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Analysis of the Alignment of Seventh-Grade Mathematics Textbooks with Curriculum Standards from the Perspective of Core Literacy

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Abstract: *The 2024 People's Education Press seventh-grade mathematics textbook and the Mathematics Curriculum Standards for Compulsory Education (2022 Edition) were selected as research objects. Based on Yu Ping's framework of core literacy levels and expert interpretations of the new standards, a core literacy–oriented SEC alignment model was constructed. The consistency between the new textbook and the new standards was analysed across four dimensions: overall alignment, content themes, components of core literacy, and cognitive levels. The results indicated that the consistency between the new standards and the new textbook is relatively high in the overall and content-theme dimensions. In the core literacy dimension, most components of core literacy show high consistency. However, in the cognitive dimension, the consistency at the knowledge-innovation level still needs improvement. Based on these findings, recommendations are offered for the compilation and use of the new textbook.*

Keywords: *Seventh-Grade Mathematics, Textbook Content, Curriculum Standards, Core Literacy, Alignment*

1. Introduction

The Mathematics Curriculum Standards for Compulsory Education (2022 Edition)("new standards") clearly state that textbook compilation must be "based on the curriculum standards, fully implementing the curriculum ideas and objectives embodied in the standards"[1].Therefore, the new standards serve as the primary reference for compiling the 2024 People's Education Press seventh-grade mathematics textbook ("new textbook"). The main content of a textbook is the primary learning material for students to achieve curriculum objectives, so the degree of consistency between the content of the new textbook and the new standards determines how well the standards are implemented. In the field of mathematics, common models for studying consistency include the SEC model[2], the Webb model[3], and the Achieve model[4]. However, current research has focused more on the consistency between academic assessments and curriculum standards, while studies on the consistency between junior secondary textbooks and curriculum standards remain scarce. Therefore, to ensure the accuracy and feasibility of evaluating textbook content, it is important to conduct a consistency study between the content of the new junior mathematics textbook and the content requirements of the new standards. Such a study provides valuable reference for both the compilation and use of the new textbook. This study adopts a core literacy–oriented SEC alignment analysis tool to examine the consistency between the content of the new textbook and the content requirements of the new standards.

2. Research Methodology

2.1. Research Tools

This study used the SEC alignment analysis tool proposed by Porter and Smith[5]. Considering that domestic and international curriculum requirements differ, the foreign tool was not applied directly; it was optimised for domestic context to ensure suitability. The key to SEC alignment analysis is constructing a two-dimensional matrix of "content themes × cognitive levels"[6]. The content themes in this study were divided based on the curriculum standards. Since the seventh grade does not cover all content, the content themes were defined as: Theme 1 "Numbers and Expressions", Theme 2 "Equations and Inequalities", Theme 3 "Properties of Figures", Theme 4 "Figures and Coordinates", and Theme 5

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"Sampling and Data Analysis". Innovation awareness and application awareness are distributed among various core literacies[7] and thus were not included as separate categories. The levels of core literacy were defined according to Professor Yu Ping's classification[8], resulting in a core literacy–oriented SEC alignment analysis model.

2.2. Coding Principles for the New Standards

The content requirements of the curriculum standards are usually presented in the structure of "behavioural verb + mathematical knowledge point". Therefore, the competency theme can be reflected through the mathematical knowledge point, while the competency level can be reflected through the behavioural verb. Based on Yu Ping's interpretation and the Interpretation of the Compulsory Education Mathematics Curriculum Standards (2022 Edition) regarding the explanation of behavioural verbs for curriculum objectives, this study established a two-dimensional specification table (see Table 1). At the same time, the coding principles of the curriculum standards were formulated as follows:

(1) Each academic requirement containing multiple mathematical knowledge points is decomposed into combinations of "one behavioural verb + one mathematical knowledge point" and counted individually;

(2) When the modal verb "can" appears simultaneously with other behavioural verbs, "can" is regarded as a modal verb rather than an action indicator.

Table 1:Two-dimensional Specification Table.

Competency Level	Behavioral Verbs
Level 1 (Knowledge Understanding)	understand, know, preliminarily recognise, perceive, identify, experience, calculate, comprehend, recognise, be able to, describe, express, etc.
Level 2 (Knowledge Transfer)	master, can, deduce, compare, generalise, abstract, etc.
Level 3 (Knowledge Innovation)	design, select, apply, explore, prove, etc.

Sample of Curriculum Standards Coding:

"To be able to represent real numbers with points on the number line, and to compare the magnitude of real numbers."

Analysis: This entry belongs to Content Theme 1 ("Numbers and Expressions"), under requirement (2) concerning real numbers. As both the modal verb "be able to" and the action verb "apply" appear, "be able to" is treated as a modal verb of volition. Therefore, the entry is divided into two specific objectives: "To be able to represent real numbers with points on the number line" and "To compare the magnitude of real numbers." Each specific objective is then evaluated in terms of the corresponding core literacy and its level for final coding. For instance, "To understand the meaning of irrational numbers and real numbers" is coded as 1.2.4—A2, while "To know that real numbers consist of rational and irrational numbers" is coded as 1.2.5—C2.

2.3. Coding Results and Reliability for the New Standards

To ensure the reliability of the coding results, Pearson correlation tests were conducted on the coding data of the new standards completed independently by two coders using SPSS 26.0. The test resulted in a correlation coefficient of 0.949 ($p < 0.001$), indicating a high level of reliability between the two coders' results.The two coders discussed the discrepancies in the coding data and consulted subject experts to determine the final coding results. After normalising the data, the original ratio of the curriculum standards' content requirement coding was obtained, as shown in Table 2.

Table 2 Original Data Ratios of the Content Requirement Coding in the 2022 Curriculum Standards

Learning Theme	Cognitive Levels of Core Literacy									
	A1	A2	A3	R1	R2	R3	C1	C2	C3	M1
Theme 1	0.145	0.043	0.000	0.009	0.000	0.000	0.051	0.068	0.017	0.000
Theme 2	0.017	0.017	0.009	0.000	0.000	0.000	0.009	0.034	0.000	0.009
Theme 3	0.128	0.009	0.000	0.000	0.000	0.034	0.017	0.026	0.000	0.000
Theme 4	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Theme 5	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
M2	M3	G1	G2	G3	S1	S2	S3	D1	D2	D3
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.034	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.034	0.051	0.000	0.009	0.043	0.034	0.000	0.000	0.000
0.000	0.000	0.017	0.026	0.000	0.009	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.051	0.034	0.000

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2.4. Coding Principles for the New Textbook

The coding of the new textbook in this study primarily referred to the teacher's edition written by the textbook compilers[9]. Since the "Teaching Reflection and Suggestions" sections of the teacher's edition do not cover all content, this study's coding only involved the main text content and some sections ("Reflection" and "Inquiry"). However, both the main text and these sections usually contain multiple paragraphs, which could cause confusion in the statistics of literacy themes. Therefore, the coding followed this sequence: First, chapters of the seventh-grade mathematics textbook were divided by content theme (for example, chapters on Rational Numbers, Operations on Rational Numbers, Algebraic Expressions, etc. were assigned to corresponding themes). Then, the sections under each chapter were coded according to a structured scheme (e.g., 2.1.1, 2.1.2, 2.2.1, 2.2.2, etc.). Finally, specific knowledge points were coded, and their corresponding core literacy categories and levels were determined. At the same time, three coding principles were established:

(1) The knowledge segments in the main text are coded independently of the "Reflection" and "Inquiry" sections;

(2) Each section is coded according to a single literacy category, unless the teacher's edition explicitly indicates multiple literacy requirements, in which case all relevant literacies are counted;

(3) In the same section, if the "Reflection" or "Inquiry" section has exactly the same coding as the adjacent knowledge segment (i.e., the same literacy category and level), it is coded only once (no duplication).

Example of Coding for the New Textbook:

"According to statistical data, the ratio of the unit-area yields of crops A and B is 1:2. A rectangular plot of land with a length of 200 m and a width of 100 m needs to be divided into two smaller rectangular plots to plant these two crops. How should the land be divided so that the total production ratio of crops A and B is 3:4?"

To solve this problem, students need to construct a system of linear equations in two variables based on the specific context, solve the model, and thereby address the real-world problem. This item primarily reflects the Modelling Perspective. The corresponding level is then determined: as this is an open-ended problem with multiple possible solutions, students can experience that a single problem may have several different approaches and learn to think from diverse perspectives. This belongs to Level Three, namely Knowledge Innovation. The final coding result is 2.2.3.2—M3.

2.5. Coding Results and Reliability for the New Textbook

To ensure reliability, Pearson correlation tests were conducted on the coding data of the new textbook completed independently by two coders using SPSS 26.0. The test resulted in a correlation coefficient of 0.804 ($p < 0.001$), indicating a high level of reliability. The two coders discussed discrepancies and consulted frontline teachers to finalise the coding results. After normalising the data, the original data proportions of the coded content of the seventh-grade mathematics new textbook were obtained.

Table 3 Original Data Ratios of the Main Text Content Coding in the Seventh-Grade Mathematics Textbook

Learning Theme	Cognitive Levels of Core Literacy									
	A1	A2	A3	R1	R2	R3	C1	C2	C3	M1
Theme 1	0.096	0.029	0.000	0.067	0.019	0.000	0.134	0.067	0.000	0.000
Theme 2	0.048	0.019	0.006	0.045	0.029	0.000	0.022	0.035	0.000	0.010
Theme 3	0.064	0.000	0.000	0.035	0.019	0.000	0.010	0.006	0.000	0.000
Theme 4	0.000	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Theme 5	0.019	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
M2	M3	G1	G2	G3	S1	S2	S3	D1	D2	D3
0.000	0.000	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.029	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.026	0.026	0.000	0.006	0.016	0.000	0.000	0.000	0.000
0.000	0.000	0.006	0.013	0.000	0.003	0.016	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.019	0.013	0.003

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3. Results

3.1. Overall Consistency Analysis

The consistency index between the new textbook and the new standards in the overall dimension was calculated using Porter's consistency index formula, and a critical interval at the 0.05 significance level was obtained through MATLAB simulation of the distribution of Porter's index[10]. The process was as follows: The 117 specific requirements of the new standards were randomly assigned to a 5×21 matrix, and the 313 knowledge points of the new textbook were similarly randomly placed into a 5×21 matrix. After standardisation, the consistency index was calculated. This process was repeated 20,000 times to obtain the critical interval. The calculation shows that in the overall dimension, the consistency index between the new standards and the new textbook is 0.588, with a critical interval of [0.585, 0.690]. Since 0.588 > 0.585, this indicates that in the overall dimension, the consistency between the content of the new textbook and the content requirements of the new standards reaches an acceptable level.

3.2. Content Theme Consistency Analysis

The distributions of content themes were derived from the original data ratios of the content requirement coding in the new curriculum standards (Table 2) and the main text content coding in the seventh-grade mathematics textbook (Table 3), and were analysed to evaluate the degree of alignment between the new textbook and the new curriculum standards.Statistically, both the new textbook and the new standards place emphasis on Themes 1 ("Numbers and Expressions"), Theme 2 ("Equations and Inequalities"), and Theme 3 ("Properties of Figures"). However, their proportions differ across themes. The new textbook's proportions for Theme 3, Theme 4 ("Figures and Coordinates"), and Theme 5 ("Sampling and Data Analysis") are all lower than those of the new standards, with differences of 0.177, 0.015, and 0.034 respectively. For Theme 1 and Theme 2, the textbook proportions are higher than the new standards' by 0.092 and 0.134, respectively. Therefore, the differences in proportions between the new textbook and new standards are relatively large for the first three themes, while for Themes 4 and 5, the proportions are relatively close. To compare alignment more directly across themes, consistency index trends were established under the SEC model for each content theme. The calculations show that the consistency indices for all themes are above their respective lower critical values, indicating acceptable consistency. In particular, the indices for Theme 3, Theme 4, and Theme 5 are significantly above the lower critical values, indicating relatively strong consistency.

3.3. Core Literacy Consistency Analysis

The distributions of core literacies were derived from the original data ratios of the content requirement coding in the new curriculum standards (Table 2) and the main text content coding in the seventh-grade mathematics textbook (Table 3).The analysis shows that both the new standards and new textbook emphasise "Abstract Thinking" and "Computational Skills". For the new standards, the proportions of core literacies are: Abstract Thinking (0.385), Computational Skills (0.222), Geometric Intuition (0.128), Spatial Sense (0.094), Data Sense (0.085), Reasoning Ability (0.043), and Modelling Perspective (0.043). For the new textbook, the proportions are: Abstract Thinking (0.294), Computational Skills (0.275), Reasoning Ability (0.214), Geometric Intuition (0.083), Modelling Perspective (0.058), Spatial Sense (0.042), and Data Sense (0.035). Comparative analysis shows that the biggest differences are in Abstract Thinking, Reasoning, and Computational Skills. The new textbook tests Abstract Thinking less than the standards (difference of 0.091), whereas it exceeds the standards' emphasis on Reasoning and Computational Skills (differences of 0.171 and 0.053 respectively). To directly compare consistency for different literacies, consistency index trends were established under the SEC model. The calculations show that except for "Reasoning Ability", which has a consistency index below the lower critical value (not statistically significant), all other core literacies have indices above their respective lower critical values. Notably, "Modelling Perspective" and "Data Sense" have consistency indices significantly above the upper critical values, indicating a high degree of alignment. The indices for "Abstract Thinking" and "Geometric Intuition" are also near the upper critical values, indicating relatively good consistency. "Computational Skills" and "Spatial Sense" have indices above the lower critical values, indicating acceptable consistency.

3.4. Cognitive Level Consistency Analysis

The distributions of cognitive levels were derived from the original data ratios of the content

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requirement coding in the 2022 curriculum standards (Table 2) and the main text content coding in the seventh-grade mathematics textbook (Table 3).The analysis shows that both the new textbook and the new standards focus on the knowledge understanding level and the knowledge transfer level. The proportion of the new textbook's content at the knowledge understanding level is higher than the standards by 0.096, while at the knowledge transfer level it is lower by 0.030, and at the knowledge innovation level it is lower by 0.065. Consistency index trends under the SEC model for different cognitive levels indicate that the consistency between the new textbook and the new standards is relatively good at the knowledge transfer level (index close to the upper critical value) and acceptable at the knowledge understanding level, whereas the index for the knowledge innovation level is significantly below the lower critical value and does not reach statistical significance.

4. Conclusions

4.1. Overall Consistency

From the overall dimension, the textbook content exhibits statistically significant consistency with the new standards. This indicates that the textbook content as a whole meets the requirements of the new standards.

4.2. Content Theme Consistency

From the perspective of content themes, although the proportions of the new textbook's main content and the new standards' requirements differ across themes, both emphasise Theme 1 ("Numbers and Expressions"), Theme 2 ("Equations and Inequalities"), and Theme 3 ("Properties of Figures"), while the proportions of Theme 4 ("Figures and Coordinates") and Theme 5 ("Sampling and Data Analysis") are relatively low. The consistency indices between the new textbook and the new standards across all themes are above the lower critical values, indicating that the consistency is at an acceptable level. Among them, the indices for Theme 3 ("Properties of Figures"), Theme 4 ("Figures and Coordinates") and Theme 5 ("Sampling and Data Analysis") are significantly above the lower critical values, demonstrating relatively strong consistency, whereas the indices for Theme 1 ("Numbers and Expressions") and Theme 2 ("Equations and Inequalities") are close to the lower critical values, indicating relatively weaker consistency.

4.3. Core Literacy Consistency

From the perspective of core literacies, both the new textbook's main content and the new standards' requirements emphasise the assessment of "Abstract Thinking" and "Computational Skills". However, there are relatively large differences in the proportions of "Abstract Thinking", "Reasoning Ability" and "Computational Skills". The new textbook places less emphasis on Abstract Thinking than the standards, while it exceeds the standards in assessing Reasoning Ability and Computational Skills. The consistency between the new textbook and the new standards in "Reasoning Ability" does not reach statistical significance, whereas the consistency of all other core literacies is at an acceptable level. Among them, the consistency indices for "Modelling Perspective" and "Data Sense" are significantly above the upper critical values, while those for "Abstract Thinking" and "Geometric Intuition" are close to the upper critical values, indicating relatively strong consistency. The indices for "Computational Skills" and "Spatial Sense" are also above the lower critical values, indicating acceptable consistency.

4.4. Cognitive Level Consistency

From the perspective of cognitive levels, both the new textbook's main content and the new standards' requirements place emphasis on the assessment of knowledge understanding and knowledge transfer. The proportion of the new textbook at the knowledge understanding level is higher than that of the standards, while the proportions at the knowledge transfer and knowledge innovation levels are lower. The consistency between the new textbook and the new standards is relatively good at the knowledge understanding and knowledge transfer levels, with the consistency index for knowledge transfer close to the upper critical value and that for knowledge understanding at an acceptable level. However, at the knowledge innovation level, the consistency does not reach statistical significance.

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5. Recommendations

5.1. Balance Content Theme Proportions

The consistency between the new textbook and the new standards across all content themes reaches an acceptable level. However, the consistency indices for Theme 1 ("Numbers and Expressions") and Theme 2 ("Equations and Inequalities") are relatively weaker, as the proportions of these two themes in the new textbook are significantly higher than in the standards. Although the new textbook was developed based on the new standards, subjective judgment on the part of the compilers may have led to deviations in weighting between the two. Therefore, the compilation of the new textbook should strictly follow the proportional distribution of content themes in the standards, reasonably adjusting the structure and emphasis of chapters to strengthen balance across themes. In teaching practice, teachers should avoid mechanical repetition of the same knowledge points and may supplement textbook content with real-world cases or interdisciplinary projects. For instance, classic historical problems such as the "chicken-and-rabbit problem" or contemporary real-life scenarios can be used to guide students in solving problems through multiple methods, thereby demonstrating the practicality, scientific value, and rich cultural connotations of the textbook content. Additionally, teachers may design open-ended assignments to encourage students to build a comprehensive and systematic mathematical knowledge structure[11]. For example, in teaching Theme 5 ("Sampling and Data Analysis"), teachers could introduce data collection and analysis activities related to daily life, allowing students to experience the process firsthand. This not only fosters students' mathematical thinking and practical skills but also aligns with the "double reduction" policy's emphasis on improving classroom efficiency.

5.2. Balance Core Literacy Proportions

The new textbook and the new standards do not achieve statistically significant consistency in "Reasoning Ability",while all other core literacies demonstrate statistically significant consistency. In particular, the consistency indices for "Abstract Thinking", "Geometric Intuition", and "Data Sense" are relatively strong. However, the distributions of the same core literacies across different content themes still show certain deviations. For example, both the new textbook and the new standards assess "Spatial Sense" within Theme 3 ("Properties of Figures") and Theme 4 ("Figures and Coordinates"), but the textbook's emphasis on "Spatial Sense" in Theme 3 falls short of the standards' requirements. Therefore, the compilation of the new textbook should draw on the new standards to balance the proportions of core literacies across content themes, ensuring the holistic development of students' mathematical competencies. Huang Xianming et al. found that the content "Understanding Renminbi" integrates multiple mathematical core literacies, involving nine competencies such as mathematical concepts, mathematical propositions, and mathematical abstraction[12]. Textbook design can adopt this approach by incorporating diverse problem contexts and integrative tasks to guide students in autonomous exploration and reflection, thereby promoting comprehensive development of core literacies. At the same time, teachers should focus on the exploratory nature of knowledge[13], shifting instructional design from "teaching" to "learning", so that students can actively construct mathematical knowledge in the process of problem solving and cultivate their mathematical core literacies.

5.3. Enhance Cognitive Level Depth

The new textbook and the new standards do not achieve statistically significant consistency at the knowledge innovation level, with the proportion of content at this level in the new textbook being lower than in the standards. In contrast, the textbook and standards show relatively good consistency at the knowledge understanding and knowledge transfer levels. Therefore, the new textbook needs to appropriately enhance the depth of knowledge assessment by reducing purely mechanical calculation problems and increasing open-ended and integrative tasks that encourage students to apply their learning to new problems or engage in tasks that are open, enquiry-based or interdisciplinary. For example, designing an interdisciplinary task such as "optimising the delivery route for express packages" would require students to use mathematics and physics knowledge to think comprehensively while solving real-world problems. This not only deepens their understanding of systems of equations but also fosters innovative thinking and problem-solving abilities. Teachers' instruction should both rely on the textbook and regenerate the textbook[14]. While making reasonable use of the end-of-chapter exercises, teachers should also recognise that the present study's sample did not include these exercises, which in fact progress gradually from simple to complex across three sections[15]. Thus, end-of-chapter exercises can serve as supplementary material for classroom teaching. At the same time, teachers should consciously

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"recreate" the textbook based on its core content by introducing higher-order cognitive tasks or adapting exercises to provide opportunities for extended thinking. Such practices not only align with the current curriculum reform's emphasis on integrating "basic knowledge and basic skills" with enquiry, but also contribute to the transformation of classroom teaching.

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References

[1] Ministry of Education of the People's Republic of China. Mathematics Curriculum Standards for Compulsory Education (2022 Edition) [M]. Beijing: Beijing Normal University Press, 2022.
[2] Porter, A. C. Measuring the Content of Instruction: Uses in Research and Practice [J]. Educational Researcher, 2002, 31(7): 3-14.
[3] Webb, N. L. Alignment of Science and Mathematics Standards and Assessments in Four (Research Monograph No. 18) [M]. Washington, DC: Council of Chief State School Officers, 1999.
[4] Rothman, R., Slattery, J. B., Vranek, J. L., Resnick, L. B. Benchmarking and Alignment of Standards and Testing [EB/OL]. http://achieve.org/files/TR566.pdf [2016-04-26].
[5] Yang, Y. Q., Wang, Z. H., Zhang, X. Y. The Evolution and Enlightenment of American Curriculum Consistency Research [J]. Foreign Education Research, 2012, 39(1): 113-121.
[6] Liu, X., Ma, Y. Interpretation and Insights of the American SEC Consistency Analysis Paradigm: A Perspective on Consistency between Evaluation and Curriculum Standards in Basic Education [J]. Comparative Education Research, 2007(5): 64-68.
[7] Dong, L., Yu, P. An Investigation of Junior High School Students' Development of Mathematical Core Literacy Based on Academic Quality Monitoring [J]. Journal of Mathematics Education, 2017, 26(1): 7-13.
[8] Yu, P. A Framework for Evaluating Mathematical Core Literacy [J]. Journal of Mathematics Education, 2017, 26(2): 19-23, 59.
[9] Liu, J. Z., Hu, X. Y. Study on the Consistency between High School Physics Textbooks and Curriculum Standards Based on Core Literacy: A Case of 2019 PEP Vol. 1 [J]. Physics Teacher, 2022, 43(7): 2-8, 12.
[10] Lin, J., Zhou, Y., Lu, M. Q. Consistency Analysis between Different Versions of Teachers' Editions and Curriculum Standards: A Case Study of Jiangsu (Su) and Beijing High School Mathematics Compulsory (Teachers' Editions) [J]. Teaching and Management, 2019(12): 74-77.
[11] Chen, B. Exploration of Optimization Paths for High School Mathematics Teaching under the 'Double Reduction' Policy [J]. China Education Journal, 2024(S2): 60-62.
[12] Huang, X. M., Xia, Y. M., Li, W. L. Analysis of Mathematics Teaching Content and Textbook Content from the Core Literacy Perspective: A Case of "Understanding RMB" [J]. Journal of Mathematics Education, 2024, 33(1): 51-58.
[13] Zhao, G. L. Student Self-Constructed Learning Based on Inquiry Teaching: A Case Study of Elementary Mathematics [J]. Educational Theory and Practice, 2015, 35(5): 61-62.
[14] Sheng, H. C., Zhang, J. B., Ma, S. J. Consistency Analysis of Middle School Mathematics Exam Questions: A Case of the 2023 Shanghai Entrance Exam [J]. Journal of Mathematics Education, 2024, 33(5): 27-34.
[15] Yang, Y. F. Discussion on Changing Teaching Strategies through Comparison of New and Old High School Mathematics Textbooks: A Case of Chapter 1, Sets and Common Logical Terms, in People's Education Edition A [J]. Shaanxi Education (Teaching Edition), 2025(5): 7-8.