



The Development of English Grammar Error Analysis Skills of Standardized Tests
Based on Behaviourist Theory for Thai University students:

The Case Study of Lampang Rajabhat University Students

การพัฒนาทักษะวิเคราะห์ข้อผิดพลาดทางไวยากรณ์ในแบบทดสอบมาตรฐานภาษาอังกฤษ

โดยใช้ทฤษฎีพฤติกรรมศาสตร์ของนักศึกษามหาวิทยาลัยไทย :

กรณีศึกษานักศึกษา มหาวิทยาลัยราชภัฏลำปาง

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Abstract

Pre-service English teachers need to have strong background knowledge of English grammar to contribute to their content knowledge and support the literacy development of the students in their classrooms, as well as successfully complete standardized tests used to assess English proficiency at the university level. The aim of this study was to develop English grammar error analysis skills of students enrolled in the English program at the Faculty of Education at Lampang Rajabhat University. The target group in this study was 28 Year 4 students. This study was based on behaviourist theory and involved multiple steps, namely content analysis, a pre-test, exam practice, a post-test and data analysis. This study focused on Chulalongkorn University Test of English Proficiency (CU-TEP). This is because the test is used to assess the general English proficiency of people who use English as a foreign language studying at the bachelor's degree level and above. Test results were statistically analysed for percentages, means and standard deviations. The difference between total pre-test and post-test scores was 94 or 11.19%, with a mean difference of 3.36 and standard deviation of 4.52. The most common grammatical items in the tests pertained to passive voice and verb agreement. Based on these results, it can be seen that English grammar error analysis skills can be developed by using the behaviourist theory and this can support pre-service English teachers to teach grammar more effectively. Also, their proficiency in English language skills based on standardized tests could be improved.

Keywords: CU-TEP standardized test, English grammar error analysis, Behaviourist theory, Lampang Rajabhat University

บทคัดย่อ

นักศึกษาฝึกสอนวิชาภาษาอังกฤษจำเป็นต้องมีความรู้พื้นฐานด้านไวยากรณ์ภาษาอังกฤษที่ดี เพื่อส่งเสริมความรู้ในเนื้อหาภาษาอังกฤษของตนเอง และสนับสนุนพัฒนาการเรียนรู้ของนักเรียนในห้องเรียน รวมถึงบรรลุเป้าหมายในการทำแบบทดสอบมาตรฐานที่ใช้ประเมินความสามารถด้านภาษาอังกฤษในระดับมหาวิทยาลัย งานวิจัยนี้จึงมีวัตถุประสงค์เพื่อพัฒนาทักษะวิเคราะห์ข้อผิดพลาดด้านไวยากรณ์ในการทำแบบทดสอบมาตรฐานวัดความรู้ภาษาอังกฤษ ด้วยแนวคิดทฤษฎีพฤติกรรมนิยมของนักศึกษาระดับปริญญาตรี สาขาวิชาภาษาอังกฤษ คณะครุศาสตร์ มหาวิทยาลัยราชภัฏลำปาง กลุ่มเป้าหมายในการวิจัยเป็นนักศึกษาชั้นปี 4 จำนวน 28 คน การศึกษาในครั้งนี้มุ่งเน้นไปที่ข้อสอบวัดความสามารถทางภาษาอังกฤษของจุฬาลงกรณ์มหาวิทยาลัย (CU-TEP) เนื่องจากแบบทดสอบนี้ใช้เพื่อประเมินความสามารถทางภาษาอังกฤษทั่วไปของผู้ที่ใช้ภาษาอังกฤษ

เป็นภาษาต่างประเทศที่กำลังศึกษาอยู่ในระดับปริญญาตรีขึ้นไป ขั้นตอนการวิจัยประกอบด้วย การวิเคราะห์เนื้อหาข้อสอบ การทดสอบก่อนเรียน การฝึกทำข้อสอบมาตรฐาน และการทดสอบหลังเรียน สถิติที่ใช้ในการวิเคราะห์ผลการวิจัย ได้แก่ ค่าร้อยละ ค่าเฉลี่ย และค่าเบี่ยงเบนมาตรฐาน ผลการวิจัยพบว่า ค่าความต่างของคะแนนก่อนเรียนและหลังเรียน คือ 94 หรือ ร้อยละ 11.19 ส่วนความต่างของค่าเฉลี่ยคะแนนก่อนเรียนและหลังเรียน คือ 3.36 และค่าเบี่ยงเบนมาตรฐานเท่ากับ 4.52 และประเด็นปัญหาของกลุ่มเป้าหมายด้านไวยากรณ์ภาษาอังกฤษที่พบได้บ่อยที่สุดในการทำข้อสอบ คือ เรื่อง passive voice และ verb agreement จากผลการทดลองจะเห็นได้ว่าทักษะการวิเคราะห์ข้อผิดพลาดด้านไวยากรณ์ภาษาอังกฤษ สามารถพัฒนาได้โดยใช้ทฤษฎีพฤติกรรมนิยม ซึ่งจะช่วยให้นักศึกษาฝึกสอนนำความรู้ไปใช้ในการสอนไวยากรณ์ภาษาอังกฤษให้มีประสิทธิภาพมากขึ้น นอกจากนี้ยังเป็นการเพิ่มทักษะการทำแบบทดสอบมาตรฐานภาษาอังกฤษให้แก่นักศึกษาฝึกสอนด้วย

คำสำคัญ : แบบทดสอบมาตรฐานภาษาอังกฤษจุฬาลงกรณ์มหาวิทยาลัย การวิเคราะห์ข้อผิดพลาดทางไวยากรณ์ภาษาอังกฤษ ทฤษฎีพฤติกรรมนิยม มหาวิทยาลัยราชภัฏลำปาง

Introduction

English language skills have become increasingly important in a globalised world and the world's second most common language. In times of rising unemployment, the ability to use and understand foreign languages is an asset for personal development, employability and business competitiveness. Understanding English language also helps people to open up to different cultures and enhances mutual understanding. Therefore, English plays an important role as a global language or lingua franca and is essential for individuals from non-English-speaking countries to communicate with native English speakers and cross language barriers.

The importance of English in Thailand is similar to its global importance. In Thailand, English is critical for the sustainable development of various sectors, including global communications, trade, business, education, the internet, the media and tourism. Compared with governments in similarly developed non-English-speaking countries, the Thai government has made considerable efforts to increase the number of Thai citizens who can speak English fluently. The Ministry of Education has issued a policy to improve the quality of English education and English language skills of Thai learners based on standardized tests of English language proficiency. The policy aims to ensure that all sectors are aware of the need to accelerate the English skills of Thai learners. Therefore, as part of the official teacher recruitment process, Thai students, including those enrolled at Lampang Rajabhat University, must achieve a minimum score on one of the following standardized tests of English proficiency: Test of English as a Foreign Language (TOEFL), Test of English for International Communication (TOEIC) and the Chulalongkorn University Test of English Proficiency (CU-TEP). For example, a minimum TOEIC score of 600 or CU-TEP score of 52 is required to apply for a government teaching position. Moreover, to meet the criteria of receiving a teaching license from Thai teachers' councils, students enrolled in the English program at 38 Rajabhat Universities are required to meet the Common European Framework of Reference for Languages: Learning, Teaching, Assessment (CEFR) criteria at the B1 (lower intermediate) level, which is equivalent to a TOEIC score of 550–780 (max. 990 points). However, the recent report shows that only five of the students enrolled in the English program at the Faculty of Education at Lampang Rajabhat University achieved the B1 level in the CEFR English proficiency test (Language Centre Lampang Rajabhat University, 2020). Further, the average paper-based TOEFL score over a 25-year period (1991–2014) showed that the English proficiency of Thai test takers has been quite low (Pianpadungporn, 2017), demonstrating the low English proficiency of Thai test takers. This implies that the majority of Thai test takers have not met the minimum level of English language proficiency required to communicate in everyday English in the international business context.

Standardized English test scores in Thailand appear to be hindered by various obstacles. First, Thai students implicitly learn English grammar through communication in previous studies. To clarify ‘Implicit knowledge’ is intuitive and exists in an unanalysed form, while ‘explicit knowledge’ is conscious, abstract and analysed. Therefore, their knowledge of English language structure and analytical skills, which are important for assessing grammar, are insufficient. Also, this has been affected students enrolled in the English program at the Faculty of Education at Lampang Rajabhat University, when they go out for their practicums at various schools throughout Northern Thailand. For example, the majority of Thai English teachers in rural primary schools do not have majors in English and have not been trained to teach English. However, it is expected that pre-service English teachers who hold a teaching degree from a university will teach grammar explicitly to primary school students during their practicums. Unfortunately, the major findings prove that pre-service English teachers from Lampang Rajabhat University lack English grammar proficiency, despite having graduated from universities with teaching qualifications.

Therefore, this study used a grammatical approach based on behaviourist theory which posits that language is learned through habit and memorisation. Thus, English grammar rules can be memorised if students are repeatedly taught until they become habitual. Moreover, Jabeen (2015) presented that based on behaviourist theory, language learning is composed of a habit formation.

However, nowadays the English program students at the Faculty of Education, Lampang Rajabhat University may not have an opportunity to learn English grammar through habit and memorisation as mentioned in the behaviourist theory. This is because they only study fundamental English grammar explicitly in the first semester of their first year of university and, by their fourth year, they are required to commence teaching practice in schools. This situation raises questions about whether these students are ready for their pre-service teaching in terms of their personal English grammar levels and about the problems that might occur if they are not competent for their work as teachers in schools. Actually, classroom teachers need to have strong background knowledge of English grammar to contribute to their content knowledge and support the literacy development of the students in their classrooms.

Currently, the most effective mean of improving the English competency of students with poor error analysis skills is unclear. Moreover, academic lecturers should be partly responsible for finding solutions and providing support to address this lack of proficiency. Besides, students’ proficiency in English language skills based on standardized tests should be improved. This will be a positive effect on the sustainable development of the country.

Importantly, English grammar error analysis skills in this study were developed using CU-TEP, which is used to assess the general English language proficiency of students studying at a bachelor’s degree level or above. The strength of the test is that English proficiency can be measured at both the cognitive and communication levels. Moreover, in its written section, CU-TEP assesses grammatical skills through error identification, which is consistent with the objective of this study to develop the English grammar error analysis skills for Lampang Rajabhat University students when taking standardized tests of English proficiency.

Objective

The main purpose of this study was to develop English grammar error analysis skills of students enrolled in the English program at the Faculty of Education at Lampang Rajabhat University to successfully complete standardized tests of English proficiency.

Research methodology

This section describes study design, study setting, target group, sampling procedure, and methodology including data collection and analysis procedures for the development of English grammar error analysis skills.

This study focused on a sample of 28 students undertaking the 5-year English language program at the Faculty of Education at Lampang Rajabhat University in Thailand. To be appointed as civil servant teachers following the completion of their studies, these students are required to submit their standardized English test results.

This research is classified as a pre-experimental design (one group pre-post design), with a descriptive purpose as this study describes areas of difficulty in English grammar of the target group. Non-probability sampling, known as the purposive selection in quantitative research was used to select the target group for the following reasons. First, the researcher works at the research site, facilitating access to students and approval for data collection by a senior colleague. Second, because students in the target group are required to submit their standardized English test results to be appointed as civil servant teachers, it was believed that this study could benefit the target group.

The steps used to develop the English grammar error analysis skills for standardized tests of English proficiency are outlined in the following details. The first step involved content analysis of a standardized test of English proficiency to determine the scope of the test. Items contained in the CU-TEP Practice Tests I and II, published by the Chulalongkorn University Language Institute, were analysed. Each practice test contains four test sets including two sets of CU-TEP practice test taken from the other books. In total, 10 test sets with 300 test items in the written component of CU-TEP were analysed, with a focus on the error points in each test item. Test content analysis was edited by professional editors at Elite Editing, Australia.

Next, the pre-test involved the target group sitting an online CU-TEP test set 1. Following test completion, the researcher explained to students where and how mistakes were made. A record was kept of each student's score. Then, participants practised the exams from test sets 2 to 9, and test scores were recorded. After that post-test was conducted by using CU-TEP test set 10 following the successful completion of exams from test sets 2 to 9. Finally, once participants had completed the post-test, the researcher analysed the test results for percentages, means and standard deviations. A work flow of the methodology for the development of English grammar error analysis skills is provided in Figure 1.

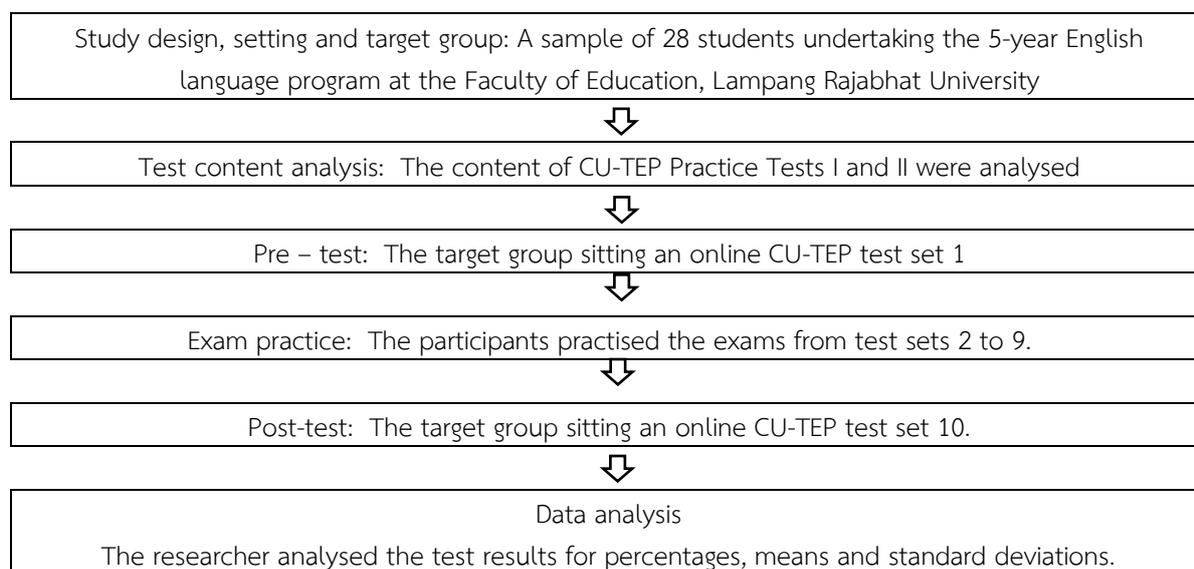


Figure 1 A work flow of the methodology for the development of English grammar error analysis skills

Results

As mentioned, 10 CU-TEP test sets were used as the test content in this study. All tests were commercially available and had been previously validated, including their item-object congruence, item difficulty, discriminating power and reliability which ensures that test items accurately assess the ability of test takers. The following section presents the test content analysis and results of the test administered to the target group.

The CU-TEP administered to the 28 Year 4 students contained 10 test sets and 300 items. All test sets were translated to English then analysed for the frequency of the most common grammar topics and edited by experts from Elite Editing (Australia). Each test set contained various grammar topics with four answer choices in each test item. Table 1 shows the frequency of the most common grammar topics written in the writing part of the CU-TEP. The results from Table 1 are the outgrowth of this study apart from the aim of the study to develop students' English grammar error analysis skills. This is because the frequency results of the most common grammar topics can be beneficial to both learners and teachers. For instance, it is beneficial for students to know the scope of CU-TEP grammar test topic areas. Besides, learners' language errors can be analysed for frequent difficulties in language learning, assisting teachers in the preparation of grammar teaching materials.

Table 1 The most common grammar topics in each test set

Test	Topics	Frequency
1	Passive voice	4
2	Verb agreement	4
3	Passive voice	4
4	Verb/parallel structure	2
5	Verb agreement	2
6	Noun	3
7	Verb	3
8	Verb agreement	3
9	Pronoun	3
10	Nouns/superlatives	3

From Table 1, the results show that the most common grammatical topics in the tests pertained to passive voice in the test set 1 and 3 and verb agreement in the test set 2. This means that there were 4 questions on the topic of passive voice in the 30 items of the test 1 and 3. Also, there were 4 questions on the topic of verb agreement in the 30 items of the test set 2.

Results of CU-TEP administered to the target group

The CU-TEP administered to the target group in this study involved multiple steps, namely content analysis, a pre-test, exam practice, a post-test and data analysis. Once participants had completed the post-test, the researcher analysed the test results for percentages, means and standard deviations. All results are presented in Table 2.

Table 2 Pre-test, post-test and difference scores of CU-TEP administered to the target group

	Pre-test	Post-test	Difference
Total	391	485	94
%	46.54	57.73	11.19
\bar{x}	13.96	17.32	3.36
<i>SD</i>	5.43	4.52	4.52

Table 2 presents the results of CU-TEP administered to the target group and differences between the pre- and post-tests. The combined pre-test score was 391 or 46.54%, with a mean of 13.96 ($SD = 5.43$), while the combined post-test score was 485 or 57.73%, with a mean of 17.32 ($SD = 4.52$). The difference between the total pre- and post-test scores was 94 or 11.19%, with a mean difference of 3.36 ($SD = 4.52$). This information is depicted in the bar graph in Figure 2.

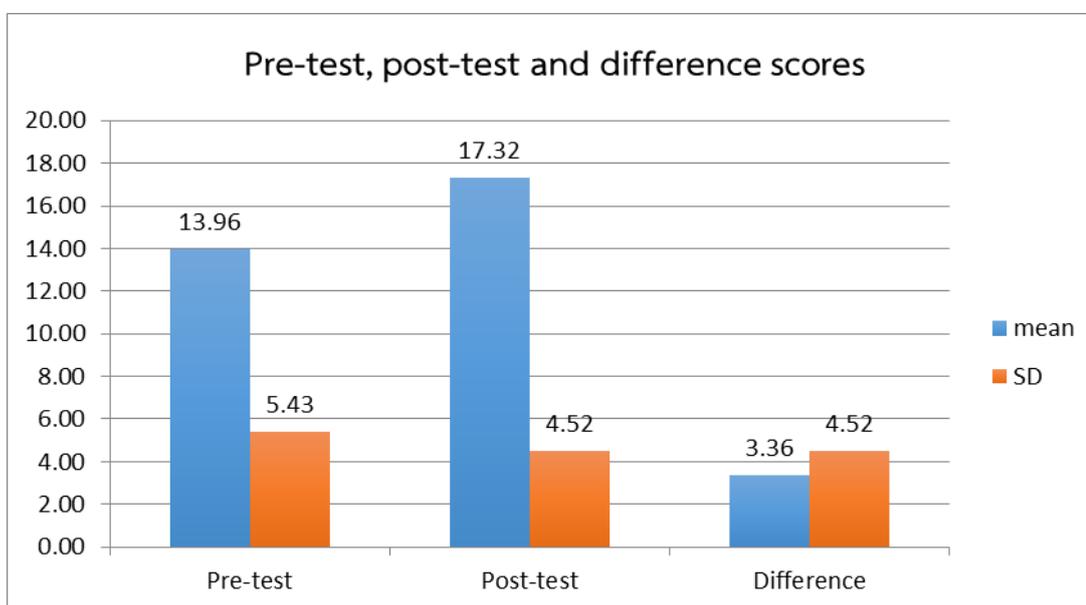


Figure 2 Pre-test, post-test and difference scores of CU-TEP administered to the target group

Based on the above bar graph, it can be seen that the SD of the difference between the total pre-and post-test scores was 4.52 (more than 1). This is shown that the distribution of the answers selected by the target group was various and the total scores were affected. Importantly, it can be seen that the target group may have different English grammar background knowledge. This can cause the scores received to be variously distributed. However, as English teachers to be, the English grammar competence of the target group should meet similar standards. For the purpose of this study, their English error analysis skills should be developed by using behaviourist theory so that they can be better equipped to teach grammar more effectively.

Discussion

The aim of this study was to develop English grammar error analysis skills of students enrolled in the English program at the Faculty of Education at Lampang Rajabhat University to successfully complete standardized tests of English proficiency. The study used behaviourist theory to develop the English grammar error analysis skills of the target group. To clarify, before 1960, language teaching in Thailand

involved an audiolingual approach known as the aural–oral method or grammatical approach (Pianpadungporn, 2017). This approach was based on behaviourist theory and was predominantly used in Thai classrooms. Thai students during this period learned English grammar explicitly from basic to more complex structures. They practised a variety of drills to prevent language errors assumed to be the result of interference from their first language. Further, based on behaviourist theory, teachers presented language to students in sentence-level patterns and were told to correct all language errors, which were viewed as ‘bad habits’ (Chang, 2011). Therefore, behaviourist theory was used to improve the English grammar and error analysis skills of Thai learners in those days.

However, before 1996 learning English grammar explicitly in the Thai national language syllabus was replaced by the communicative language teaching (CLT) (Teng & Sinwongsuwat, 2015). This is because Thai ministry believed that the important role of the communicative language teaching approach for Thai learners was to compensate for the weaknesses of the grammar translation method, providing Thai learners with greater opportunities to communicate in English. Similarly, there is an attempt by governments in East Asian countries to raise the number of people who can communicate efficiently in English. To achieve this, the national syllabuses in many East Asian countries including Thailand have been adopting a Communicative Language Teaching (CLT) approach.

Nevertheless, Pianpadungporn (2017) demonstrated that in Thailand average score summary for TOEFL from 1991 to 2014 showed that the English proficiency of Thai test takers has been quite low for approximately 25 years with an average score of 496 (a score less than 550). Even though they have studied English implicitly based on communicative language teaching in primary and secondary.

Moreover, the results in this study showed that the English grammar error analysis skills of the target group was developed by the behaviourist theory. This is because post-test scores were higher than pre-test scores. It is evident from the mentioned TOEFL average score summary and the results of this research study that although there was a significant shift in educational emphasis little has been achieved. Thus, the English Grammar Curriculum for participants in this study could be reviewed to include the teaching of explicit grammar rules based on the behaviourist theory (with supplementary communication drills) with more language practice hours. This is in contrast to countries in which English is spoken as the first language, where learners acquire grammar implicitly from their environments, reducing the need for explicit instruction.

Besides, it is important to differentiate between the terms ‘mistake’ and ‘error’. A ‘mistake’ implies that one can correct oneself once the mistake has been pointed out, otherwise known as ‘non-systematic error correction’. In contrast, an ‘error’ implies that one cannot correct oneself without explanation or guidance (Jabeen, 2015). Therefore, learners should know how to systematically correct errors before they can learn a language. Error analysis is a method used to document errors in writing and speaking determine whether they are systematic and, if possible, explain what caused them (Khumphee & Yodkamlue, 2017). Error analysis deals with cognitive processes because learners recognise or code inputs from the target language. The main goal of error analysis is to ensure that learners are able to correct their errors by understanding second language acquisition processes. Learners with poor knowledge of grammatical rules typically make errors known as competence errors (Alfiyani, 2012). However, given that it is an essential part of learning English, making grammatical errors does not mean that learners will ultimately fail. In other words, learners will better understand the language learning process if they can analyse their errors and obtain feedback. Thus, grammar plays an important role in error analysis.

Moreover, as mentioned earlier error analysis can be beneficial for both learners and teachers (Phetthongkam, 2013). Error analysis is essential for learners to understand their grammatical mistakes and for teachers to evaluate whether they have been successful in teaching English. This is because learners' errors can be analysed for frequent difficulties in language learning, assisting teachers in the preparation of grammar teaching materials.

Conclusion

The results of the study, including the frequency of grammar items in each test and the results of the CU-TEP administered to the target population, were outlined in the previous section. The major finding was that, on average, post-test scores were higher than pre-test scores; thus, the study appeared to achieve its objective. Furthermore, the rigorous methodology employed in this work, including content and test item analysis, may have supported the development of error analysis skills which is useful for the participants in this study. Therefore, teachers should encourage language learners to be aware of the errors they made and correct all their language errors. These could help students to know their weakness in using English grammar in order to they will not make same errors. Also, it was found that the grammatical errors students had done could help them to know their weakness in writing.

Furthermore, it can be concluded that the grammar approach is seen as appropriate for students where English is spoken as a second or foreign language (L2) across East Asian countries, including Thailand. This closely aligns to behaviourist theory and the Asian classroom strategy, where students study English as an 'accumulation process' that is step by step, moving from simple to more complex language. It is observed that Thai students tend to be passive learners, being too shy to speak English with classmates. They prefer systematic and analytic exercises following instructions about grammar from teachers. Thus, language learning using the grammar approach seems to be more appropriate for Thai students. Besides, grammar is an important component of language that is integral to everyday communication, reminding us that language will become confused without grammar. Similarly, most standardized tests are composed of communication skills; listening, speaking, reading and writing. In other words, grammar is integral to every section of standardized tests. Therefore, it is important for test takers to have sound knowledge of English grammar.

Suggestion

To provide the greatest benefits to students, exam practice should be expanded to more than eight test sets and in line with behaviourist theory. Students should have more practice time to improve their language errors. English grammar rules can be memorised if students are repeatedly taught until they become habitual. Also, their English grammar error analysis skills can be developed providing that they have more time to practice taking standardized tests.

Additionally, causes of learner's errors can be inspected and information on common difficulties in language learning can be received. Therefore, it is recommended that different errors committed by learners and causes behind these errors should be investigated in the future research for the benefits of learners to be aware of their grammatical errors. Besides, teachers can be supported to prepare grammar teaching materials.



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