Error Analysis: The Correlation between Justification Inclusion and Learners' Performance in an English Grammar Assessment

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ABSTRACT
Error Analysis (EA) is regarded as an essential element in the English language which facilitates learners to identify and correct language errors that they have produced themselves or from other forms of discourse. Nevertheless, especially among learners of an English as a Second Language (ESL) program, their actual understanding of the reason for the errors might become undetermined if they do not provide the justification of the errors identified. Hence, there is a need to identify how ESL learners truly know the reasons behind every error made. This study investigated the relationship between error justification inclusion in an EA assessment for an English grammar course and post-secondary ESL learners' performance at one higher learning institution in the

Klang Valley. The study sought to examine if there was a significant relationship between justifications of EA and students' performance. The quantitative method was utilized to analyse data using 131 samples from an error analysis assessment. Findings suggested that the inclusion of EA justification has a strong correlation with the students' performance in the assessment.

Keywords: error analysis; error justification; grammar; noticing

INTRODUCTION

Error correction is viewed as a form of feedback in the English language use among learners that contributes to the improvement of language learners' proficiency (Nor Syamimi Iliani, Nor Hairunnisa, Wan Nuur Fazliza & Rohazlyn, 2019). Error analysis (EA) on the other hand is a combination of error identification and error correction whereby learners of an English as a Second Language (ESL) program look for the errors in a written discourse and provide the correction for the errors. Nevertheless, the learners' actual understanding of the reason for the errors might become undetermined if they do not provide the justification of the errors identified. Hence, there is a need to identify how ESL learners truly know the reasons behind every error made. When learners are trained to notice the errors, they may actively find solutions to the errors that they have made (Izumi, 2003). To close the gap of learners randomly noticing and correcting errors, the justification section is included to know whether they truly understand the reasons for the errors.

Most studies discussed the common errors produced by students in their spoken or written discourse (Setiyorini, Dewi & Masykuri, 2020; Al-Shujairi & Tan, 2017; Mohammed & Abdalhussein, 2017; Kampookaew, 2020, Nuruzzaman, Islam & Shuchi, 2018). However, the present study seeks to further explore students' abilities to notice the errors themselves.

The objectives of this study are to:

1. identify the frequencies of: a) correct error analysis and justification, b) partially correct analysis and justification, and c) incorrect analysis and justification, and
2. examine the relationships: a) between correct error analysis and justification and students' test performance, and b) between incorrect error analysis and justification and students' test performance.

The research questions are as follow:

1. What are the frequencies of: a) correct error analysis and justification, b) partially correct analysis and justification, and c) incorrect analysis and justification?
2. What are the relationships: a) between correct error analysis and justification and students' test performance, and b) between incorrect error analysis and justification and students' test performance?

The findings of this research will contribute to the better structure of curriculum in the Grammar I TESL Foundation course. If there is a significant relationship between correct error identifications with justifications and the students' performance, this suggests that by requiring the students to justify errors that they have identified, it improves their understanding of the grammar rules.

LITERATURE REVIEW

Noticing errors
Grammatical proficiency lies in the ability to apply grammatical points, not in merely stating the rules. In the context of this paper, applying grammatical points refers to the ability to 'notice' errors, correct them and provide a justification for the proposed correction.

Noticing, as proposed by Schmidt (1990) in the Noticing Hypothesis is "necessary and sufficient" for the learners to make the conversion of input to intake (1990, p.29). As stated by Robinson (1995; 2003), learning cannot take place without the existence of awareness at the level of noticing. In other words, a learner's acquisition progress could not begin until the learner is consciously aware of the linguistic features of the input. Noticing is also a result of the process of rehearsal, through which linguistic features in short-term memory are encoded in long-term memory.
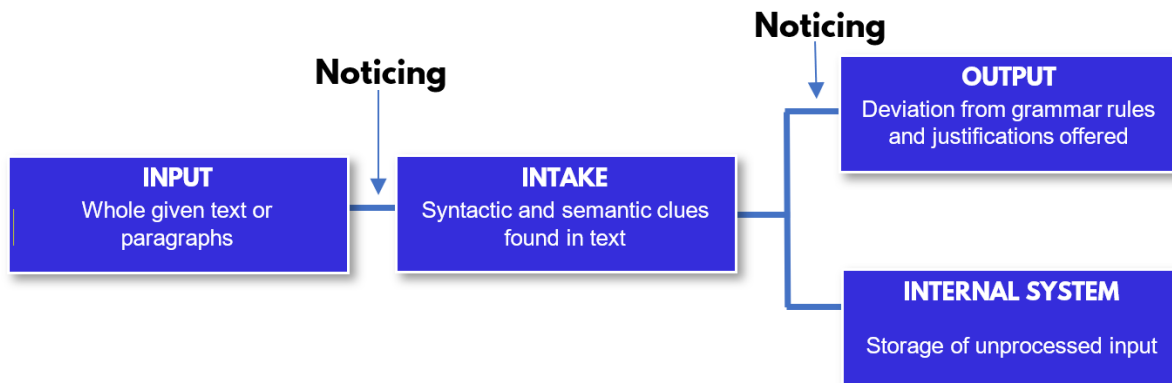
Figure 1: The stages of learning process (Nor Syamimi Iliani, Nor Hairunnisa, Wan Nuur Fazliza & Rohazlyn, 2020)

Second language learners' noticing could be improved when they are positioned to produce output where it refers to the learner's production of the second language (Kim, 2015). Along this development, learners will go through the process of noticing the gaps. Through EA, students are expected to notice the deviation from standard grammar in a given text.

Although highly debated by some, the Noticing Hypothesis plays a central role in explaining the inner work involved in EA. It fulfills the three conditions which Krashen proposed for conscious learning to be effective in second language acquisition. Through the Monitor Hypothesis, Krashen postulated that first, learners need an adequate amount of time to

think and use the rules. Second, learners must pay their attention to the form. Finally, learners have to know the rules they are using (Krashen, 1982, p.16). These three conditions are consciously fulfilled by learners while working on EA.

Error Analysis
Knowing how grammar works is to understand more about how grammar is used and misused. As a practice, error analysis enables language learners to assume the role of grammar detectives; tracking grammatical errors using contextual and syntactic clues that indicate deviations from standard grammar rules.

Dulay, Burt and Krashen (1982) state that EA is the method to analyse errors learners made when they produce language. James (1998) suggests that EA is the scrutiny of learners' errors by comparing what the learners have learned with what they lack. It also involves explaining the errors in order to deter recurrence. According to Corder (1974, cited in Mungungu, 2010), EA has two objectives. One is a theoretical objective which concerns what and how learners learn a language. The other is the practical one which concerns how to help learners learn a language by making use of the knowledge they have already had. He also proposes the five-stage process of EA which consists of (1) the collection of errors, (2) the identification of errors, (3) the description of errors, (4) the explanation of errors, and (5) the evaluation of errors (Corder, 1974 cited in Wu & Garza, 2014).

Past literature predominantly focused on the role of teachers in analyzing learners' errors. This present study however, positions students as leading actors of their learning process by having them analyse errors (via identification and correction) in a given text as well as justifying their argument through succinct explanation of grammar rules. The incorporation of justifications serves as a means to gauge students' comprehension of grammar rules learnt in class.

Previous/similar works on error analysis in grammar
In exploring the literature, EA has often been utilized as an instrument in detecting patterns and describing learner errors in writing (Nor Syamimi Iliani et al., 2020; Helmiyadi, 2018), and identifying the types of errors committed by learners (Setiyorini et al., 2020). Through a systematic investigation of errors like Error Analysis (EA) and the awareness the instructors have of the recurrent errors can they truly determine the most frequent errors, or the grammatical elements that many of their students find the most difficult to construct with accuracy (Al-Sobhi, 2019). However, the instructors will have to put substantial time and effort to improve the students' grammar accuracy (Nguyen, 2018; Tan & Manochphinyo, 2017) when there is a more practical way to produce ESL learners who can correct grammar errors on their own.

Many studies focus on instructors analysing students' grammar errors. One of them investigated the common grammar errors made by pre-university students in the written discourse and it was found the students were struggling with the use of verb tenses, articles, and prepositions (Al-Shujairi & Tan, 2017). Another one examined the factors for the grammar errors to occur among students of a public university in Malaysia and it was revealed that the main factor was interlingual source or the effect of the students' mother tongue on their written production (Mohammed & Abdalhussein, 2017). Similarly in another study in France, most

grammar errors committed by the undergraduate students were article and determiner errors (Hamilton, 2015). Furthermore, in view of the quality of publishable papers, it is worrying that university students are still struggling with grammar accuracy such as nouns, articles, verbs, prepositions when they write (Kampookaew, 2020).

Nevertheless, minimal research has been directed towards the use of EA as a learning tool or assessment. A study which did focus on the correlation between learners' ability to detect sentence errors and their ability to produce grammatically correct sentences was conducted by Masrizal (2017). Two groups of learners of differing grammatical proficiency were assigned a set of grammar tasks consisting of two parts: error-detection and cloze passages. It was found that there was a correlation between learners' ability to identify sentence errors and providing correct parts of sentences. In addition, Saavedra and Campos (2018) employed 'focused corrective feedback' in their study in which the feedback was given based on grammar errors occurring in students' writing portfolio. Results showed that two linguistic categories, which are capital letters and indefinite articles, improved significantly in terms of accuracy. This suggests that to a certain extent, grammatical proficiency contributes to the quality of correct language production and responses.

METHODOLOGY

This study investigated the relationship between error justification inclusion in a Grammar assessment and post-secondary ESL learners' performance at one higher learning institution in the Klang Valley. The study sought to examine if there was a significant relationship between justifications of error analysis and students' performance.

The quantitative method was utilized to analyse data using 131 samples from an error analysis assessment. The sampling technique used is purposive sampling whereby the researcher selects a sample that is most useful to the purposes of the research. The sample was selected according to their scores whereby they must have achieved at least 70%. The methodology of this study is case study, and it analysed the error analysis test papers that the participants had submitted.

The data were analysed using:

1. Inferential Statistics: To identify the frequencies of: a) correct error analysis and justification, b) partially correct analysis and justification, and c) incorrect analysis and justification

2. T-Test: To examine the relationship between: a) correct error analysis and justification and students' test performance, and b) incorrect error analysis and justification and students' test performance

The inclusion criterion of this study was all test papers that had been answered by participants who had been the first semester students of Foundation in TESL program. On the

other hand, the exclusion criterion was the test papers of which the participants had taken part but already quit the Foundation in TESL program.

FINDINGS

The frequencies of correct, partially correct, and incorrect EA and justification
The frequency of correct analysis and justification items (n = 1776) far outweighs the partially correct items (n = 474) and incorrect analysis and justification items (n = 380). The mean of items scored for correct analysis and justification is 13.56 with a standard deviation of 2.521.

Table 1
The frequencies and means of correct analysis and justification, partially correct analysis and justification, and incorrect analysis and justification

	Correct Analysis and Justification	Partially Correct Analysis and Justification	Incorrect Analysis and Justification
N	131	131	131
Mean	13.56	3.62	2.90
Standard Deviation	2.521	2.659	1.397
Frequency	**1776**	**474**	**380**

The relationship between EA and justification and participants' test performance
The relationship between correct analysis and justification and score (%) is significant (positive correlation).

Table 2
T-test analysis on correct analysis and justification and students' test score in percentage

		Correct Analysis and Justification	Score (%)
Correct Analysis and Justification	Pearson Correlation	1	.488**
	Sig. (2-tailed)		<0.01
	N	131	131

**. Correlation is significant at the 0.01 level (2-tailed).

The relationship between incorrect analysis and justification and score (%) is also significant (negative correlation).

Table 3
T-test analysis on incorrect analysis and justification and students' test score in percentage

		Incorrect Analysis and Justification	Score (%)
Incorrect Analysis and Justification	Pearson Correlation	1	-.851**
	Sig. (2-tailed)		<0.01
	N	131	131

**. Correlation is significant at the 0.01 level (2-tailed).

DISCUSSION

Findings revealed that students' performance in the error analysis test depends quite heavily on their ability to notice the errors which also relies on their understanding of grammar rules learnt and the ability to comprehend the language. The participants who scored 70% managed to provide an average of 13 to 14 correct EA and justifications, and only an average of 2 to 3 incorrect EA and justifications out of 20 items. The correlations between correct or incorrect EA and justifications and the participants' test scores are significantly consistent; the more correct EA and justification items they attained, the higher their score (positive correlation), and the more incorrect EA and justification items they obtained, the lower their score (negative correlation).

These findings reflect Corder's (1974) statement on one of the EA objectives which concerns how to help learners learn a language by making use of the knowledge they have already had. The participants underwent the five-stage process of EA which consists of (1) the collection of errors, (2) the identification of errors, (3) the description of errors, (4) the explanation of errors, and (5) the evaluation of errors (Corder, 1974 cited in Wu & Garza, 2014). The fact that the participants managed to achieve an average of 13 to 14 correct EA and justification items and scored the test at least 70%, it evidently shows that they were able to gauge the basic comprehension of grammar rules and provide their own justification based on forms and functions of grammar.

Pedagogical implication and recommendations
The findings suggest that language instructors must be aware of the processes that occur in language learning. Batstone (1994, p.54) explains that "learners have to notice features of grammar before they can do anything with them, as noticing precedes structuring." This calls for more language activities and perhaps tabulation of grammar rules that can increase learners' noticing. As much as we want to promote learners' noticing, we cannot really force this. Like other aspects of the learning process, noticing can occur when the learners are ready to make their own discoveries about grammar (Batstone, 1994). This brings us to another teaching and learning

approach in grammar instruction known as consciousness-raising where the process of discovering regularities in the target language is predominantly executed by the learners themselves. The issue is to what extent this discovery is guided by the instructor. The guidance which involves consciousness-raising can be quite direct and explicit (Sharwood Smith, 1988, p.53 in Batstone, 1994, p.57)

However, noticing is not enough. Learners will have to restructure the grammar content that they have learned. The process involves a series of repetitions where learners first notice and re-notice the input and later structure and restructure the input to convert it into intake (see Batstone, 1994, p.42). In making use of Noticing Hypothesis, language teachers can train learners to identify the gaps in their linguistic knowledge through reading activities (see Hamdan, 2017) . Hamdan (2017) suggested one activity where the teacher reads a short text aloud to the students. Students will listen and jot down keywords. The teacher will then check the students' understanding of the text before they attempt to reconstruct the text as closely as the original based on their memory and understanding of the text. Finally, the teacher will reveal the original text. In this activity, Hamdan stated, learners had to employ their linguistic knowledge and figured out the meaning and form of the targeted language used in the original text. This will facilitate learners to notice the 'gaps' in their own language use. This activity is clearly time-consuming and heavily dependent on learners' ability to process the information exposed to them during language activities.

As language instructors, we need to be aware of these processes that occur among learners, and we cannot expect them to directly absorb the grammar content that we have taught. Grammar internalization requires time and this varies from one learner to another. To speed up this process, language instructors can provide more language activities to revisit certain targeted forms, and this can be done gradually throughout the course. Some of the language activities pertaining to grammar are communicative learning that encourages learners to explain and justify grammar rules, and game-based activities that allow learners to learn grammar with controlled practices and notice their performance via game points (Chen, 2008). Through games, learners have the opportunity to apply grammatical forms in a more fun and enjoyable way (Fithriani, 2018, Nur Syafiqah & Melor, 2019). Nowadays, many language games are accessible via online platforms such as Kahoot and Quizziz. Instructors can make full use of these to help their learners increase exposure to the target language. In addition, future research can be conducted to investigate the effectiveness of these language games on learners' 'noticing'. Researchers may also want to further explore teachers' perspectives in using these language activities with their learners.

CONCLUSION

In conclusion, instructors must be aware of their students' level of proficiency and how much attention they put into understanding the language. Perhaps, an English placement test and a survey can be administered to identify learners' actual grammatical proficiency and the depth of their grammar knowledge before language teachers can make more informed decisions on how to execute their lessons. This action is in line with one of the categories of knowledge base for teaching suggested by Shulman which is knowledge of learners (1987, cited in Phillips, Kovanović, Mitchell, & Gašević, 2019) In addition, it is also important to ensure that our learners are physically and mentally ready to learn new content so that the learning process becomes more meaningful to them. Each learner is a unique individual with different sets of personalities,

learning styles, language aptitude, passion and perseverance and cognitive abilities (see Wallace, 2020; Teimouri, Plonsky & Tabandeh, 2022). These factors can also influence language learning. Therefore, language instructors should also look into these to further improve their teaching approaches and techniques in class.

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