



Differentiated Instruction in China: A Systematic Review From 2012–2022

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Abstract

Differentiated instruction, a departure from the traditional "one-size-fits-all" approach, tailors teaching to students' diverse needs based on abilities, interests, and characteristics. Widely practiced in China since 2012, it aligns with the educational concept of "teaching students according to their aptitude" and is a focal point in Chinese education research. This study reviews a decade of academic works, analyzing 1689 papers using CiteSpace software. Findings reveal research hotspots, emphasizing changes in instructional strategies, measures promoting core literacy, and the pivotal role of information technology. The study offers insights into the evolution of differentiated instruction research in China, serving as a guide for future directions amid the country's educational reforms.

Keywords: *differentiated instruction; CiteSpace; education reform; research hotspots*

Differentiated Instruction in China: A Systematic Review From 2012–2022

Differentiated instruction is a long-standing concept in Chinese education (Hua, 2019). Chinese education emphasizes students' all-around development in response to student diversity in contemporary classrooms. *The National Outline for Medium and Long-Term Education Reform and Development Plan (2010–2020)* states that education and students' physical and mental development will be respected, and a suitable education will be provided for each student. In 2019, the Central Committee of the Communist Party of China and the State Council issued the *China Education Modernization 2035* document, which emphasizes that education will be tailored to students' needs. Under the traditional classroom teaching system, the one-size-fits-all teaching method achieved high efficiency and standardized results but homogenized and ignored students' individual differences and characteristics (Merawi, 2018; Yao et al., 2018), contradicting current modernization impetus in Chinese education (Zhao & Zhu, 2019). Deepening education and teaching reform responds to people's expectations of education that is fairer, of a higher quality, and more individualized (Yang et al., 2022). Differentiated instruction that respects students' individuality and stimulates diverse potential abilities is a concern in China's educational reform (Liu, 2017). Therefore, we review research on differentiated instruction in China to promote China's educational reform process and adapt differentiated instruction to China's context. The research questions are as follows: 1) What is the situation of differentiated instruction in China over the past

decade? 2) What aspects of differentiated instruction do Chinese researchers mainly study?

Differentiated Instruction

The theoretical foundations for differentiated instruction are Piaget's *constructivism* (Piaget & Inhelder, 1969), Gardner's *multiple intelligence theory* (Gardner, 1983), and the *zone of proximal development* (Vygotsky, 1978). Differentiated instruction recognizes the differences among students and accepts their strengths and limitations (Heacox, 2002; Tomlinson, 2003), treating each student equally, achieving true equity, and addressing student diversity (Smets, 2017). Thus, differentiated instruction's core principle is respect for students' differences. Differentiated instruction is a student-centered, flexible, and developmental instructional approach that promotes students' positive development (Tomlinson, 2005).

Ward (1961) first proposed differentiated instruction as a systematic theory to address gifted students' needs but has evolved to encompass respect for all learners' diverse needs (Tomlinson et al., 2003). Tomlinson's classic model of differentiated instruction is still widely used (He, 2018; Jiang, 2019). Here, teachers flexibly implement and adjust teaching activities according to differences in students' readiness, learning styles, and learning interests in three teaching areas—process, content, and outcomes—to continuously adapt to students' learning statuses (Tomlinson, 2014). Lard (2015) adopted a practical approach to teaching—combining differentiated instruction theoretical research with teaching practice in different disciplines, guiding teachers to



differentiate course content, showing how to diversely teach the same content, helping teachers deepen basic understandings of differentiated instruction, and responding to teachers' difficulties in operationalizing differentiated instruction. Similarly, Gregory (2015) presented various instructional approaches providing templates for standards-based units and lesson plans.

Differentiated instruction has become a research hotspot in global contemporary educational research (Subban & Round, 2015; Tomlinson, 2000). This educational philosophy reflects the commonality between Chinese and Western educational thought, is congruent with Chinese culture (Hua, 2019), and has been studied by Chinese scholars. Hua (2001, p. 16) defined differentiated instruction as "teaching that is based on the differences of students and meets their individual learning needs to promote the full development of each student based on their originality," emphasizing the unity of commonality and individuality. Zeng (2007, p. 4) focuses on differentiated instruction activities as respecting students' differences in classroom teaching activities and promoting students' individualized development of subjectivity. The connotation of differentiated instruction is summarized as "finding differences," "for differences," and "developing differences."

Thus, Chinese researchers believe that this teaching method is based on recognizing students' differences, implementing differentiated instruction in teaching processes, and helping students achieve differentiated development.

Data Sources and Research Methods

Using the bibliometric method, we review the domestic literature on differentiated instruction from 2012 to 2022 via Chinese National Knowledge Infrastructure's (CNKI) data analysis function and the CiteSpace measurement software—developed by C. M. Chen (2017). We used literature co-occurrence network analysis and visualization to identify research hotspots and trends. These steps were conducted from January to February 2023.

Data Sources

We searched the theoretical and educational practice research literature for differentiated instruction texts published by domestic scholars from 2012 to 2022 in the CNKI database, using the terms ((Subject% = "Differentiated Instruction" or Title% = "Differentiated Instruction") OR (Subject% = "Differentiated Instruction" or Title% = "Differentiated instruction")) AND (Published Between ("2012-01-01," "2022-12-31")) AND (((Main Topic = "Differentiated Instruction") OR (Main Topic = "Differentiated Instructional Strategies") OR (Main Topic = "Differentiated Instructional Method")). The total number of items was 1689—1240 journal articles and 449 dissertations (7 PhD and 442 M.A.).

Research Methods

We tracked domestic research hotspots on differentiated instruction through keyword co-occurrence, using keyword

word frequency statistics and keyword clustering analysis.

The steps were: 1) retrieve relevant literature from the CNKI database according to above-mentioned search conditions, and export title, author, abstract, and keywords to obtain preliminary data; 2) gather statistics and analyze author information, province, and issuing unit of domestic and foreign literature using Excel software; 3) import preliminary data into CiteSpace software to generate keyword information statistics; 4) manually delete invalid keywords and merge synonymous keywords; 5) count keyword frequencies, generate keyword co-occurrence and clustering graphs, and use CNKI's visualization function to form keyword co-occurrence matrix.

Results and Discussion

Visualization of Basic Information for Research Literature Statistics—Trends in Publication Number

The research literature on differentiated instruction has gradually increased in the last decade (Figure 1) congruent with the State Council's release of *The National Medium- and Long-term Education Reform and Development Plan (2010–2020)* in 2009, which advocates "teaching according to ability." From 2012 to 2018, the number of relevant literature items increased year by year. However, 2018 was noteworthy, seeing significantly fewer publications than in previous years. In 2018, China's education sector issued important documents such as *The Opinions on Deepening Educational and Pedagogical Reforms to Comprehensively Improve the Quality of Compulsory Education*, promoting the reform and development of education and enabling breakthroughs (State Council, 2019a). Before the reform measures were implemented in 2018, relevant research hotspots were in their infancy due to the unclear orientation of education policies. However, these hotspots have subsequently emerged, confirmed by the number of published papers in differentiated instruction research in 2019. Regarding the overall trend, the annual publication volume fluctuated around 300 articles.

Table 1
Ranking of the Number of Articles Issued by Institutions

Institution	Number of publications
Yangzhou Yucai Experimental School, Jiangsu Province	62
Huazhong Normal University	26
Shanxi Normal University	22
Shanghai Normal University	21
Shandong Normal University	19
Northeast Normal University	15
East China Normal University	15
Southwest University	13
Inner Mongolia Normal University	10

Fujian Normal University	10
Suzhou University	9
Hebei Normal University	8
Nanjing Normal University	8
The Third Central Primary School of Jing'an District, Shanghai	8
China Academy of Educational Sciences	8
Beijing Normal University, Department of Education	7
Liaoning Normal University	7
Hangzhou Normal University	6
Yunnan Normal University	6
Nanjing Normal University Affiliated High School Jiangning	6

Literature Source Categories

According to Figure 2, of the 1240 journal articles, 139 were published in core periodicals (11.2%) and 69 are from the Chinese Social Science Citation Index (CSSCI; 5.6%). This indicates that research on differentiated instruction is not yet an important topic in Chinese education as there is only 1 core article for every 18–19 articles.

Table 2
Ranking of Authors Per Number of Articles Published

Author	Institution	Number of publications
Hua GuoDong	National Institute of Education Sciences	6
Peng Hui	Teaching Laboratory of Laizhou City, Shandong Province	6
Wu FaTi	College of Educational Technology, Beijing Normal University	3
Li TongTong	Tianjin Normal University	3
Zhang Qian	China University of Petroleum	3
Yan XueMin	National Institute of Education Sciences	3
Tian YongJun	Hunan Polytechnic College	3
Hua Jing Sheng	School of Special Education, Beijing Union University	3

Huang GuoQing	Hunan Polytechnic College	3
Meng Xin	Anyang Institute of Technology	3
Lin Yu	Fu Zhou Polytechnic	3
Li ShiZhong	Hunan Mechanical & Electrical Polytechnic	3

Top 20 Institutions—Number of Publications

The statistical function of the CNKI database indicates that the main force of research on differentiated instruction is normal universities (Table 1). The first two ranked institutions are normal universities with profound historical traditions. Among the top 20 institutions, two schools are not universities. Yangzhou Yucai Experimental School in Jiangsu Province is a private elementary school, devoted to the research and practice of differentiated instruction strategies and models, and an initiator of the National Alliance of Experimental Schools for Differentiated Instruction. This school formed the “Pre-Learning Differences, Initial Learning, Research, and Guiding Differences, Teaching with Differences” program and created a differentiated instruction model and subject variations for elementary schools (Jia & Yang, 2016). Over the past 16 years, it has improved teaching quality, successfully representing the comprehensive practice of differentiated instruction in elementary school (Li, 2021). The Teaching Research Office of Laizhou City, Shandong Province, has conducted practical research on differentiated instruction for over 20 years in primary and secondary schools in the city. It has accumulated rich practical experience, enhancing the systematization and operability of practical systems for differentiated education teaching, realizing the academic underpinnings of differentiated instruction, and emphasizing the importance of localizing differentiated education theory (Guan, 2016).

Table 3
Frequency and Centrality of Keyword Co-Occurrence in Differentiated Instruction Literature

Serial Number	Keyword	Frequency	Centrality
1	Differentiated Instruction	1573	0.11
2	Differentiation	435	0.05
3	Teaching Strategies	243	0.03
4	Strategies	190	0.03
5	Lower Secondary Mathematics	178	0.01
6	Lower Secondary	173	0.15

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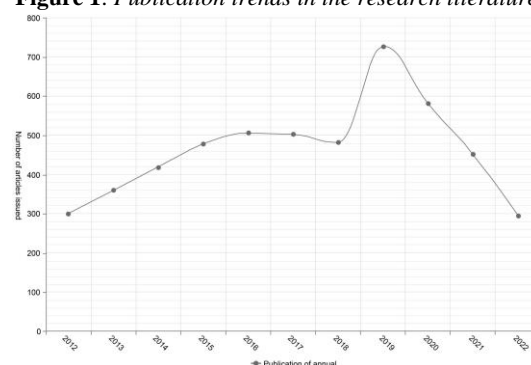
	English		
7	Tiered Teaching	167	0.03
8	Primary Language	163	0.03
9	Primary Mathematics	162	0.06
10	Individual Differences	128	0.04
11	Classroom Teaching	116	0.02
12	Senior Secondary Mathematics	114	0.03
13	Instruction	112	0.07
14	Information Technology	110	0.05
15	Teaching According to the Needs	108	0.03
16	Teaching Model	106	0.04
17	Differences	99	0.3
18	Applications	86	0.01
19	Core Literacy	84	0.05
20	Instructional Design	82	0.07

Authors with More Than Three Published Articles in Last 10 Years

Between 2012 and 2022, 12 authors published three or more articles (see Table 2). Hua has published concentrated articles and is deeply engaged in this field, with representative works including “Theory of Differentiated Instruction” and “Strategies of Differentiated Instruction” and, as editor, *New Vision of Differentiated Instruction Series*. These rich contributions have guided many schools in Jiangsu Province in practicing differentiated instruction and integrating differentiated instruction and academic literacy. Peng works in municipal teaching and research and has published several high-quality research papers based on practical research into differentiated instruction, providing theoretical and practical guidance for front-line teaching staff.

Figure Captions

Figure 1. Publication trends in the research literature

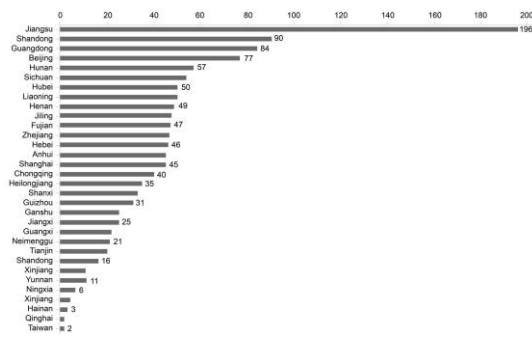


Simultaneously, the CiteSpace analysis of the co-occurrence of collaborative relationships between authors and institutions revealed that relationships between authors and institutions were loose, links between various academic teams (research institutions) were weak, and no core research clusters were formed.

Location of Authors

Since China’s reform and opening up, the nation has plunged into globalization. Education has connected with the international community, and educational concepts have spread globally and exerted mutual influence. Expectations urgently need to address the shortcomings of traditional classroom teaching; similarly, educational awareness should help achieve quality education and develop educational teaching reform goals. Differentiated instruction has been practiced and developed in China in this context. Beginning with sporadic school trials, it expanded to include regional coordination and promotion. Currently, Beijing, Liaoning, Tianjin, Jiangsu, Zhejiang, Fujian, Shanxi, Hubei, Guangdong, Yunnan, Guizhou, and other provinces and cities have implemented differentiated instruction and accumulated rich practical experience (Hua, 2019). We used Excel software to geographically analyze the 1240 journal articles. Figure 3 illustrates that authors’ geographical locations are concentrated in the above-mentioned places. The five provinces with the most publications are Jiangsu, Shandong, Fujian, Guangdong, and Zhejiang, largely concentrated in China’s eastern coastal region, which historically respects literature and education. This region has a unique geographical advantage in China’s reform and opening up because of its rapid economic development and frequent foreign exchanges.

Figure 3. Distribution of provinces (municipalities directly under the central



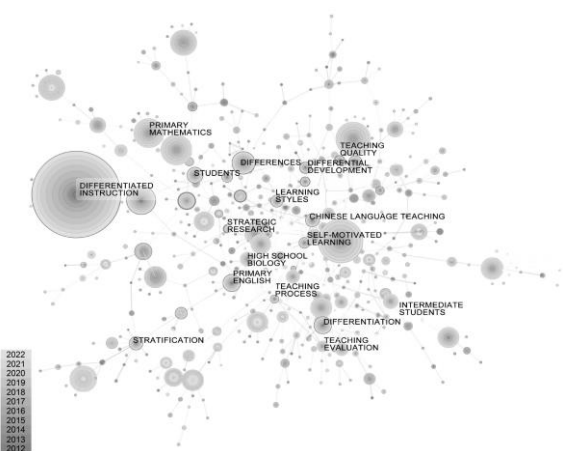
Analysis and Visualization of Keyword Co-Occurrence Networks

Keywords are a highly condensed summary of the primary focus of the literature (Wang, 2021). Therefore, keywords are statistically analyzed for word frequency, centrality, co-occurrence, clustering, and other characteristics. Co-occurrence network analysis visualization demonstrates clear literature clusters, research foci, and research trends.

Keyword Co-Occurrence Analysis

CiteSpace software was used to cluster keyword information in 5117 documents; the keyword co-occurrence map visually reflects the research hotspots for differentiated instruction in China. The CiteSpace clustering function identifies the co-occurrence of keywords according to frequency. In the visualization chart, the circle size represents the frequency of the keyword; the connecting line color represents the year of keyword occurrences, and the connecting line thickness represents the tightness of the connection between keywords. In CiteSpace, the analysis node type was selected as keyword, and the frequency of keyword occurrences was set to ≥ 15 (i.e., keywords appearing 15 times or more were analyzed for co-occurrence). Figure 4 shows the keyword co-occurrence knowledge graph, which has 561 nodes and 624 lines.

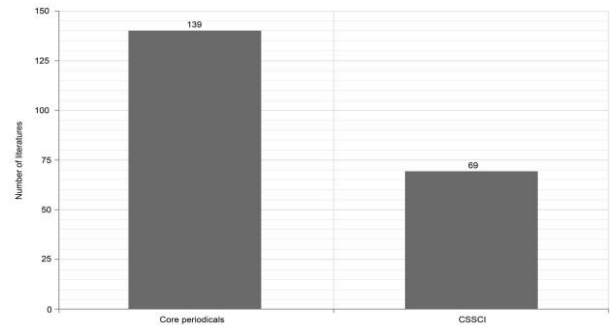
Figure 4. Knowledge map of co-occurrence of keywords in differentiated instruction literature



Simultaneously, the frequency and centrality of the keywords were counted using CiteSpace software. The keywords searched were Differentiated Instruction, Differentiation,

Teaching Strategy, Lower Secondary Mathematics, Lower Secondary English, Tiered Teaching, Primary Language, Individual Differences, Classroom Teaching, Teaching Strategy, Teaching Mode, Teaching, and English Teaching, which are the focal issues in the field (Table 3). Differentiated Instruction appeared most frequently, in 1240 papers; Differentiation ranked second in 435 papers; Teaching Strategies ranked third in 243 papers, followed by Lower Secondary Mathematics (178 times) and Tiered Teaching (167 times). The research content focused on differentiation of the connotations of differentiated instruction, individual differences, teaching strategies, and classroom teaching mainly for languages (English), mathematics, and information technology, which are practice-oriented subjects.

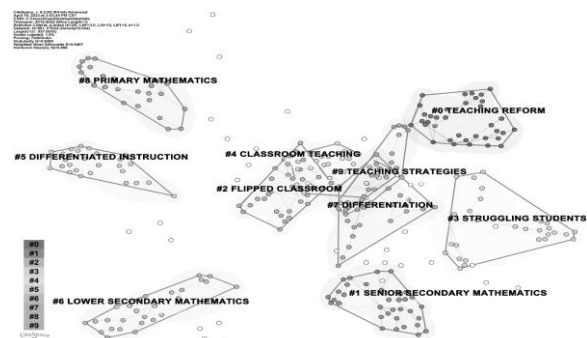
Figure 2. Source categories of research literature



Cluster Analysis of Keywords

CiteSpace clusters the closely linked keywords relative to each other, forming a small group for labelling, and sorts the clustered results by number under the label—the smaller the number, the more keywords contained in the clusters (Wang, 2021; Zhang & Fang, 2021). The final clustering into 10 major categories—differentiated instruction, strategy, differentiation, difference, instructional strategy, instructional reform, physical education, individual differences, instructional design, and experimental teachers—reveals research topic hotspots in the field of differentiated instruction research (Figure 5). The top five tags are #0 Educational Reform, #1 Senior Secondary Mathematics, #2 Flipped Classroom, #3 Student with Learning Difficulties, and #4 Classroom Teaching.

Figure 5. Keyword clustering map of differentiated instruction literature



Cluster #0, Educational Reform, reflects authors' expectations about the role of differentiated instruction in China's education reform. Here, teaching quality directly affects talent

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cultivation quality. Therefore, schools are conducting teaching reforms for all ages around the national education reform goals and talent training requirements. Differentiated instruction demonstrates a change in and optimization of the traditional classroom teaching system. Consequently, scholars examine how differentiated instruction contributes to instructional reform, undertaking substantial practical exploration around differentiated instruction, showing a diversity of dynamics. There are more articles on teaching reforms (e.g., strategies, design, methods, management and evaluation, and the use of a variety of teaching methods such as graded teaching, tiered teaching, small class teaching, and flexible grouping) in English, physical education, and information technology.

Cluster#1, Senior Secondary Mathematics, requires high-level logical thinking skills, knowledge base, and learning ability and is abstract and theoretical. If students are blindly taught in the traditional fashion, they will not develop individual abilities (Wan, 2018). Teachers can enhance teaching effectiveness by recognizing students' learning differences, determining tiered teaching objectives, respecting students' learning differences, optimizing the curriculum teaching process, establishing learning support groups based on students' learning differences, combining students' learning differences, and assigning differentiated homework assignments (Feng, 2022), thereby successfully promoting effective mathematics teaching and improving students' mathematics performance (Yang, 2018).

Cluster#2, Flipped Classroom, reflects that as information technology has pervaded education, the flipped classroom has broken the traditional classroom teaching model, reorganized classroom time and planning, emphasized students' independent learning, increased students' choices and freedom of learning, and catered to the trend of personalized learning coinciding with the implementation of differentiated teaching under the requirements of the new curriculum reform (Liu, 2019). The flipped classroom differentiates instruction and activates students' creative thinking, effectively improving the course's value (Li et al., 2016; Wang, 2021).

Cluster #3, Students with Learning Difficulties, reflects Chinese researchers' focus on struggling students. Historically, traditional education has overemphasized teaching effectiveness, leading to the neglect of many students with learning difficulties, contradicting the requirements of quality education (Pu, 2022). Differentiated instruction meets quality education requirements and new curriculum reform and can promote students' all-round development, respect their individual differences, and maximize their individual value. Hua and Yan (2022) argued that students' differences in cognitive readiness should be analyzed, and differences in acquiring knowledge and skills should not be negatively accommodated but actively intervened for via support through pre-course tutorials that optimize starting levels.

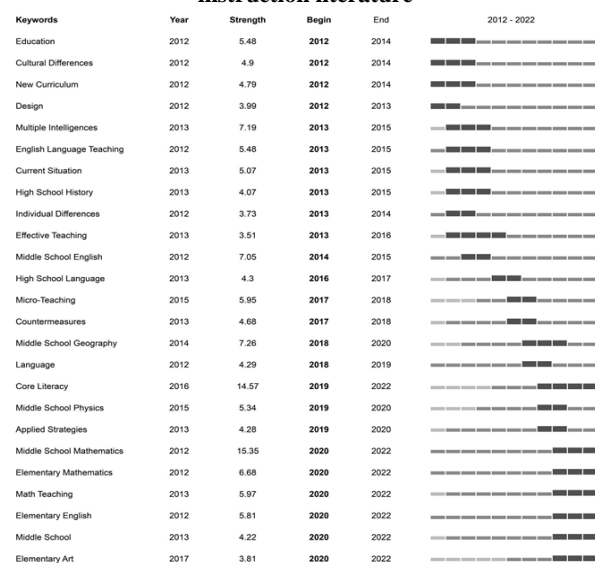
Cluster #4, Classroom Teaching, shows that current Chinese researchers are concerned with the effectiveness of differentiated instruction in the classroom. To improve

classroom teaching and provide new ideas and opportunities so that students at different levels can have different gains in the classroom, researchers introduce differentiated teaching in the hope of achieving classroom teaching reform (Cai, 2022). Researchers have optimized teaching methods based on students' learning bases and built up a comprehensive differentiated teaching strategy to optimally meet students' learning needs by organizing teaching activities deliberately. The researcher also used students' differences as a starting point and the resources of classroom teaching to identify students' differences in classroom teaching (Liu et al., 2022). Further, researchers constructed a classroom differential teaching evaluation system based on differential instruction, drawing on mature classroom teaching evaluation systems at home and abroad (Du, 2022). Overall, researchers explored the use of differentiated instruction in classroom teaching regarding classroom teaching practices.

Keywords Emergence Analysis

CiteSpace's keyword emergence analysis function helps researchers analyze the frontiers and important trends of research topics, taking the keyword emergence rate as the observation object. Keyword emergence—or emergent words—is a research indicator of temporal characteristics, reflecting changes in the frequency of keywords appearing in a certain period; keywords that grow rapidly in a short period are emergent words. Information on keyword emergence, end years, period of emergence, and intensity of emergence helps researchers grasp and predict development trends in a certain field. In this study, the statistical analysis yielded 16 keywords with high emergence in the field of differentiated instruction research (Figure 6). For example, Core literacy, Education reform, Elementary mathematics, Primary school English, and Junior high school mathematics, and Micro lesson. The trends and future of differentiated instruction research can be discerned from keyword emergence.

Figure 6. Keyword emergence mapping of differentiated instruction literature



Fit Between Differentiated Instruction and Core Literacy
Since September 2016, when the Core Literacy Research



Group of Beijing Normal University released *The Basic Framework of Core Literacy for Chinese Student Development*, core literacy has become a research hotspot in basic education. It is key in the current deepening of basic education reform, teaching reform, and reform of China's curricular development, promoting the further implementation of quality education (Deng, 2016). Cultivating core literacy fosters personal qualities and key competencies that individual students need to adapt to lifelong and social development (Chen, 2017). Some scholars believe that cultivating students' core literacy is centered on the development of a "well-rounded person," not encouraging uniformity but developing a "unique" individual (Zhu, 2020), thereby emphasizing both commonality and individuality. Therefore, scholars highlight the core educational concept of differentiated instruction, which focuses on students, respects, and develops their differences, and coincides with core literacy development goals. This leads to the conjugate development of core literacy and differentiated instruction (Deng, 2016). Subsequently, Chinese researchers have simultaneously advanced disciplinary core literacy and differentiated education, developing differentiated instruction in English (Yue, 2021), mathematics (Wang et al., 2020), language (Zhou & Chen, 2019), and other basic educational disciplines, to promote individual students' core literacy using multiple teaching strategies.

Dual Promotion of Differentiated Instruction and Teaching Reform

Differentiated instruction is a teaching reform that reconciles and balances classroom teaching and individualized learning, mainly using group teaching. It adopts diverse teaching strategies (flexible grouping, group work, and tiered teaching) to retain the advantages of classroom teaching (interpersonal class interaction and efficient teaching). It can also consider students' different learning needs and fully reflect a learner-centered classroom (You, 2020). Two important national education policies—*The National Outline for Medium and Long-Term Education Reform and Development Plan (2010–2020)* (State Council, centered) and *China Education Modernization 2035*—mention "teaching according to ability," "individual differences," and "personalized education." Differentiated instruction with the above characteristics has become a scholarly focus in China's educational reform wave. However, since differentiated instruction gained attention in China at the turn of the century, it has been a challenge for teachers. Balancing educational equity and teaching efficiency is the greatest challenge. Additionally, teachers are concerned about how to effectively conduct differentiated instruction with limited energy (Wu, 2020). Teachers have limited resources to focus on students' differences and achieve the maximum development of students' potential (Li et al., 2020). These issues influence teachers' attitudes to adopting differentiated instruction. Therefore, researchers have also identified dilemmas in the implementation of differentiated instruction that must be addressed in teaching reform. For example, Y. Jia (2018) explores how to reform differentiated instruction in an

accounting course for non-accounting majors, and Xu and Wu (2020) study differentiated multidimensional teaching reform in artificial intelligence courses.

Information Technology—Driving Force for Development of Differentiated Instruction.

The scientific, technological, and fourth industrial revolutions are sweeping the world, with major innovations driving changes in social production (Al-rsa'i & Shugairat, 2019; Yu & Zhou, 2019). The development of new technologies such as AR, Internet, artificial intelligence, and big data is being integrated into education, reshaping its form and how knowledge is acquired and transmitted. Thus, teaching and learning relationships are undergoing profound changes (Ren & Liu, 2019). Faced with these changes in society and education, scholars have paid attention to the emerging integration and development of information technology and differentiated instruction. Analyzing intelligent tools in English classroom teaching, Huo (2019) provided a reference for teachers to use these tools to assist in English differentiated teaching. He (2018) explored a framework model to implement differentiated instruction using smart education. After the outbreak of COVID-19 in 2020, the global adoption of online or blended teaching and learning has received significant attention. Researchers focus on the application of new technology tools to implement differentiated instruction to promote educational progress (Zhu, 2021).

Conclusions

This research compares the literature in the field of differentiated instruction research in China from 2012 to 2022 using bibliometric methods and CiteSpace software to obtain an overview and identify hotspots and trends. The research overview indicates that differentiated instruction has had several effects. There are more than 100 publications each year, but few research papers are published in high-level journals, and the quality of research literature must be improved. Researchers have effectively combined differentiated instruction with national policies and trends in education, teaching, and curriculum reform. School conditions and contexts are evaluated to gradually realize the localization and Sinicization of differentiated instruction. However, the co-existing network relations of major researchers and research institutions are weak, and a large-scale academic cluster has not yet been formed. Researchers rely on prior research accumulation and resource inheritance; thus, a close research system is yet to be established. Although the National Alliance of Experimental Schools for Differentiated Instruction has been established under the initiative of teaching units, a systematic, mature theoretical system that can be widely promoted is yet to be created in research on differentiated instruction. The strengthening of horizontal cooperation among future researchers and research teams will promote better and faster development of differentiated instruction research.

Regarding research hotspots and trends, researchers investigate differentiated instruction aligned with national education and teaching development strategies, focusing on practical strategies, problems arising from differentiated instruction, and optimization methods. They have conducted rich practical research in different disciplines in Chinese education. However, existing research is predominantly practical, ignoring in-depth and innovative research on the theoretical basis of differentiated instruction. Theoretical research is older and less relevant for current differentiated instruction reform. Future research can promote the deep development of differentiated instruction with new theories, research methods, and techniques, based on previous research and current research hotspots. While China is vigorously developing education informatization, researchers have begun studying the integration and development of novel educational information technology and differentiated instruction, an important interdisciplinary step in the field of differentiated instruction.

Limitations

This study focuses on differentiated instruction publications from 2012 to 2022, identifying the research hotspots and trends of Chinese researchers on this topic. Therefore, contextualization beyond China is needed. Future studies can compare differentiated instruction between China and abroad. Further, we used a specific database and included a small number of research papers, which affects the breadth of applicability of our findings. Future research can find relevant papers in multiple databases and use different visualization software to achieve profound results.

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