A Comparative Study of Grammar Exercises in PEP and FLTRP Junior High English Textbooks

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Abstract：The English Curriculum Standards for Compulsory Education (2022 Edition) emphasize that grammar knowledge is an integrated whole of form, meaning, and use. Students need to notice, understand and experience grammar forms and their meanings in context. They should also use what they have learned to read and convey ideas. The design of grammar practice activities directly influences the realization of this goal. This study draws on Larsen-Freeman's three-dimensional grammar framework and Paulston's three-tier classification of practice types. It adopts text analysis, comparative analysis and data analysis to investigate grammar practice activities in two sets of junior high school English textbooks. The textbooks are published by People's Education Press and Foreign Language Teaching and Research Press respectively. Three coders statistically analyzed the grammar exercises in both editions according to coding standards. The Kappa values reached 0.950 for three-dimensional coding and 0.878 for practice type coding. These values demonstrate high inter-coder reliability. Findings show that both textbook versions attach greatest importance to exercises combining form and meaning in their three-dimensional distribution. This type of exercise accounts for 46.5% of activities in the People's Education Press textbook and 42.0% in the Foreign Language Teaching and Research Press textbook. Form-only exercises rank second, accounting for 28.9% (PEP) and 26.1% (FLTRP). Exercises integrating form, meaning, and use are the least frequent, with shares of 24.5% and 31.9%. The chi-square test indicates no significant difference in three-dimensional distribution between the two editions ($\chi^2 = 1.985$, $p = 0.371$). In terms of practice types, meaningful practice dominates the PEP textbook at 50.9% of total grammar-practice activities. The FLTRP edition displays a different pattern, with meaningful practice (39.9%) and mechanical practice (34.1%) as its main exercise types. Communicative practice is the least represented in both textbooks, at 12.0% and 26.0%. A significant difference is found in practice-type distribution across the two editions ($\chi^2 = 10.150$, $p = 0.006$). While neither textbook contains grammar exercises fully detached from form, both show room for improvement in applying the three-dimensional grammar approach. This paper offers recommendations for textbook developers and teachers to optimize the design and application of grammar practice activities.

Keywords: Three-Dimensional Grammar Framework; Three-Level Drill Classification Theory; Grammar Practice Activities；PEP Textbook; FLTRP Textbook; Junior High School English Textbooks; Textbook Comparison

1. Introduction

The Compulsory Education English Curriculum Standards (2022 Edition) sets out objectives for grammar learning. First, students need to understand and appreciate grammar forms and their functional meanings in both spoken and written discourse. Second, they should use grammatical knowledge to comprehend and express meaning in context [1]. These standards suggest grammar teaching should not focus only on mechanical drills of language forms. Instead, instruction ought to help students grasp grammar form and meaning, and use grammar in real-life contexts. The quality of grammar practice activities directly shapes students' pragmatic competence.

Textbooks are the main source and foundation of grammar exercises. Two sets of English textbooks are widely used in Chinese junior high schools. They are published by People's Education Press (PEP) and Foreign Language Teaching and Research Press (FLTRP),

respectively. These two textbook series follow different design philosophies and show unique content features. They also differ greatly in grammar-section structures and the design of practice activities. Even so, most existing studies carry out broad, macro-level comparisons covering listening, speaking, reading and writing. Few systematic comparative researches focus specifically on grammar practice activities.

Cheng Xiaotang and Xie Shiyu point out that textbooks include many different kinds of grammar-related exercises and activities [2]. They cover traditional tasks like fill-in-the-blank, sentence transformation, and matching exercises. Textbooks also provide communicative activities. These activities aim to build students' grammatical awareness and inspire peer discussion about personal experiences. Larsen-Freeman regards grammar as a dynamic system with three dimensions: form, meaning, and use [3]. The form dimension refers to the structures of grammatical patterns. The meaning dimension deals with grammar-related semantic content. The use dimension describes how grammar operates in specific contexts. From a cognitive perspective, Paulston divides grammar practice into three categories: mechanical practice, meaningful practice, and communicative practice [4]. These activities shift from fully-controlled tasks to semi-controlled tasks, and finally to uncontrolled ones. They form a progressive learning sequence. Drawing on the above theoretical frameworks, this study investigates grammar exercises in the two textbook editions. It explores differences in their three-dimensional and practice-type distributions to identify features of grammar practice activities. Its findings offer references for textbook revision and classroom grammar teaching.

2. Literature Review

2.1 Current State of International Research

The international academic community began focusing on grammar exercises in textbooks relatively early, and there is a wealth of relevant research.

In her work, Larsen-Freeman points out that grammatical structures are not merely combinations of syntactic rules; they embody morphosyntactic features, convey meaning in specific contexts, and are also constrained by pragmatic conditions [5]. It was precisely on the basis of this understanding that she proposed a three-dimensional grammatical framework. De Vries, drawing on generative grammar theory, advocated for the introduction of a third dimension—postposition—into syntactic analysis to explain traditional syntactic phenomena such as coordinate structures and parenthetical phrases [6]. Macías, using Larsen-Freeman's three-dimensional framework as an analytical tool, examined the presentation of the passive voice in two sets of international EFL textbooks (Reward and New Headway). The analysis revealed that, in the design of grammar exercises, both sets of textbooks generally emphasized training at the formal level, while paying relatively little attention to meaning and usage [7]. Purpura offers a systematic discussion of grammatical competence from the perspective of language testing. He argues that grammatical knowledge and pragmatic knowledge are not independent but rather interwoven. The teaching of grammatical forms cannot be isolated from meaning comprehension and practical usage. This viewpoint is theoretically consistent with Larsen-Freeman's three-dimensional framework. It also lends support to the notion that grammar practice activities should cover multiple dimensions at the same time [8].

Paulston divided grammatical practice into three levels: mechanical practice, meaningful practice and communicative practice. He pointed out that there is a progressive relationship among these three levels, and teachers should start with mechanical practice, gradually transition to meaningful practice, and finally develop to communicative practice [4]. Subsequently, Paulston and Bruder further expanded this classification framework into a comprehensive teaching-practice system. They offered concrete exercise examples for basic English syntactic structures. These examples fell into four categories: mechanical, mechanical testing, semantic, and communicative [9]. Based on this, Littlewood positioned Paulston's three-layer practice framework as the theoretical basis for pre-communication activities [10]. This theoretical framework provides a systematic analytical tool for the type analysis of grammar practice activities in teaching materials.

2.2 Current State of Domestic Research

In recent years, the academic community in China has gradually paid more attention to grammar exercises in English textbooks.

Lin Xiaolan and He Anping used a three-dimensional grammar framework as the analytical basis, comparing the grammar sections of two editions of high school English textbooks before and after the curriculum reform. They respectively analyzed the distribution of the three dimensions - form, meaning, and usage - in terms of grammar presentation and grammar practice [11]. Cheng Xiaotang and Xie Shiyu conducted a systematic comparative analysis of the grammar sections of eight domestic and foreign English textbooks. They observed that although there were various types of grammar exercises in the textbooks, mechanical training still accounted for a large proportion, and truly communicative exercises were relatively scarce. This study also pointed out that there is still a certain gap in the design concepts of grammar exercises in domestic textbooks compared to outstanding foreign textbooks, and further reference to advanced foreign experiences is needed [2]. Qin Meifang conducted an experimental study to examine the practical effect of the three-dimensional grammar framework in junior high school grammar teaching. The experimental data showed that the application of this framework had a positive impact on students' grammar scores and overall language proficiency [12]. This study provided empirical evidence for the applicability of the three-dimensional grammar framework at the junior high school level and indirectly demonstrated that the three-dimensional distribution of grammar practice activities in textbooks should not be overlooked. Liu Wei traced the background and core content of three-dimensional grammar teaching theory from the perspectives of linguistic theory and the development of teaching practice. He argues that three-dimensional grammar focuses on comprehension and application at the discourse level, which holds significant inspirational value for updating and improving the concept of grammar in China's English language teaching [13].

Li Xiaocui compared the grammar exercises in the 2012 and 2024 editions of the People's Education Press junior high school English textbook for Grade 7, Volume 1. She found that mechanical exercises accounted for more than half of the exercises in both editions, representing the highest proportion; however, the proportion of communicative exercises in the 2024 edition had increased compared to the 2012 edition [14]. Jia Fan et al. conducted a statistical analysis of grammar exercises in four sets of English major textbooks in China. The results showed that all four sets predominantly featured mechanical exercises, followed by meaning-based exercises, with communicative exercises being the least common; the differences in the distribution among these three types of exercises reached a statistically significant level [15]. In their analysis of secondary school English textbooks, Lü Guozheng and Lu Feng also noted that the grammar exercises in these textbooks emphasize mechanical, form-based drills and lack language communication scenarios in authentic contexts, which to some extent limits the development of learners' communicative competence [16].

Based on the above literature, a relatively mature research foundation has been established internationally regarding the three-dimensional grammar theory and the classification of practice types, while domestic scholars have generally observed a tendency in textbook grammar exercises to emphasize form and mechanical practice while de-emphasizing usage and communicative practice. However, most existing studies are case studies of a single textbook, and systematic comparisons specifically targeting the grammar practice activities in the People's Education Press and Foreign Language Teaching and Research Press junior high school English textbooks remain relatively limited. This study aims to supplement the existing research by examining two dimensions: three-dimensional distribution and practice types.

3. Research Design

3.1 Research Questions

This study focuses on two core research questions: 1. What are the similarities and differences in the three-dimensional distribution of grammar practice activities between the junior high school English textbooks published by Foreign Language Teaching and Research Press (FLTRP) and People's Education Press (PEP)? 2. What are the similarities and differences in the types of grammar practice activities in these two textbook series?

3.2 Research Subjects

This study selects twelve textbooks as research materials. Six volumes belong to the English (Go for It!) (2024 edition) published by People's Education Press, and the other six are from English (New Standard) (2026 edition) published

by Foreign Language Teaching and Research Press. These textbooks cover Grade 7 to Grade 9. Two textbook series are chosen for three major reasons. First, both are compiled based on the Compulsory Education English Curriculum Standards. Second, they are among the most widely adopted and influential junior high school English textbooks in China. Third, the two series feature distinct pedagogical philosophies. Such differences may be reflected in the design of grammar practice activities and lay a foundation for the comparative analysis in this research.

3.3 Research Methods

This study uses text analysis, comparative analysis and data analysis, and follows a three-stage research procedure. First, the textbooks are reviewed thoroughly. Drawing on the three-dimensional grammar framework, all grammar practice activities in the six volumes of each series are systematically identified, classified and coded. Verification is carried out to ensure coding consistency. Second, this study compares the two textbook series in terms of three-dimensional distribution and practice activity types to reveal their similarities and differences. Third, SPSS 27.0 is used to process the coded data. Descriptive statistics and chi-square tests (α=0.05) are conducted to examine group differences in the distributions of three-dimensional codes and practice-activity types between the two series.

3.4 Research Framework

This study draws on two theoretical foundations. They are Larsen-Freeman's three-dimensional grammar framework and Paulston's three-layer practice classification theory. Based on these two theories, this study develops a three-dimensional grammar analysis framework and a practice-type analysis framework [3,4].

3.4.1 The three-dimensional grammar analysis framework

In 2003, American scholar Larsen-Freeman formally proposed and systematically elaborated the three-dimensional grammar framework. This theoretical framework was presented in her monograph Teaching Language: From Grammar to Grammaring [3]. The framework defines grammar as a dynamic systemic structure. It consists of three core dimensions, namely form, meaning, and usage. As illustrated in Figure 1, each dimension corresponds to a specific research question. The form dimension addresses how a specific grammatical structure is constituted. The meaning dimension explains what semantic information a certain grammar item conveys. The usage dimension clarifies when and how a particular grammatical structure is applied in language use.

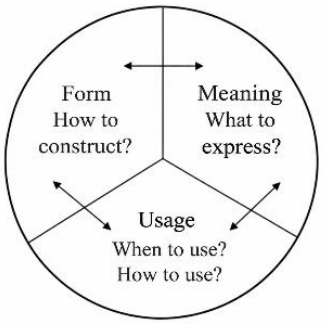


Figure 1. Three-Dimensional Grammar Framework

This study adopts the analytical framework of three-dimensional characteristics of grammar practice proposed by Lin Xiaolan and He Anping. On this basis, it establishes a targeted three-dimensional grammar analysis framework for grammar practice research [11]. The specific analytical framework is shown in Table 1.

Table 1. Three-Dimensional Syntactic Analysis Framework

Grammatical Dimension	Features of Grammar Exercises
Form	New language items appear in exercise instructions. Examples are provided for students to imitate, and answers are usually unique and fixed. Meaning may be involved in the exercises, yet their purpose is to enable students to select the correct grammatical form.
Meaning	New language items appear either explicitly or implicitly in exercises. Judgement is not based on the accuracy of grammatical forms, but on whether meanings are appropriately conveyed.
Use	Set in authentic contexts, exercises assess students' problem-solving ability, with linguistic forms emerging naturally. Language items naturally occur within exercise instructions or scenarios.

3.4.2 Framework for analyzing practice types

Building on Paulston's three-tiered theory of practice classification, this paper further categorizes practice types into three levels: mechanical practice, meaningful practice, and communicative practice. Based on the degree of control over the activity, the framework for analyzing practice types presented in Table 2 was established[4](197-208).

Table 2. Analytical Framework of Practice Types

Practice Type	Judging Characteristics
Mechanical Practice	Fully controlled responses; unique answers
Meaningful Practice	Partially controlled; completion requires meaning comprehension
Communicative Practice	Uncontrolled; expressing personal real information or opinions

3.5 Research Process

Data collection and analysis for this study were divided into four phases, as detailed below.

3.5.1 Data collection and framework development

The researchers first thoroughly reviewed both editions of the textbooks and selected the grammar exercise activities contained therein. Based on Larsen-Freeman's three-dimensional grammar framework and Paulston's three-tiered classification theory of practice, and drawing on Lin Xiaolan and He Anping's operational definitions of the three-dimensional characteristics of grammar exercises, the researchers established the analytical and coding framework for this study [3,4,11].

3.5.2 Coding process

Three coders independently coded all grammar exercise activities in the six volumes of the two editions of the textbooks item by item, following uniform coding standards. During the coding process, the three coders did not communicate their coding results to one another to ensure the independence of their judgments. After coding was completed, the researcher compiled the coding results from the three coders; for a small number of items where discrepancies arose, the final classification was determined through joint discussion among the three coders.

3.5.3 Coding consistency test

The researcher used Fleiss' Kappa coefficient to test the consistency among the three coders. The results of the reliability test are shown in Tables 3 and 4.

Table 3. Fleiss' Kappa Coefficient Test Results for Three-Dimensional Coding Classification by Three Coders

Kappa Coefficient	Asymptotic Std. Error	z	Asymp. Sig.	95% CI Lower	95% CI Upper
0.950	0.037	25.446	0.000	0.876	1.023

(1) The sample data consist of 80 valid subjects and 3 coders.

Table 3 presents the consistency test results of the three coders in the specific three-dimensional coding classification. The Kappa value of the three coders in the three-dimensional coding classification is 0.950 ($p < 0.001$), reaching a level of near complete consistency. This result indicates that the three coders have a very high degree of consistency when specifically judging the dimensions of a practice activity.

Table 4. Fleiss' Kappa Coefficient Test Results for Practice Type Coding Classification by Three Coders

Kappa Coefficient	Asymptotic Std. Error	z	Asymp. Sig.	95% CI Lower	95% CI Upper
0.878	0.032	27.015	0.000	0.814	0.942

(2) The sample data consist of 80 valid subjects and 3 coders.

Table 4 shows that the Kappa value of the three coders in classifying the practice types is 0.878 ($p < 0.001$), which also reaches a level of near complete consistency. Both Kappa values are greater than 0.80, indicating a relatively high coding reliability. This suggests that a few discrepant items can reach consensus after discussion.

3.5.4 Data analysis

All coded data were systematically summarized in this study. SPSS 27.0 was adopted to perform descriptive statistics and chi-square tests. The significance level was set at $\alpha = 0.05$. These statistical analyses aimed to identify inter-group differences in the distribution of three-dimensional features and practice types between the two sets of textbooks.Based on the statistical results, this study further conducted a comparative analysis of grammar practice activities. The comparison was carried out from two core dimensions. The first dimension referred to three-dimensional features, including form, meaning and usage. The second dimension covered practice types, namely mechanical practice, meaningful practice and communicative practice.This study explored the similarities and differences of grammar practice activities between the two textbook editions. In addition, the analytical results were discussed in combination with textbook compilation concepts and compulsory education curriculum standards.

4. Research Findings and Discussion

4.1 Comparison of the Three-Dimensional Distribution of Grammar Exercise Activities in the Two Textbook Editions

4.1.1 The three-dimensional distribution characteristics of the grammar practice activities in the People's Education Edition textbooks

This study first conducted descriptive statistics on the three-dimensional coding of the grammar practice activities in the two editions of the textbooks. Data were extracted from the textbook coding tables and summarized. Tables 5 and 6 respectively present the statistical results of the People's Education Edition and the Foreign Language Teaching Edition. Tables 5 and 6 present the statistical results for the People's Education Press edition and the Foreign Language Teaching and Research Press edition, respectively.

Table 5. Three-Dimensional Distribution of Grammar Practice Activities in PEP Textbooks

Dimension	Frequency	Percentage
Form only	46	28.9%
Meaning only	0	0%
Use only	0	0%
Both Form and Meaning	74	46.5%
Both Form and Use	0	0%
Both Meaning and Use	0	0%
Form, Meaning and Use	39	25.5%

Note. The total of percentages may contain a rounding error of ±0.1 due to decimal rounding.

As shown in Table 5, the People's Education Press grammar exercises cover only three types of activities: those that balance form and meaning, those that focus solely on form, and those that balance both form and meaning as well as usage. Exercises that focus solely on meaning, focus solely on usage, balance form and usage, or balance meaning and usage are not included, indicating that this textbook lacks grammar exercises that focus exclusively on meaning, focus exclusively on usage, or combine only form and usage or meaning and usage. Among the three existing categories of exercises, those that balance form and meaning constitute the largest group, with a total of 74 exercises, accounting for 46.5% of all exercises—nearly half of the total; exercises focusing solely on form total 46, accounting for 28.9 percent; together, these two categories account for 75.4 percent of the total, constituting the bulk of the People's Education Press grammar exercises; exercises that integrate form, meaning, and usage are the least numerous, with only 39, accounting for 24.5 percent—a proportion significantly lower than that of the two main categories.

4.1.2 Three-Dimensional Distribution Characteristics of Grammar Exercise Activities in the Foreign Language Teaching and Research Press Edition

As shown in Table 6, the grammar exercises in the Foreign Language Teaching and Research Press edition also include three types of exercises: those focusing solely on form, those balancing form and meaning, and those balancing form, meaning, and usage. Exercises focusing solely on meaning, solely on usage, balancing form and usage, or balancing meaning and usage do not appear; this distribution pattern is consistent with that of the People's Education Press edition. Among the valid exercise types, exercises that combine form and meaning were the most numerous, totaling 58 and accounting for 42.0% of all exercises; exercises that simultaneously address form, meaning, and usage come in second, with a total of 44, accounting for 31.9%. Together, these two categories make up 73.9% of the total, constituting the main component of the Foreign Language Teaching and Research Press grammar exercises; exercises focusing solely on form are the least numerous, with a total of 36, accounting for 26.1%.

Table 6. Three-Dimensional Distribution of Grammar Practice Activities in FLTRP Textbooks

Dimension	Frequency	Percentage
Form only	36	26.1%
Meaning only	0	0%
Use only	0	0%
Both Form and Meaning	58	42.0%
Both Form and Use	0	0%
Both Meaning and Use	0	0%
Form, Meaning and Use	44	31.9%

4.1.3 Comparative analysis of the three-dimensional distribution of the two textbook editions

A comparison of the frequency of three-dimensional coding across the two textbook editions is shown in Figure 2.

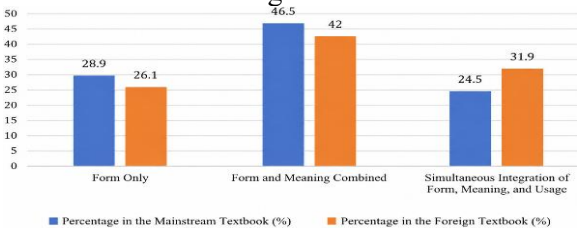


Figure 2. Bar Chart Comparing the Three- Dimensional Distribution of Grammar Practice Activities in Two Editions of Textbooks

Figure 2 shows that the two textbook editions generally converge in terms of the distribution of three-dimensional coding. The exercises that take into account both form and meaning accounted for the highest proportion in both editions of the textbooks. The People's Education Edition had a 46.5% share, while the Foreign Language Teaching and Research Edition had a 42.0% share. Exercises that only focus on form came in second, with the People's Education Edition accounting for 28.9% and the Foreign Language Teaching and Research Edition for 26.1%. Exercises covering form, meaning, and usage simultaneously accounted for the smallest proportion in both textbook series. The proportion of such exercises reached 24.5% in the PEP textbooks. By comparison, the proportion stood at 31.9% in the FLTRP textbooks. There were also four types of exercises that did not appear in either edition. This study compares the proportional shares of two main exercise types: form-only exercises and exercises covering both form and meaning. PEP textbooks contain 2.8 percentage-point more form-only exercises than FLTRP textbooks, as well as a 4.5-percentage-point higher share of form-and-meaning exercises. Conversely, for comprehensive exercises covering all three dimensions, the Foreign Language Teaching and Research Press edition exceeded the People's Education Press edition by 7.4 percentage points. This study employed the Pearson chi-square test to compare the distribution characteristics of the three-dimensional coding in the two textbook editions, with the results shown in Table 7. As shown in Table 7, $\chi^2 = 1.985$, df = 2, p = 0.371 > 0.05, indicating that there is no statistically significant difference in the distribution of three-dimensional coding between the two textbook editions. This suggests that the frameworks for organizing grammar exercises in both editions are highly convergent; both take form as the starting point and differ only in the emphasis placed on the weighting of foundational and comprehensive exercises, without forming any fundamental distinctions.

Table 7. Results of Pearson's Chi-Square Test for Three-Dimensional Coding Distribution of Grammar Exercises in the Two Editions of Textbooks

Statistic	Value	df	Asymptotic Significance(2-sided)
Pearson's Chi-Square	1.985	2	0.371

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 38.10.

4.2 Comparison of Practice Types in Grammar Exercises across the Two Textbook Editions

4.2.1 Distribution characteristics of practice types in grammar exercises across the two textbook editions

Based on Paulston's three-tiered classification framework for practice, this study categorized and analyzed all grammar exercises in the two textbook editions; the results are shown in Table 8.

Table 8. Distribution of Grammar Drill Types in the Two Textbook Editions

Drill Type	PEP Edition (n / %)	FLTRP Edition (n / %)
Mechanical Drills	59(37.1%)	47(34.1%)
Meaningful Drills	81(50.9%)	55(39.9%)
Communicative Drills	19(12.0%)	36(26.0%)
Total	159(100%)	138(100%)

As shown in Table 8, in the grammar exercises of the People's Education Press edition, meaning-based exercises are the most numerous, totaling 81 and accounting for 50.9% of the total exercises in this edition; mechanical exercises come next, with 59 exercises, accounting for 37.1%; and communicative exercises are the least numerous, with only 19 exercises, accounting for 12.0%. It is evident that the People's Education Press edition's grammar exercises are primarily composed of meaning-based exercises, supplemented by mechanical exercises, while communicative exercises account for a relatively low proportion.

In the Foreign Language Teaching and Research Press edition's grammar exercises, meaning-based exercises total 55, accounting for 39.9% of the total exercises in this edition; mechanical exercises total 47, accounting for 34.1%; and communicative exercises totaled 36, accounting for 26.0%. Compared with the Foreign Language Teaching Edition, the distribution of the three types of exercises in the Foreign Language Teaching Edition is more balanced. Among the two textbook series, the proportion of communicative practice activities reached 26.0 % in the FLTRP textbooks. By contrast, the corresponding figure for the PEP textbooks stood at 12.0 %. This gap suggests that the FLTRP series places greater emphasis on developing students' ability to use language for real-world communication.

4.2.2 Comparative analysis of practice types of

grammar exercises in two versions of textbooks

The comparison of the practice types of grammar exercises in the two editions of textbooks is shown in Figure 3. As can be seen from Figure 3, the distribution of the three types of practice in the two editions of textbooks not only has commonalities but also has differences.

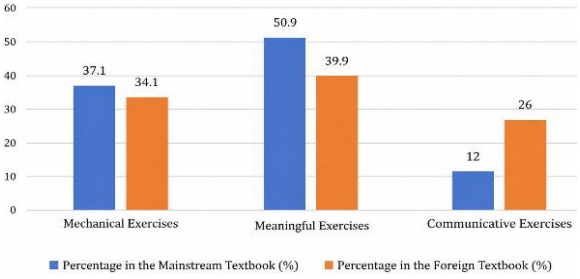


Figure 3. Comparison of Drill Types of Grammar Practice Activities between Two Textbook Editions

The two editions of textbooks share similarities in the distribution of the three types of exercises. Both editions primarily feature mechanical and meaningful exercises; specifically, the People's Education Press edition accounts for 37.1% and 50.9%, respectively, while the Foreign Language Teaching and Research Press edition accounts for 34.1% and 39.9%, respectively. Communicative exercises, however, accounted for the smallest proportion in both editions: 12.0% in the People's Education Press edition and 26.0% in the Foreign Language Teaching and Research Press edition, indicating that communicative exercises have not yet become the dominant type of grammar practice.

The main differences between the two editions are as follows: the People's Education Press edition has the highest proportion of meaning-based exercises (50.9%), while the Foreign Language Teaching and Research Press edition has similar proportions of mechanical exercises (34.1%) and meaning-based exercises (39.9%). Specifically, the proportion of meaning-based exercises in the People's Education Press edition is 11.0 percentage points higher than that in the Foreign Language Teaching and Research Press edition, and the proportion of communicative exercises is 14.0 percentage points higher; conversely, the proportion of mechanical exercises in the Foreign Language Teaching and Research Press edition is 3.0 percentage points lower than that in the People's Education Press edition. These differences highlight core features of the two textbook series. PEP textbooks place more emphasis on meaningful practice, while FLTRP textbooks show a more balanced distribution among the three practice types.

The Pearson chi-square test was further applied to compare the distribution of grammar practice exercises between the two textbooks. Table 9 displays the test results: $\chi^2 = 10.150$, df = 2, p = 0.006 < 0.05. This statistically significant result suggests notable differences in grammar exercise-type distribution across the two editions.

Table 9. Results of Pearson's Chi-Square Test for Coding Distribution of Grammar Drill Types in the Two Editions of Textbooks

Statistic	Value	df	Asymptotic Significance (2-sided)
Pearson's Chi-Square	10.150	2	0.006

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 25.56.

5. Conclusion

5.1 Research Findings

This study draws on two theoretical foundations. One is Larsen-Freeman's three-dimensional grammar framework, and the other is Paulston's three-tier practice classification theory [3,4]. It adopts text analysis, comparative analysis and data analysis. With these methods, it systematically compares grammar exercises from PEP and FLTRP junior high school English textbooks. It explores their three-dimensional distribution and practice-type features. The key findings are listed below.

First, the two textbook series are highly similar in their three-dimensional distribution. Both prioritize exercises combining form and meaning. Form-oriented exercises rank second. Exercises that cover form, meaning and use at the same time take up the smallest proportion. In addition, four exercise categories are absent from both textbooks. The chi-square test detects no statistically significant difference between PEP and FLTRP textbooks in this three-dimensional distribution. This finding implies that grammar practice design in both series is form-based. They follow a progressive path from form to meaning and further to usage. Nevertheless, the meaning and usage dimensions are mostly combined with the form dimension. There remains substantial room for improvement in the practical implementation of the three-dimensional grammar concept.

Secondly, when it comes to practice-activity types, PEP and FLTRP textbooks have both similarities and differences. One major similarity

can be observed between the two series. Communicative practice activities make up the smallest proportion in both textbooks. This finding shows that structural-focused exercises remain the dominant approach in both sets of teaching materials. The difference lies in the fact that the People's Education Press edition focuses primarily on meaning-based exercises, while the Foreign Language Teaching and Research Press edition has a nearly equal proportion of meaning-based and mechanical exercises; moreover, the proportion of communicative exercises in the Foreign Language Teaching and Research Press edition is significantly higher than that in the People's Education Press edition. A chi-square test further confirms that there are significant differences in the distribution of exercise types between the two editions, indicating that there are certain distinctions in the design of exercise types in the two textbooks.

5.2 Research Recommendations

Based on the above conclusions, this study offers the following two recommendations.

First, with regard to three-dimensional distribution, several suggestions are put forward for textbook compilers. They are advised to raise the proportion of exercises covering form, meaning and usage simultaneously to no less than 35 %. In unit grammar sections where appropriate, at least one or two comprehensive practice activities should be designed. These activities need to address form, meaning, and usage at the same time. Such adjustments can gradually shift the existing compilation tendency which prioritizes form and meaning. Meanwhile, recommendations are also offered for teachers. When using the textbooks, teachers may re-develop form-only grammar practice activities. They can add contextual information or open-ended tasks. In this way, these original activities can be converted into three-dimensional practice tasks.

In terms of practice-activity types, communicative exercises take up the smallest share in both textbook series. The proportion reaches 12.0 % in the PEP textbooks and 26.0 % in the FLTRP textbooks. Therefore, there is substantial room for improvement in both sets of materials.

It is recommended that authors appropriately increase the proportion of communicative exercises to achieve a more balanced distribution among the three exercise categories. At the same time, teachers using the People's Education Press textbook can focus on supplementing communicative exercises, while those using the Foreign Language Teaching and Research Press textbook can build on their existing strengths to further increase the proportion of grammar exercises that integrate form, meaning, and usage.

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