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Revision vs. Attention Requirements: Impacts on the Efficacy of the Written Indirect Corrective Feedback

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This quantitative experimental study, which followed a pretest-treatment-posttest-delayed posttest design, investigated the effects of revision versus attention mediation on the efficacy of the written indirect coded feedback to improve the EFL learners' syntactic accuracy of their essays of opinion-led type. Eighty-six Turkish university learners were assigned to three groups: comprehensive indirect coded corrective feedback plus a revision requirement (ICF/+R), comprehensive indirect coded corrective feedback plus a time to pay careful attention to the received feedback (ICF/+A) and the control group that received only the comprehensive indirect coded feedback without any extra assignment (ICF). Each group received three sessions of treatment. The existence of any statistically significant differences among the three groups with regard to each received treatment was investigated in the short and long term. The indirect coded CF proved to be effective in improving the grammatical accuracy. Moreover, it was found that both revision requirement (ICF/+R) and careful attention requirement (ICF/+A) significantly outperformed the group that only received the ICF. Nevertheless, it was also proved that the group that was required to pay careful attention to and study the feedback (ICF/+A)

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significantly outperformed the one that experienced the revision requirement (ICF/+R). The findings were discussed in terms of noticing at the level of understanding.

Keywords: Comprehensive indirect coded corrective feedback, revision, attention, essays of opinion-led type.

Introduction

Corrective feedback (CF) has been an important part and a controversial topic not only in second language (L2) writing instruction (Ferris, 2014; Karim & Nassaji, 2020) but also in the field of second language acquisition (SLA) research (Karim & Nassaji, 2020). Since Truscott (1996) questioned the usefulness of written corrective feedback (WCF), several researchers conducted studies to investigate the issue and promising results were found. Several studies showed the positive effects of the focused feedback (Bitchener, 2008; Bitchener, East, & Cartner, 2010; Bitchener, Young, & Cameron, 2005; Bitchener & Knoch, 2008, 2009, 2010a; Sheen, 2007, 2010; Sheen, Wright, & Moldawa, 2009). As for the comprehensive CF, although a few studies did not find positive effects (Kepner, 1991; Semke, 1984), some showed promising results (Chandler, 2003; Robb, Ross, & Shortreed, 1986; Sheppard, 1992; Valizadeh, 2020). Some scholars argued that focused feedback is more effective than comprehensive/unfocused one because the focused CF directs learners' attention more effectively to the target form (Bitchener & Knoch, 2008; Ellis, Sheen, Murakami, & Takashima, 2008; Nassaji, 2015; Sheen, 2007; Sheen et al., 2009). Nevertheless, some studies found that both the focused and comprehensive WCF caused accuracy gains (Frear & Chiu, 2015). Despite the mentioned points, evidence on the effectiveness of comprehensive correction of every error on learners' writing improvement is scarce, so no firm conclusion can be reached (Ferris, 2012; Karim & Nassaji, 2020; Van Beuningen, De Jong, & Kuiken, 2012). Consequently, investigating the effect of the comprehensive CF is essential particularly because teachers often provide feedback on various errors in students' writing rather than on errors of a single type; therefore, research on comprehensive CF is more ecologically valid (Ferris, 2012; Storch, 2010).

Although a large number of scholars have accepted that providing feedback is beneficial in general, the debate over the efficacy of direct vs. indirect CF has not been settled, either (K. Hyland & Hyland, 2006; Nassaji, 2016). Some researchers have stated that direct CF is more effective than indirect one because it obviously shows the correct form (Bitchener, 2008; Ellis et al., 2008; Sheen, 2007). However, it has been argued that indirect CF is more beneficial than the direct CF in the long run because it engages learners in problem-solving learning and as a result helps them to become independent learners (Ferris, 2006). In terms of the studies which empirically compared the effectiveness of these two major types of feedback, some found no difference between them (Robb et al., 1986; Semke, 1984; Van Beuningen, De Jong, & Kuiken, 2008; Van Beuningen et al., 2012), some found the indirect CF as more beneficial (Aliakbari & Toni, 2009; Lalande, 1982; Sheppard, 1992; Tan & Manochphinyo, 2017), and several studies indicated an advantage for direct CF, especially when combined with metalinguistic information (Bitchener, 2008; Bitchener & Knoch, 2008, 2009, 2010b; Bitchener et al., 2005; Bonilla López, Van Steendam, Speelman, & Buyse, 2018; Ellis et al., 2008; Shintani & Ellis, 2013). Additionally, Tootkaboni and Khatib (2014) indicated that direct CF accompanied with teacher consultation was more effective for the retention of the target linguistic structures in the short term, but indirect coded feedback was a more beneficial strategy for the long-term mastery of the linguistic structures. The mixed findings about the effect of various types of WCF may be due to various mediating factors (Kang & Han, 2015), such as the type of grammar structure (Bitchener et al., 2005; Ferris & Roberts, 2001; Ferris, 2006; Van Beuningen et al., 2012) and the time length or duration of the feedback treatment (Storch, 2010). In addition, learner engagement plays a critical role in the CF mechanism due to the fact that it mediates teacher provision of CF and learning outcomes (Ellis, 2010). Therefore, it has been argued that if learners do not respond to the provided WCF, they may ignore it or attend to it only partially (Ellis, 2009; Elwood & Bode, 2014; Guénette, 2007; Liu & Brown, 2015). That's why the revision requirement has been recommended in order to engage the learners with the feedback and hold them responsible for their learning (Ferris, 2006; Guénette, 2012; F. Hyland, 2003; Shintani & Ellis, 2015; Storch & Wigglesworth, 2010; Truscott & Hsu, 2008). Moreover, it is believed that revision requirement can be a necessary intermediate step towards the long-term learning of a

specific point (Ferris, 2004, 2010; Guénette, 2007, 2012; Sachs & Polio, 2007), especially "in the development of written accuracy" (Liu & Brown, 2015, p. 67) because learners have time to notice, think about and process the feedback and fix the errors to modify their texts (Ferris, 2010; Sachs & Polio, 2007). "During revision, learners are able to access their explicit L2 knowledge and notice the gap between it and their first draft production." (Williams, 2012, p. 324). On the other hand, some scholars argued that provided that the learners are required to notice the feedback and process the received corrections, the WCF can be effective, even under the condition of no revision requirement (Shintani & Ellis, 2015). Some stated that the revision requirement is neither necessary to trigger noticing nor in line with normal WCF practice given in real classrooms because teachers usually do not require the learners to revise their written text based on provided feedback (Stefanou & Révész, 2015). It is also mentioned that learners can copy the corrections onto their revised texts passively, without noticing their errors and the provided WCF; consequently, what is vital is that teachers draw learners' attention to the target of the provided WCF (Polio, 2012; Stefanou & Révész, 2015). Drawing learner's attention can be achieved by requiring them to take time to look over the received feedback and carefully examine their errors (Ellis, 2009; Polio, 2012). In terms of the literature, several researchers have included the revision in their studies and found positive results (Chandler, 2003; Diab, 2015; Frear, 2012; Shintani, Ellis, & Suzuki, 2014; Suzuki, 2012; Van Beuningen et al., 2012). Among them, Shintani et al., (2014) investigated the effects of direct and metalinguistic explanation under two conditions of with and without the opportunity to rewrite on two English grammatical structures of the indefinite article and past hypothetical conditionals. As for the accurate use of the indefinite article, neither type of feedback had any effect in new pieces of writing under either condition. However, both types of feedback led to improved accuracy in the past hypothetical conditional, and also the direct feedback in conjunction with revision proved the most effective type. Recently, Soltanpour and Valizadeh (2018) compared the mediating effects of revision versus attention on the efficacy of comprehensive direct CF on EFL learners' written syntactic accuracy. It was found that both revision requirement and careful attention requirement significantly outperformed the group that only received the direct CF. However, the group that was required to pay careful attention to the feedback significantly outperformed the one

that experienced the revision requirement. As literature shows, few studies systematically investigated different approaches to revision, and to help teachers improve the efficacy of their WCF, a more thorough understanding of learner engagement with WCF is needed (Han & Hyland, 2015); therefore, revision studies are interesting and provide important evidence helping teachers refine their practice (Ferris, 2010). Consequently, this study compared the two opportunities of whether to require students to attend to the feedback or to revise their text based on the received feedback. The following questions were addressed:

1. Does the comprehensive indirect coded CF significantly affect the learners' grammatical written accuracy in the short and long term?

2. To what extent is comprehensive indirect coded CF combined with either students' attention to the feedback or revising their texts based on received feedback effective in improving learners' grammatical written accuracy, relative to each other and to feedback-only methodology in the short and long term?

In short, this study includes three groups. What is common among all of them is that they all received comprehensive indirect CF (henceforth, comprehensive ICF); however, one of them was also required to revise the texts based on the received WCF (ICF/+R); the other one had to study the received feedback carefully (ICF/+A); the third group only received the comprehensive ICF and was not required to either revise or study the texts carefully.

Method

Research Design

This experimental study had a pretest-treatment-posttest-delayed posttest design. There were three independent variables called 'ICF/+R', 'ICF/+A', and 'ICF' as well as a dependent variable named syntactic written accuracy.

Participants and Groupings

A total of 118 university sophomores, juniors, and seniors, who majored in English Literature and had already passed Advanced Academic Writing course, were informed about the

study and were invited to participate. Ninety-nine students accepted to take part. They were given the Oxford Placement Test (henceforth, OPT). The score of 86 students ranged from 41 to 47; they were at the upper-intermediate level, based on Geranpayeh's (2003) guideline. Therefore, these 86 learners were selected as the participants and were assigned randomly to three groups: 17 females and 12 males in 'ICF/+R' group, 21 females and 8 males in 'ICF/+A' group, and 20 females and 8 males in 'ICF' group. In brief, totally, 86 university students (58 females and 28 males), ranging from 19 to 24 years old, formed the participants.

Instruments

The following instruments were utilised: Oxford Placement Test (OPT), CF codes, writing tasks, pretest, posttest, and delayed posttest. For the writing tasks and tests, samples of IELTS Writing Task 2 were used. Moreover, in order to assess the syntactic accuracy, the formula: [total number of syntactic errors/total number of words] × 100 was utilized. The formula was already used by Chandler (2003), Truscott and Hsu (2008), Soltanpour and Valizadeh (2018), as well as Valizadeh (2020). The utilized codes are shown in Table 1.

Table 1. *Codes for Indirect Coded Feedback*

Coded CF	References
SVA	Subject-verb agreement
No S	No subject
S/Pl	Singular / plural errors
A	Article (a, an, the) usage
~~OM~~	Unnecessary word / Omit this word.
VF	Verb form
VT	Verb tense
WWF	Wrong Word form
WWO	Wrong word order
Pron.	Pronoun reference
Prep.	Preposition
Conj.	Conjunction missing or incorrect
MW ^	Missing word / Adding something
RUN	Run-on Sentence
Frag	Fragment

All the writing tasks and tests topics were selected from IELTS writing task 2 samples in order to (a) consider the criterion-related validity of the test (i.e., the utilized tests and tasks can be comparable to a standardized writing test), and (b) to control the probable mediating effects of genre/task/content on the effect of feedback. Each class writing task as well as the tests was of opinion-led type, which presented an opinion to the learners and required the participants to write whether they agree, disagree or even how far they agree or disagree.

Data Collection Procedure

Because "there is a certain amount of discrepancy in the literature on the meaning of revision" (Bruton, 2009), it should be noted that in the current study, revision means that the students rewrite their whole essays based on the received CF. The researchers followed the same procedure as Soltanpour and Valizadeh (2018). The whole study lasted for seven weeks. Table 2 indicates the procedure in the treatment period.

Table 2

Treatment Period Procedure

Treatment period	Procedure
Week 1	
Session 1	OPT was administered. Participants were provided with the indirect codes and were explained that their essays would be corrected by offering those codes. They were told that they needed to have the codes and refer to them to check the problems in their essays.
Session 2	The pretest was administered (i.e., the students wrote the 1st essay of opinion-led type in 40 minutes.)
Week 2	
Session 1	The students received the feedback. The participants in ICF/+R group were required to revise (i.e., rewrite) their essays on a separate sheet of paper according to the provided feedback in 20 minutes, like the allocated time in Suzuki (2012), Shintani et al., (2014) as well as Soltanpour and Valizadeh (2018). The learners in ICF/+A were also given 20 minutes and required to look over their errors and pay careful attention to the received feedback. The ICF/+A group could also note their errors in their error notebooks if they thought it would help them remember the points. The

	participants in the ICF only received the feedback; in other words, they were not required to rewrite their texts or study the provided feedback.
Session 2	The students wrote the 2nd essay in class in 40 minutes.
Weeks 3	
Session 1	The same procedure as Session 1 of Week 2 was applied.
Session 2	The students wrote the 3rd essay in class in 40 minutes.
Week 4	
Session 1	The same procedure as Session 1 of Weeks 2 & 3 was applied.
Session 2	The posttest was administered.
Weeks 5 & 6	No work on essay writing was done.
Week 7	
Session 1	Delayed-posttest was administered.

Based on Bitchener (2008), the participants were not informed about the exact date of the delayed post-test in order to eliminate the possibility of any preparation, such as reviewing the feedback or personal notes. Moreover, to control the effects of the other factors as much as possible (Guénette, 2007), the same instructor ran the procedures for the three groups. However, the writing topics were similar in three groups.

As for the type of provided CF, the participants' grammatical errors were only corrected. Nevertheless, the provided CF on grammatical errors was unfocused/ comprehensive because of several reasons: (1) It was not expected which errors will be seen in the learners' texts and when the learners commit a range of grammatical errors, "a limited CF focus does not address the need to individualize feedback according to students' different strengths and weaknesses" (Ferris, 2010, p. 192); (2) Unfocused/comprehensive CF is the most widely used type of teacher correction (Ferris, 2006; Guénette, 2012; Lee, 2004, 2008; Van Beuningen, 2010) and popular among the students (Lee, 2005; Leki, 1991; Oladejo, 1993). As a result, the comprehensive feedback is more ecologically valid than the focused one. Moreover, because the participants in the current study were the upper-intermediate ones, the comprehensive WCF could be suitable for them (Bitchener & Ferris, 2012). Finally, as the effect of revision and attention on the efficacy of the direct WCF was already investigated by Soltanpour and Valizadeh (2018), this research selected the indirect coded CF to study.

Analysis and Results

Inter-rater Reliability

The Cronbach alpha indices, administered to calculate the inter-rater reliability revealed a range from a high of .98 for the posttest in the ICF/+R to a low of .86 for the prettest of the ICF/+A group.

The Normality Tests

The assumption of normality was examined through both the graphic of histogram, and also some numerical ways as recommended by Larson-Hall (2010). They indicated that the data were normally distributed. The values of skewness and kurtosis statistics were within +/-1, based on Phakiti (2010); in addition, the outcomes of the ratio of skewedness and kurtosis over their respective standard errors were within the ranges of +/-1.96, based on Field (2013).

Ensuring the Homogeneity of the Groups

First, a one-way between-groups analysis of variance (ANOVA) was conducted to explore whether the three groups were homogeneous with regard to their scores on OPT in order to prove that the three groups enjoyed the same level of general English proficiency prior to the administration of the treatments. The significance value (Sig.) for Levene's Test was greater than .05 (Sig. =.956); thus, the assumption of homogeneity of variance was met. It was found that there was not a significant difference among the three groups: F (2, 83) =.027, p =.973. In conclusion, the participants in three groups were homogeneous regarding their general English proficiency.

Then, another one-way ANOVA was conducted to explore whether the three groups were homogeneous with regard to their syntactic accuracy, as measured by the pretest. The significance value (Sig.) for Levene's Test was greater than .05 (Sig. =.705); therefore, the assumption of homogeneity of variance was met. It was found that there was not a significant difference among the three groups: F (2, 83) =.726, p =.487. In conclusion, the participants in three groups were homogeneous regarding their grammatical accuracy in pretests.

Findings of the First Research Questions

The 1st research question investigated whether the comprehensive indirect coded CF (ICF) significantly affect the learners' grammatical written accuracy in the short and long term. A paired-samples t-test was conducted to evaluate the impact of the ICF on participants' on the grammatical written accuracy on the learners' immediate posttests. There was a statistically significant decrease in the mean scores from pretest (M = 8.8059, SD = .23249) to immediate posttest (M = 7.3491, SD = .55567), t (27) = 22.831, p = .000 < .05. It should be noted that as the formula [total number of syntactic errors/total number of words] × 100 was utilized for scoring the syntactic accuracy of the essays, the fewer errors the essays included, the smaller value (mathematical quantity) they were given, so the lower values reveal the existence of fewer errors and better performance. As a result, based on the mean scores, it can be concluded that in the short run, the ICF was effective in improving the grammatical accuracy of learners' written essays in the short term. The mean decrease in posttest scores was 1.45679 with a 95% confidence interval ranging from 1.32586 to 1.58771. The found Cohen's d effect size (3.420337) indicated a large effect size (Cohen, 1988).

Another paired-samples t-test was conducted to evaluate the impact of the ICF on participants' on the grammatical written accuracy on the learners' delayed-posttests. There was a statistically significant decrease in the mean scores from immediate posttest (M = 7.3491, SD = .55567) to delayed-posttest (M = 7.4752, SD = .54702), t (27) = -3.890, p = .000 < .05. Therefore, based on the mean scores, it can be concluded that in the short run, the ICF was effective in improving the grammatical accuracy of learners' written essays after a two-week interval. The mean decrease in delayed-posttest scores was -.12607 with a 95% confidence interval ranging from -.19258 to -.05956. However, the found Cohen's d effect size (0.228706) indicated a small effect size (Cohen, 1988).

Findings of the Second Research Questions

The 2nd research question explored to what extent is comprehensive indirect coded CF combined with either students' attention to the feedback (ICF/+A) or revising their texts based on

received feedback effective (ICF/+R) in improving learners' grammatical written accuracy, relative to each other and to feedback-only methodology (ICF) in the short and long term.

A one-way ANOVA was conducted to explore the short-term differences among the three groups with regard to the effect of each provided treatment, as measured by the immediate posttests. The significance value (Sig.) for Levene's Test was less than.05 (Sig. =.000), so the assumption of homogeneity of variance was violated; thus, Robust Tests of Equality of Means were consulted (Pallant, 2013). The results are shown in Tables 3, 4, and 5.

Table 3

Robust Tests of Equality of Means for the Immediate Posttest

	Statistic[a]	df1	df2	Sig.
Welch	103.055	2	50.189	.000
Brown-Forsythe	146.436	2	41.124	.000

As Table 3 shows, there was a significant difference among the three groups.

Table 4

Tukey HSD: Multiple Comparisons for the Immediate Posttest

(I) Treatment	(J) Treatment	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
(ICF/+R)	(ICF/+A)	.37310*	.09370	.000	.1495	.5967
	(ICF)	-1.19807*	.09453	.000	-1.4237	-.9725
(ICF/+A)	(ICF/+R)	-.37310*	.09370	.000	-.5967	-.1495
	(ICF)	-1.57118*	.09453	.000	-1.7968	-1.3456
(ICF)	(ICF/+R)	1.19807*	.09453	.000	.9725	1.4237
	(ICF/+A)	1.57118*	.09453	.000	1.3456	1.7968

*. The mean difference is significant at the 0.05 level.

Table 5

Descriptive Statistics for the Immediate Posttest

	N	Mean	SD
(ICF/+R)	29	6.1510	.18612
(ICF/+A)	29	5.7779	.21209
(ICF)	28	7.3491	.55567

According to Tables 4 and 5, in the short term, both ICF/+R and ICF/+A outperformed the ICF. Moreover, the ICF/+A outperformed the ICF/+R. The effect size, calculated by using eta squared was .78, which is a large effect size (Cohen, 1988).

Next, another one-way ANOVA was conducted to explore the long-term differences among the three groups with regard to the effect of each provided treatment, as measured by the delayed posttests. The significance value (Sig.) for Levene's Test was less than.05 (Sig. =.000), so the assumption of homogeneity of variance was violated; thus, Robust Tests of Equality of Means were consulted (Pallant, 2013). The results are shown in Tables 6, 7, and 8.

Table 6

Robust Tests of Equality of Means for the Delayed Posttest

	Statistic[a]	df1	df2	Sig.
Welch	119.367	2	50.459	.000
Brown-Forsythe	172.965	2	41.879	.000

As Table 6 shows, there was a significant difference among the three groups.

Table 7

Tukey HSD: Multiple Comparisons for the Delayed Posttest

				Std. Error	Sig.	95% Confidence Interval

(I) Treatment	(J) Treatment	Mean Difference (I-J)			Lower Bound	Upper Bound
(ICF/+R)	(ICF/+A)	.33621*	.09275	.000	.1149	.5576
	(ICF)	-1.33345*	.09357	.000	-1.5568	-1.1101
(ICF/+A)	(ICF/+R)	-.33621*	.09275	.000	-.5576	-.1149
	(ICF)	-1.66966*	.09357	.000	-1.8930	-1.4463
(ICF)	(ICF/+R)	1.33345*	.09357	.000	1.1101	1.5568
	(ICF/+A)	1.66966*	.09357	.000	1.4463	1.8930

*. The mean difference is significant at the 0.05 level.

Table 8

Descriptive Statistics for the Delayed Posttest

	N	Mean	SD
(ICF/+R)	29	6.1417	.20916
(ICF/+A)	29	5.8055	.19356
(ICF)	28	7.4752	.54702

According to Tables 7 and 8, after a two-week interval, both ICF/+R and ICF/+A outperformed the ICF. Moreover, the ICF/+A outperformed the ICF/+R. The effect size, calculated by using eta squared was .81, which is a large effect size (Cohen, 1988).

Discussion and Conclusion

This study showed that the comprehensive indirect coded feedback improved the grammatical accuracy of the learners' writing which also remained after the two-week interval. This finding was different from what Karim and Nassaji (2020) found, but corroborates some previous studies, which also proved the effectiveness of the indirect feedback (Aliakbari & Toni, 2009; Lalande, 1982; Sheppard, 1992; Storch, 2005; Tan & Manochphinyo, 2017; Tang & Liu, 2018; Tootkaboni & Khatib, 2014). This effect could occur because such indirect coded feedback engages learners in problem-solving learning and as a result helps them to become independent

learners (Ferris, 2006). Therefore, in this study, like the one done by Tang and Liu (2018), the indirect coded feedback can be considered as an attention-getting CF device that provided the participants with linguistic scaffold on the language issues.

As for the mediating effects of the revision and attention on the efficacy of the indirect coded CF, this study revealed that both revision requirement (ICF/+R) and attention requirement (ICF/+A) significantly contributed to the efficacy of the ICF. This finding is in line with the argument that even if teachers provide sufficiently clear and useful feedback, students will benefit more if they are engaged with the WCF and pay attention to the provided feedback (Elwood & Bode, 2014; Han & Hyland, 2015; Polio, 2012; Soltanpour & Valizadeh, 2018; Stefanou & Révész, 2015).

That revision requirement showed promising results confirms the argument that written revision can be a good technique to engage the learners with the WCF and hold them responsible for their learning (Brown, 2012; D. R Ferris, 2006; F. Hyland, 2003; Shintani & Ellis, 2015; Storch & Wigglesworth, 2010) especially because via revising the texts based on the provided feedback, learners have more time to think carefully about and process the received feedback (Ellis, 2009; D. R. Ferris, 2010; Guénette, 2007). Several researchers have already included the revision in their studies and found positive results (Chandler, 2003; Diab, 2015; Frear, 2012; Shintani et al., 2014; Suzuki, 2012; Van Beuningen et al., 2012).

However, like what Soltanpour and Valizadeh (2018) found, this research demonstrated that requiring the learners to pay careful attention to the provided feedback was even more effective than the revision requirement, which corroborates Ellis's (2009), Polio's (2012) as well as Shintani and Ellis (2015)'s arguments, which stated that even under the condition of no revision opportunity, WCF can be effective and learners can succeed in noticing corrections as long as learners are required to notice and process the received corrections; for example, the learners can be required to look over the received feedback and carefully examine their errors (Ellis, 2009; Polio, 2012).

In brief, the three utilized strategies in this study: the comprehensive indirect coded feedback (ICF), the ICF plus either revision or attention requirements probably helped the

participants notice their grammatical errors which not only resulted in notice the gap in their current interlanguage system, but this also led to what Rosa and Leow (2004) described as noticing at the level of understanding, which is the highest level of noticing. As a result, such learning outcomes probably sustain in future writings, which was also found in the participants' delayed posttests, too.

As the concluding remarks, it is highly recommended that the explored issue be investigated considering the important factor of individual differences because as Hanaoka and Izumi (2012, p. 333) stated, there are several "learner internal factors such as learners' aptitude, developmental readiness, and various affective factors", which can promote or inhibit learners' noticing.

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