasts (i.e., noticing the gap) but they were unable to verbalize them because the provision of recasts allows learners to perform cognitive comparison between the correct form and the erroneous form. Alternatively, the verbal reports produced by participants may be a function of the instrumentation used to elicit cognitive processes, such as immediate recalls as in Kartchava and Ammar (2014). In short, the relationships between cognitive processes, in particular noticing activities triggered by different types of CF, and their effects on second language learning are still in need of further research.

Method

The aim of the present study is to explore the relationships between noticing induced by two types of OCF recasts and prompts, and acquisition of the past tense. A mixed-methods research design was adopted as the study required both quantitative and qualitative data to better understand the problem. The research procedure is shown in Figure 2.

QUAN Pre-measure	intervention	QUAL immediately after intervention	QUAN Post-measures one week after intervention	QUAL immediately after post measures	QUAN Delayed Post-measures	QUAN two weeks after intervention	Overall results and interpretation

Procedures:	Procedures:	Procedures:	Procedures:
Three groups: recast group, prompt group, control group - group comparison Diary writing completed 4 times, one for each of the four treatment sessions Outcome measures: 1) Oral Production Test (OPT) 2) Written Production Test (WPT) 3) Untimed Grammaticality Judgment Test (GJT) Completed the pretests and the posttests Products: Test scores in percentage form Test statistics Four diary entries, each containing 4 categories of noticing: noticing the corrective intent, noticing the target of CF, noticing the gap & noticing the rule	Stimulated recall Interviews - 40 purposefully selected participants, semi-structured questions, conducted on a one-to-one basis, using video-recordings as the stimulus. Thematic analysis-stimulated recall data were transcribed & coded into 3 categories of noticing: noticing the corrective intent, noticing the target of CF & noticing the rule Products: Transcripts Themes and quotes Frequencies of each noticing category	Three groups: recast group, prompt group, control group – group comparison Outcome measures: 1) Oral Production Test (OPT) 2) Written Production Test (WPT) 3) Untimed Grammaticality Judgment Test (GJT) Completed the delayed posttests Products: Test scores in percentage form Test statistics	Exit questionnaires - 105 Both experimental and control groups completed exit questionnaires Products: Exit Questionnaire responses containing 4 categories of noticing: noticing the corrective intent (scored dichotomously), noticing the target of CF (scored dichotomously), noticing the gap (scored on a 1-5 scale) & noticing the rule (scored dichotomously) Products: Frequencies of each noticing category

<div align="right">Adapted from Creswell & Plano Clark (2007, p. 49)</div>

Figure 2. The procedures of integrating qualitative data into the quasi-experimental study

Participants

A total of 105 students studying at a government-aided secondary school in Malaysia were selected to participate in the study. The students were all 16 years old. The participants had nine years of formal study of English as the second language at the time of the study. Based on the results of their Lower Secondary Assessment English results, 50% of the students were categorised as having a higher proficiency (Grades A and B) of English while the remaining were of the lower proficiency level (Grades C and D). In order to ensure equal numbers of participants across the treatment groups,

35 participants were distributed to each treatment group as shown in Table 1.

Table 1. Distribution of participants across treatment groups by proficiency level

Proficiency level*	Recasts	Prompts	Control
High proficiency	15	15	23
Low proficiency	20	20	12
Total	35	35	35

*Based on the results of their Lower Secondary Assessment English results

Target Linguistic Feature and Treatment Tasks

The regular and irregular forms of the past tense were selected as the target linguistic feature as previous studies have indicated that this is among the main problem areas for learners, including Malaysian (Ting, Mahadhir, & Chang, 2010; Tengku Mohd Maasum et al., 2012) ones. Four 15-minute treatment tasks which allow obligatory use of the past tense form were devised for the administration of treatment in this study (Ellis, 2007; Yang, 2008): a role play, and three narrative tasks *(Retelling of Cinderella, Johnny's most productive weekend,* and *the day when I lost something I loved very much*).

Operationalization of Recasts and Prompts

Recasts were operationalized as teacher's reformulations of learner's erroneous past tense forms as shown in Example 1, while prompts were conceptualized as metalinguistic feedback and/ or elicitation as shown in Example 2.

      Example 1
      L: Cinderella work the whole day...
      T: worked (recast).
      L: Cinderella <u>worked</u> the whole day...

      Example 2
      L: At night, Cinderella sleep near the kitchen corner.
      T: Use the past tense. She… (prompt = metalinguistic feedback +
         elicitation)
      L: She <u>slept</u> near the kitchen corner.

(L= Learner, T=Teacher)

Operationalization of Noticing

Noticing is operationalized as availability of noticing reports during a CF episode whether in written or spoken form. In the current study, the construct of noticing is unpacked as noticing the corrective intent, noticing the form of the target structure, noticing the gap (i.e., the difference between the incorrect form produced by the learner and the correct form provided or prompted by the teacher), and noticing the rule that helps learners reach the correct form of English past tense. Adopting a triangulated approach, the study utilized multiple data elicitation procedures to assess learners' noticing of CF. These elicitation procedures included diary writing, stimulated recall interviews and exit questionnaires.

Diary Writing

Diary writing was used to explore the inner cognitive processes (i.e., noticing the corrective intent of teacher feedback, noticing the target of teacher feedback, noticing the gap and noticing the rule) that took place at the time of feedback through elicitations of retrospective written reports.

The noticing data collected through diary entries were coded and categorized according to the categories of *notice the corrective intent, notice the target/form of teacher feedback, notice the gap and notice the rule in a dichotomous manner* (see Appendix A). For scoring the diary writing noticing data, every positive answer was awarded the score of one and zero for negative answers (see Appendix B). There were four treatment tasks in the study, resulting in a maximum score of 16 for noticing data elicited through diary writing.

A second independent rater coded and scored 25% of randomly selected diary entries. To validate the diary entry data, the noticing reports in the diary entries were cross-checked with noticing reports of the same category elicited through other elicitation procedures. For the experimental group learners who did not perform stimulated recalls, their diary entry noticing reports were compared to the corresponding data in the exit questionnaire to verify the data. For noticing-the-gap reports, the diary data were compared to exit questionnaire data to validate the noticing reports collected through

diary writing. The first and second raters achieved a 100% agreement in coding and scoring the data elicited through diary writing.

Stimulated Recall Interview

Stimulated recall interview was a post-task procedure employed to probe learners' noticing of teacher feedback by eliciting learners' thoughts at the time of feedback with video recordings as the stimulus. The stimulated recall sessions were held after the post-test but before the delayed post-test. The verbal reports of noticing collected through stimulated recall were transcribed using stimulated recall transcription guidelines adapted from Gass and Mackey (2000) and transcription conventions adapted from Yoshida (2010) and coded according to these categories:

a) Noticing the form: [+F] (Schmidt, 1995, p. 29) was operationalized as a "verbal reference to the target structure (i.e., the past tense verb form) without any mention of rules".

b) Noticing the rule: [+R] (Schmidt, 1995, p. 29) was operationalized as a description of the rule that governs the correct usage of the target structure including what is required of learners, i.e., to change the base form to the past tense to reach the correct verb form in obligatory past-time contexts.

c) No awareness report: [NAR]. Learners who showed no verbal reports of awareness were those mentioning the task and the advantages of the task they had just completed without any mention of the target structure or the rule that governs the correct usage of the target structure. (see Appendix C for excerpts of stimulated recall interviews).

A second independent rater viewed, transcribed and coded 25% of randomly selected stimulated recalls. There was a 100% agreement between the two raters in coding and scoring the noticing data elicited by stimulated recalls.

Exit Questionnaire

The exit questionnaire, administered after the stimulated recall and the delayed post-test, was designed to elicit what learners noticed during the experiment and to access the possibility of any extra-experimental input during the experimental period. It consisted of two sections: the purpose of communicative tasks and noticing of CF. The exit questionnaire had the advantage of strengthening the reliability of the findings regarding learners' cognitive processes in response to CF (Rosa & Leow, 2004). A total of 25%

of the scores were randomly selected and checked to ensure that the data were entered correctly.

Data Analysis

Measured by the total frequency of noticing, participants were divided into two categories, i.e., high total frequency of noticing or low total frequency of noticing, making the independent variable a categorical one. Measured by the hierarchical order of noticing, participants were categorized as either high or low frequency of noticing the rule, also making the independent variable a categorical one.

Normality tests were performed on the test scores of OPT, WPT and GJT. The results showed that test scores data for both the high total frequency of noticing (High Fn) and the low total frequency of noticing (Low Fn) groups, as well as both the high frequency of noticing the rule (High FNR) and the low frequency of noticing the rule (Low FNR) violated the assumptions of normal distribution of data and equivalence of variances. Thus, a non-parametric Mann-Whitney U test was considered appropriate for the analysis. The effect size for the Mann-Whitney U Test was calculated using the following formula:

$$r = \frac{z}{\sqrt{N}}$$

Following Cohen's (1988) guidelines, the effect size is considered small if r = 0.1, medium if r = 0.3 and large if r = 0.5.

Findings

The findings for the first research question are divided into six parts following six learning outcomes, i.e., oral production post-test, oral production delayed post-test, written production post-test, written production delayed post-test, untimed grammaticality judgment post-test and untimed grammaticality judgment delayed post-test. Table 2 provides a summary of the overall Mann-Whitney U Test results. The first row in Table 2 shows if there is a significant difference in the learning measures between the low total frequency of noticing (Low Fn) group and the high total frequency of noticing (High Fn) group. The results of the Mann-Whitney U tests revealed that there is a significant difference between the low total frequency of noticing and the high total frequency of noticing groups for three of the learning measures, i.e., oral production post-test, oral

production delayed post-test and untimed grammaticality judgment post-test, with medium effect sizes.

The second row in Table 2 shows whether there is a significant difference in the learning measures between the low frequency of noticing the rule (Low FNR) group and the high frequency of noticing the rule (High FNR) group. The results of the Mann-Whitney U tests revealed that there is a significant difference between the low frequency of noticing the rule (Low FNR) group and the high frequency of noticing the rule (High FNR) group for three of the learning measures, i.e., oral production post-test, oral production delayed post-test and untimed grammaticality judgment delayed post-test, with medium to large effect sizes.

Table 2. Summary of Overall Mann-Whitney U Results

Learning Outcome	Group	Z value	Asymp. Sig. (2-tailed)	Effect Size
OP Post-test	Low Fn vs. High Fn	-2.810	0.005*	.38 (medium)
OP Delayed Post-test	Low Fn vs. High Fn	-1.901	0.057*	.26 (medium)
WP Post-test	Low Fn vs. High Fn	1.203	0.229	-
WP Delayed Post-test	Low Fn vs. High Fn	-0.232	0.816	-
GJ Post-test	Low Fn vs. High Fn	-2.296	0.005*	0.33 (medium)
GJ Delayed Post-test	Low Fn vs. High Fn	-1.051	0.293	-
OP Post-test	Low FNR vs. High FNR	-5.009	0.000*	.71 (large)
OP Delayed Post-test	Low FNR vs. High FNR	-2.717	0.001*	.37 (medium)
WP Post-test	Low FNR vs. High FNR	-1.078	0.281	-
WP Delayed Post-test	Low FNR vs. High FNR	-1.040	0.298	-
GJ Post-test	Low FNR vs. High FNR	-1.817	0.069	-
GJ Delayed Post-test	Low FNR vs. High FNR	-2.507	0.010*	0.33 (medium)

Note: OP = Oral Production, WP = Written Production, GJ = Untimed Grammaticality Judgment, Fn = Total Frequency of Noticing, FNR = Frequency of Noticing the Rule
* The test result is significant.

Discussion

Based on the results of the Mann-Whitney U tests, the answer to research question 1 is partially affirmative. In the present study, the total frequency of noticing is defined and operationalized as a combination or compilation of noticing activities including noticing the corrective intent, noticing the target of CF, noticing the gap and noticing the rule (Fn= Notice_CI +Notice_T +Notice _G + Notice_R). The results of the study revealed that higher levels of noticing are associated with better performance in accuracy of past tense use. Drawn on this observation, it is inferred that the effectiveness of CF is to some extent determined by the cognitive activity of noticing that occurs in learners when they are exposed to CF. According to the total frequencies of noticing, the experimental groups scored at average 4.89 and 4.59 out of a maximum of 5 points for the categories of noticing the corrective intent and noticing the target CF or form. This suggests that participants treated with either recasts or prompts were able to notice the corrective intent and the target of CF or form when they were exposed to CF, and these two categories of noticing are predicted to have led to improvement in accuracy of past tense use.

For the category of noticing the gap, the experimental groups, at average scored 17.7 out of a maximum of 24 points. The findings of the present study thus affirm the importance of noticing the gap as a crucial theoretical construct of CF (Loewen, 2012). This is supported by Long's (1996) Interaction Hypothesis which states that negotiation of meaning which occurs during conversational interaction may aid second language acquisition because it juxtaposes learners' non target-like utterance with the interlocutor's target-like utterance, which allows learners to notice the gap between the two utterances.

The findings of the current study appear to affirm that there is a positive relationship between noticing and second language development, confirming the hypothesis made by Mackey (2006). In the study, it was found that higher noticing levels accounted for better performance of accuracy in past tense use for both CF types, thus reinforcing the notion that higher noticing levels increase the effectiveness of both explicit and implicit types of CF (i.e., recasts and prompts). The results of the current study conform to Leow's (2000, 2001) findings. Leow studied how awareness affects the learning of the third- person singular and plural preterite of Spanish [e.g., *domir* ('to sleep') - *durmio* ('he slept') - *durmieron* ('they slept')] using a crossword puzzle as an experimental task and evidence of

learning was based on scores obtained in a recognition task and a written production task. He found that awareness seemed to promote learners' intake and aware participants tended to perform better than unawares on both tasks.

On the whole, the current study seems to suggest a positive relationship between level of noticing measured by the total frequency of noticing and accuracy of past tense use. The positive relationships between frequency of noticing the corrective intent/ noticing the gap and learning outcomes are corroborated by the findings in Egi (2010) despite differences in learning measurement.

Based on the results of the Mann-Whitney tests, the answer to the second research question is partially affirmative. Schmidt's (1990, 1995, 2001) Noticing Hypothesis claims that awareness at the level of noticing (i.e., noticing the exemplars of language rather than rules that govern the usage of exemplars) is sufficient and necessary for second language development. In other words, learners are not able to learn a target linguistic feature in L2 unless they first notice it. Even though Schmidt states that awareness at the level of understanding (i.e., noticing the rule) may not be necessary for L2 learning to take place (Schmidt, 2001: 41), the results of the current study seem to suggest that awareness at the level of understanding (i.e., noticing the rule) when exposed to CF tends to lead to superior performance in accuracy of past tense use.

As mentioned earlier in the paper, Schmidt (1995), noticing the rule is the factor that discriminates between explicit learning and implicit learning. In the present study, learners reported noticing the rule and higher levels of noticing the rule contributed to better performance in accuracy of past tense use, as evidenced in the oral production tests and untimed grammaticality judgment tests, which were meant to measure both implicit and explicit knowledge of the past tense. This perhaps can be interpreted that explicit learning that takes place when learners are exposed to CF actually aids learners to acquire both the implicit and the explicit knowledge of the past tense. Consistent with Rosa and O'Neill (1999) and Rosa and Leow (2004), the results of the current study reveal that learners who reported higher frequency of awareness of higher order (i.e., noticing the rule) showed better performance in accuracy of past tense use than those who reported lower frequency of awareness of higher order at the post-test and the delayed post-test, even though novel items were added to the testing materials. One possible factor that contributes to this phenomenon may that be awareness at the level of understanding (i.e., noticing the rule) is predicted to be

associated with a more complex type of input processing. This, in turn, may contribute to a higher amount of intake (Rosa & O'Neill, 1999). In the same vein, higher frequency of noticing the rule in the present study is predicted to trigger higher levels of input processing which lead to better performance in accuracy of past tense use. Applying what Leow (2000, 2001) found, i.e., learners who reported awareness at the level of understanding showed the tendency to engage themselves in the usage of conceptually-driven processing, the incidence of noticing the rule may likely be linked to higher processing levels, in particular, hypothesis-testing and rule-formation of past tense forms which may have contributed to superior accuracy of past tense use in the oral production and untimed grammaticality judgment delayed post-tests.

The mixed results in the current study conform to the results in Sakai (2004) in that although recasts were found to promote higher levels of noticing across all noticing categories, the higher levels of noticing did not amount to better performance for the recast group compared to the prompt group across all learning measures. Similar to Sakai (2004), the current study found that noticing the corrective intent or noticing the target of CF is not sufficient in helping learners to incorporate the linguistic content embedded in or prompted by CF for production of the correct form. Furthermore, noticing the gap triggered by both recasts and prompts was found to be a more reliable determinant factor for the efficacy of both CF types. The mixed results are corroborated by the results in Kartchava and Ammar (2014). In terms of learning effects, past tense forms fared better than the past question forms. In Kartchava and Ammar (2014), although prompts or prompts mixed with recasts were able to trigger more noticing of the corrective intent than recasts, no statistically significant difference was found in accuracy levels of both the target structures between the CF groups. In other words, despite greater amounts of noticing triggered by prompts or prompts mixed with recasts, the greater amounts of noticing did not seem to yield better learning outcomes.

Conclusion

In relation to the first research question of whether learners who report higher total frequency of noticing show better performance in accuracy of past tense use, the results indicated that there was a significant difference between the low total frequency of noticing and the high total frequency of noticing in the oral production post-test, oral production delayed post-test and untimed grammaticality judgment post-test. For the second question of whether learners who report higher frequency of noticing the rule show

better performance in accuracy of past tense use, the results indicated that there was a significant difference between low frequency of noticing the rule and high frequency of noticing the rule in three of the learning measures: oral production post-test, oral production delayed post-test and untimed grammaticality judgment delayed post-test.

In addition, different levels of noticing, whether measured by total frequency of noticing or frequency of noticing the rule, did not differ on the written production test at both the post-test and the delayed post-test. What is also noteworthy is that noticing the rule may have a more durative effect on accuracy of past tense use as exemplified in the oral production and untimed grammaticality judgment delayed post-test.

The results of the study revealed mixed results with regard to the relationships between noticing levels and second language learners' acquisition of past tense. Noticing levels, whether measured by total frequency of noticing or hierarchical order of noticing, have a significant positive effect on learners' acquisition of the English past tense on selective tasks (i.e., oral production tests and untimed grammaticality judgment tests). The findings indicated that the effects of noticing levels on past tense acquisition may be mediated by non-CF-related factors such as tasks and the type of knowledge (i.e., implicit and explicit knowledge) the task is intended to measure. Furthermore, the results also suggest that awareness of higher order (i.e., noticing the rule) may have a more durative effect on learning outcomes. The mixed results have given rise to two possible interpretations, albeit inconclusive.

First, noticing, has the capacity of increasing the efficacy of both the implicit and explicit types of CF (i.e., recasts and prompts). Second, noticing alone is insufficient for learners to incorporate the linguistic input of CF for intake (i.e., production of more target-like output). Even though higher noticing levels triggered by CF are likely to lead to better performance in the accuracy of past tense use; the effects of noticing are predicted to be constrained by factors such as developmental level, target linguistic feature, type of CF and type of task used in the measurement of learning.

The present study has also indicated that it may not be the amount of noticing but rather the content of noticing that determines the efficacy of CF. It is hypothesized that noticing the gap carries more weight compared to noticing the corrective intent in promoting L2 learning. Future research that looks into the relationships between the cognitive activity of noticing the

gap following the different types of OCF and learning outcomes is warranted.

The study has shown that noticing plays a vital role in increasing the efficacy of both implicit and explicit types of CF (i.e., recasts and prompts) and higher levels of noticing are likely to lead to better performance in accuracy of past tense use. Based on these findings, several implications related to the practice of CF in ESL classrooms are presented: 1) The findings of the study imply that in the communicative ESL instructional setting, where learners are aware of the corrective intent and the target of OCF, noticing the gap seems to carry a heavier weight where the efficacy of OCF is concerned; 2) Hence, second language instructors' attention should be focused on harnessing learners' ability to notice the linguistic content of OCF rather than the corrective intent of OCF. Learners' noticing ability can be enhanced by expanding learners' existing knowledge (i.e., L2 knowledge, L1 knowledge and world knowledge) and increasing the saliency of the input provided in classroom interaction (e.g., flooding the input with the target linguistic feature); 3) The findings that higher levels of noticing are associated with better performance in past tense use may imply that noticing can serve as a basis for ESL teachers in making better informed decisions with regard to the type of CF (i.e., input- providing vs. output- prompting) deemed suitable for their learners. ESL instructors may want to consider corrective techniques that induce higher noticing levels, which in turn may promote the acquisition of L2 features; and 4) The process of producing the target-like form of the past tense within the meaningful context of the communicative tasks seems effective in heightening learners' noticing of the discrepancies between the erroneous form and the correct form. Thus, in efforts to promote noticing induced by OCF, second language instructors are recommended to employ communicative tasks that allow learners to be productive in the production of the target linguistic feature.

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Appendix A

Coding of Diary Writing Data
The noticing reports collected through diary writing were coded according to the following noticing categories:

a) Notice the corrective intent was operationalized as a verbal report of noticing the teacher's corrective intent (i.e., an affirmative answer) or noticing one has made a mistake/an error or a description of the noticing experience. For example,

"I will always recognize when my teacher corrected me."

b) Notice the target/form of teacher feedback was operationalized as a verbal report of noticing the target/form of teacher feedback (i.e., an affirmative answer), or a verbal report of stating the target/form of teacher feedback or a description of the noticing experience. For example,

"I always noticed it; Yes, I noticed the target of the teacher's feedback. For example, the teacher told us to correct our past tense."

c) Notice the gap was operationalized as a verbal report of noticing the difference between the incorrect form the learner produced and the correct form provided/prompted by the teacher (i.e., an affirmative answer) or a description of the noticing experience. For example,

"My sentence that was wrong was "I love to ate nasi ayam" <chicken rice> but my teacher corrected me and said that the sentence should be "I love to eat nasi ayam" <chicken rice>; It was (They were) two different meanings, "is" for the present tense and "was" for the past tense."

d) Notice the rule was operationalized as a verbal report of noticing the rules or a description of the rules related to the use of the past tense (e.g., for regular past forms, add -ed to the stem; for irregular past forms, change the vowel of the stem; or any relevant information related to the usage of the past tense). For example,

"I was able to describe the grammar rules that help me reach the correct answer."

For scoring diary writing awareness data, every positive answer was awarded the score of one and zero for negative answers. There were four treatment tasks in the study, resulting in a maximum score of 16 for awareness data elicited through diary writing.

Appendix B

Procedures in Coding and Scoring Diary Writing Data
Research ID: 4BHP002
Treatment group: Prompt
Task 1: Cinderella story-retelling
Diary Entry: 4BHP002_DWT1

Noticing category	Textual evidence	Criterion	Score
Noticing the corrective intent	DWT1Notice_CI I recognized the corrective intent of the teacher's feedback	Affirmative answer	1
Noticing the target	DWT1Notice_T I noticed the target of the teacher's feedback	Affirmative answer	1
Noticing the gap	DWT1Notice_G I'm able to describe the difference between the incorrect form that I had made and the correct from (form) provided by the teacher. For example, the verb 'be' will change to 'was' when it is past tense	Affirmative answer	1
Noticing the rule	DWT1Notice_R The grammar rule that helps me reached (reach) the correct form is the past tense. In past tense, the verb words will be added with 'ed' at the tail of the word or the word will change. For example, the word 'ask' will add with 'ed' and become asked. The word go will change to went when it is past tense. But some word also not change. For example, the word put will also same when it is past tense	A description of the rules related to the use of the past tense.	1
		Total	4

Appendix C

Excerpts of Stimulated Recall Interviews

Excerpt 1

Segment/ Line	Speaker	Transcription of learners' stimulated recall of oral interaction	Noticing category
Segment 3: After the CF episode (restricted recall)	T: L: T: L: T: L: T: L: T: T: L: T:	Ok, girl. Another question for you. Here I just want to know "What did you notice when… aah… you were provided with feedback? What did you notice when… From the teacher's feedback, what did you notice? Umm… **the verb was in past tense. I used the verb in present tense. It's wrong.** Was that what you were thinking at that time? Yes. Ok. Alright. Another question for you here. Umm… Did you also notice grammar rules in the feedback provided by the teacher? Did you notice any grammar rules? **I don't think so.** Ok. Please answer. **No.** Alright. Good. Umm… One last question for you. Do you have any other thing to comment or report about the story-retelling and the feedback session that you had before? Any other thing to comment or report? No. It…it gave me something to learn'lah'. I appreciate it. Thank you.	[+F] noticing the form/ target of the teacher's correction [-R] noticing the grammar rule that requires the use of the past tense

Excerpt 2

Segment/ Line	Speaker	Transcription of learners' stimulated recall of oral interaction	Noticing category
Segment 3: After the	T:	What do you think the teacher was trying to correct at that time? What	[+F] noticing the form/

CF episode (restricted recall)	L:	do you think the teacher was trying to correct? Perkataan yang… sepatutnya jadi past tense and err… and the … apa… kata kerja. Umm… itu sahaja<**The word which… should be the past tense and err… and the… what… the verb. Umm… that's all.>**	target of the teacher's correction [+R] noticing the grammar rule that requires the use of the past tense
	T:		
	L:	Did you notice that I was correcting	
	T:	your past tense?	
	L:	**Yes (chuckle)**	
	T:	Yes or no?	
		Yes.	
		Ok. So what about grammar rules? From the feedback provided by the	
	L:	teacher, did you also notice grammar	
	T:	rules during the time when you were provided with feedback?	
		Yes.	
		Was that err… correct that you aah…	
	L:	actually also noticed grammar rules during the time when you were provided with feedback?	
		Aah… I… I knew that my… my verb is wrong. I was so nervous I can't think about saying the correct form and … grammar rules. Itu saya ingat	
	T:	tapi saya tak tahu kena cakap balik atau tidak < That's all that I can remember but I'm not sure if I need to repeat or not > (nod).	
		Tapi soalan saya my question ialah	
	L:	"Did you also notice grammar rules	
	L:	from the feedback you [received?	
	T:	<Apakah kamu perasan peraturan tatabahasa waktu you… waktu bercerita itu. >	
		[**Yes.**	
		Yes. I noticed.	
		Ok.	

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