Retraction

Retraction: Comparative Chinese and American Mother Tongue Teaching Materials Based on Big Data Technology (J. Phys.: Conf. Ser. 1992 042014)

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The authors of the article have been given opportunity to present evidence that they were the original and genuine creators of the work, however at the time of publication of this notice, IOP Publishing has not received any response. IOP Publishing has analysed the article and agrees there are enough indicators to cause serious doubts over the legitimacy of the work and agree this article should be retracted. The authors are encouraged to contact IOP Publishing Limited if they have any comments on this retraction.

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Comparative Chinese and American Mother Tongue Teaching Materials Based on Big Data Technology

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Abstract. Cultural education has always been regarded as the most important part of the development of a country and society. Education is a topic that people have been exploring. Mother tongue is the first language that people learn in the world. Learning mother tongue has always been important for learning other subjects. It is an important foundation. Since the 21st century, with the development of the Internet, the study of mother tongue has also developed more and more widely with the support of big data. This article mainly introduces the comparative analysis of Chinese and American native language textbooks based on big data technology. This article uses big data to analyze and compare native language textbooks, combined with big data analysis technology, and uses reading feedback to investigate the comparison of Chinese and American native language textbooks. The experimental results of this article show that the big data analysis of Chinese and American native language textbooks has increased the reading volume by 16% and improved the efficiency of learning. Incorporating modern data collection and learning analysis into Chinese and American mother tongue teaching has improved the quality of teaching.

Keywords: Big Data, Chinese and American Textbooks, Comparison, Reading

1. Introduction
The use of reading strategies can be seen from the textbooks currently used in public schools in the United States that reading strategies are widely recognized and used in basic education in the United States [1-2]. Reflected in the compilation of teaching materials Since the 1990s, the content of reading strategies has gradually appeared in the liberal arts textbooks of basic education in the United States, and it has been very common up to now [3-4]. In the United States, the study and application of reading strategies are mainly aimed at students in school. Starting from elementary school, teachers have begun to gradually teach the basic and basic content of reading strategies to students according to their age and grade level [5-6]. By the time of middle school, students should have mastered the basic reading strategies and skills and be able to use them proficiently in his reading and reading-related writing. Middle school students continue to learn reading strategies, and the reading strategies presented in middle school liberal arts textbooks are the best examples [7-8].

The Mcgraw-Hill is an American group company that publishes and distributes teaching materials worldwide and also engages in other education industries. The company has been established for more
than a hundred years [9-10]. It focuses on all subjects at all levels of elementary school, middle school and university. Tongdao college students provide teaching materials, the company and its publications are highly recognized in the United States, 50% of public schools in the United States choose to use its published teaching [11-12]. Pearson Prentice Hall is also a major textbook publisher in the United States. It also has a history of more than 100 years. The coverage of textbooks published by it and The mcgraw-Hill account for 78% of the US textbook market.

The innovation of this article is to combine theoretical analysis with practical cases from a new research perspective. Through the analysis and research of cases in the practice of mother tongue teaching, the effect of using big data in mother tongue teaching is verified and summarized according to the application status and effect feedback. The current difficulties and deficiencies have greatly contributed to the high reading rate [13].

2. Chinese and American Native Language Teaching Materials under Big Data

2.1 Chinese and American Mother Tongue Research Methods

Research ideas. First, use literature analysis to compare the compilation and presentation of reading strategies in Chinese and American junior high school mother tongue textbooks, and collect and consult relevant domestic and foreign reading strategies and reading strategy teaching materials in the research process.

Second, the teaching practice observation of reading strategy teaching observes and records the complete teaching process of a text in China and the United States, and studies the practice process, practical effects and practical evaluation of the reading strategy in the textbook in the Chinese and American mother tongue classrooms.

Third, analyze and compare the above data and information, and conduct research conclusions.

The use of reading strategies can be seen from the textbooks currently used in public schools in the United States that reading strategies are widely recognized and commonly used in American basic education. Many scholars and teachers have done a lot of in-depth research on reading strategies (or comprehension strategies, learning strategies, and thinking strategies. The view of American teachers and scholars is that these three terms are essentially the same, but the names are different.) There is considerable evidence that teachers accurately and carefully teach a variety of self-regulated reading strategies to students, which can effectively improve students' learning and reading efficiency. The learning and application of reading strategies is to teach readers or students how to read independently. Furthermore, it is hoped that through learning and mastering reading strategies, students will become outstanding readers. Define the Chinese and American mother tongue reading matrix M, the matrix M has the same dimension and satisfies \( i, j > 0 \). It can be seen that the formula of matrix M is as follows

\[
M = \begin{bmatrix}
    a_{11} & \cdots & a_{1N} \\
    \vdots & \ddots & \vdots \\
    a_{N1} & \cdots & a_{NN}
\end{bmatrix}
\]  

(1)

In American educational thought, reading is not for learning or memorizing the contents of books. The purpose of reading is for students to learn to think independently and generate meaning during the reading process. In modern times, students must learn to independently and effectively handle massive amounts of information and a large amount of stylistic reading. As Tim Wilson said: If you are just taught to read by others instead of enjoying reading, then you don't need to learn these reading strategies. This paper proposes a transfer function for the structure of American mother tongue reading volume and mother tongue education.

\[
S_{ij} = 0.2 - \lambda \left(1 - \frac{2x}{a}\right)\left(1 - \frac{2y}{a}\right)
\]  

(2)
2.2 Influence of Mother Tongue on Reading

In the 1980s and 1990s, American researchers made substantial achievements in cognitive theory. They found that proficient language learners actively used the theory described as mental process and special thinking methods when learning new knowledge. The process is the learning strategy, which can help a group of learners understand, learn, and remember new knowledge. In the 1990s, this kind of theoretical process was analyzed in detail and systematically, which led to a qualitative leap in teaching thinking and teaching methods: excellent students used efficient psychological processes, and this "psychological process" was It can be summarized and taught to other students. Therefore, the "psychological process", that is, learning strategies combined with textbook selections, is explicitly presented in the compilation of language textbooks, which improves the effect of language teaching and cultivates students' reading comprehension ability.

The spiral arrangement method does not have a unified curriculum standard or syllabus in the United States. Each state can independently formulate the curriculum standards or curriculum framework of the actual state of education. In addition to the compilation of native language teaching materials in the United States, in addition to referring to the state's native language curriculum standards, the compilation is based on the latest and most authoritative educational research results. The subjects related to the native language in the US elementary school curriculum are mainly English (also called language arts and reading English), is mainly used to learn basic language knowledge such as words and vocabulary and the language skills of listening, speaking, and writing. Reading mainly cultivates students' reading ability through various types of works. A network model is proposed for students' reading, the amount of reading in the experiment is predicted.

$$e^i = \frac{P_i - E_i}{E_i} \times 100\%$$

(3)

This research is from these two dimensions to explore the primary school mother tongue writing textbooks of the two countries. Through the combing and analysis of the arrangement and content presentation of the two sets of textbooks, it finally settles on the summary of the characteristics of the two, and strives to present the two sets of textbooks. The whole picture, so as to grasp the overall situation of the primary school mother tongue writing textbooks in the two countries, and lay the foundation for the next step of comparative research.

3. Comparison of Chinese and American Native Language Teaching Materials

3.1 Chinese Native Language Teaching Materials Design

Throughout the development and evolution of native language teaching materials in various countries, the presentation of the two parts of the teaching materials can be roughly divided into two types: divided and combined. The two types of layout have their own characteristics. Most of the traditional Chinese textbooks in China are "selected as the center". Comprehensive textbooks, reading is in a dominant position. From the beginning of the founding of the People’s Republic of China to the end of the 1970s, the several sets of Chinese textbooks published by People's Education Publishing House had basically no special writing textbooks. Composition training was mostly arranged in the "Thinking and Practice" questions after the textbook text. The investigation of writing materials can only be slowly searched in each volume. After the new curriculum reform, the experimental textbooks of Chinese in primary schools in all regions basically adopt the form of separate compilation of reading and writing, and the selection of texts drives the training of listening, speaking and writing.

The PEP textbook implements the arrangement of humanistic elements under this paradigm. 4-5 texts are arranged in a theme unit. The writing training is arranged after the text is studied, and it is integrated with oral communication, which is obvious. The tendency of "reading to promote writing", this kind of arrangement allows writing to have the support of the selected language materials, but the poor independence of writing has become a vassal of reading, and there is a tendency to pursue imitation.
3.2 Design of American Native Language Teaching Materials

As a result of the sub-subject setting of language and reading courses, American native language textbooks mostly use sub-edited reading and writing in a parallel position. The Macmillan version of the primary school mother tongue textbook is divided into "Reading Fortune" (Treasures and "Language Art"

Language Arts two series. The "Language Art" textbook is composed of two parts: basic knowledge of language and writing. The language knowledge of the textbook provides prerequisite knowledge for writing. The writing part consolidates language knowledge. This arrangement makes the integration between reading and writing relatively weak, but writing becomes independent. The elementary school stage set arranges the stylistic characteristics of the self-reported essays in the form of statements. Corresponding fragment examples will be arranged before specific writing links such as conception and manuscript revision. These examples are mainly examples of declarative knowledge in writing skills and can also provide corresponding writing for students' conception, writing and revision demonstration.

In fact, there have always been two completely different views on the role of example essays in writing. One is that example essays can provide students with reference and stimulate students’ writing inspiration; the other is that the appearance of example essays will restrict students' thinking and imagination. This point is necessary in writing. The author has already expressed such an argument above. The importance of the model essay is that it allows students to see the possibility of writing. The key to its desirability and undesirability lies in the establishment of examples in the process of textbook compilation. Regard the example text as an example, clarify the exemplary nature of the example text, and secondly, the selection of the example text should be pertinent and instructive, rather than using materials rigidly. The specific structure is shown in Table 1.

Table 1. Statistics on the number of genres in primary school languages

|       | narrative | Application | Imaginary text | diary | other |
|-------|-----------|-------------|----------------|-------|-------|
| First grade | 4         | 0           | 3              | 2     | 1     |
| second grade | 3         | 0           | 2              | 2     | 1     |
| Third grade   | 6         | 1           | 1              | 1     | 0     |
| fourth grade  | 5         | 0           | 0              | 1     | 0     |

4. Big Data Comparison of Chinese and American Mother Tongue Reading

4.1 Reading Analysis of Big Data

The application of big data is the trend of future education development. Throughout history, it is not difficult to find that every innovation of information technology will bring new possibilities for the development of education, and the era of big data is no exception. Our country's education is currently in a period of reform, which coincides with the new opportunities brought by big data. Actively using big data to serve education is conducive to actively promoting the reform and development of education. Because in our country's current education model, the formulation and implementation of education policies are based on a top-down approach, which often overlooks the actual needs of teaching and students. The emergence of big data can effectively solve this limitation. With the help of big data technology, the education management department can analyze the massive data generated in the education process, find the teaching rules that conform to the actual situation of the students, and formulate more practical education policies. The two sets of textbooks in China and the United States pay attention to the psychological development sequence of learning as a whole, and the difficulty of practice increases with grade. The following is an analysis of the total amount of exercises in the textbook and the difficulty of the exercises as shown in Figure 1.
As can be seen from the above Figure, the amount of literacy in each grade in my country increases with the increase in grades. This is because the mental development of children in the lower grades is still immature and is a stage of knowledge accumulation, so the exercises are mostly literacy and handwriting exercises.

4.2 Characteristics of Big Data

The large scale of data, when randomly selected samples cannot meet people's needs for information, it means that new technologies will emerge. Big data is like this. It is produced in people’s desire for "unlimited information", and with its powerful known for its "inclusiveness". Today, the Internet has become an indispensable tool in people's lives, and the amount of data generated through the Internet every day is increasing. There was data showing that the total amount of data generated in the past 3 years accounted for 90% of the data generated in the entire data history. In the next two years, the amount of data in various industries and fields will double. By then, the amount of data and information recorded and stored will become larger. In a large amount of data information, the possibility of processing all data related to a certain phenomenon becomes higher.

A wide variety of data The second characteristic of big data is that there are many types of data. For a long time, we can only collect data and information in an institutionalized state. That is, in the process of collecting information, we deliberately ignore some aspects that cannot be considered in the process of human or computer record query processing, extract useful information, and include this information in a structured table. In the era of big data, data types are more complex and diverse. For example, Weibo, picture web pages, logs, videos, GPS positioning, etc. are all unstructured information. Another example is communication software such as WeChat and Facebook. People not only post text on it, but also distribute various information such as pictures and videos. 3) The emergence of the Internet of Things with low value density and large mining value provides convenience for the discovery and processing of the internal connection between data and information. Although we generate massive amounts of data every day, the value density of this information is low. This is because, in the past, we stored data in the form of selecting useful information and carrying out the relationship between quantity. Because of the massive amount of big data and powerful data, there
will be a lot of information with low usable value that is also collected and stored. At the same time, because big data focuses on the correlation between information, its mining value is relatively large.

**Table 2.** Practice item statistics table

| Contact item       | Perceptual understanding | Taste Appreciation | comparative analysis | Multiple solutions open | Experience activity | Data search | total |
|--------------------|-------------------------|--------------------|----------------------|-------------------------|---------------------|-------------|-------|
| number of occurrences | 5                       | 6                  | 4                    | 3                       | 7                   | 3           | 28    |
| percentage         | 17.8%                   | 21.4%              | 14.2%                | 10.7%                   | 25%                 | 10.7%       | 100%  |

Promoting the Diversification of Teaching Methods Talking about education will never get around the topic of teaching methods, while talking about teaching methods, we cannot avoid the discussion of traditional models. In the past Chinese teaching, we focused more on the individual transmission of knowledge, and students were more passive in accepting knowledge. Select the training system of the textbook for careful comparison, as shown in Figure 2.

![Figure 2. Statistics of practice items](image)

It can be seen from the picture that the exercise project training focuses on students' overall perception and understanding of the text, and emphasizes the unity of instrumentality and humanity. With the realization of both smart phones and tablet computers, using mobile devices for learning has become a new way, because most children are more willing to learn what they are interested in on the Internet. If teachers can effectively apply big data technology in education and guide students to actively play their main role, it will promote the diversified development of teaching methods.

Students can get a unique experience in the textbook software that combines audio, video and text, and truly realize autonomous learning. The author has experimented with two practical classes in the practice middle school, and compared the teaching methods with traditional teaching methods and teaching methods combined with modern information technology. The results showed that in the experimental class, students showed a higher sense of enthusiasm and excitement throughout the teaching process, and the classroom participation and interaction was higher; while the control class, which was based on the traditional teaching mode, showed good performance in the classroom teaching process. Relatively "silent", most students keep their heads down, either taking notes or in a daze. When teachers ask questions, most students do not respond and reshape the roles of teachers and students. Change my country's new curriculum standards and point out that teachers should be fully utilized in teaching the leading role and the subjectivity of students. Nowadays, the learning of teachers and students is no longer limited to teaching materials. With the support of technology, online learning forums, online learning platforms, personalized learning communities, online search and other methods enable learners to have more diverse choices. Through learning software, teachers and
students can learn and communicate without being restricted by time and place. Teaching activities have changed from book-centered to comprehensive access to resources. For teachers, they themselves become learners, coaches and learning partners of students, providers and architects of learning resources; for students, they will change from passive learning to active construction of knowledge.

5. Conclusions
In the process of education, the research conducted an investigation and analysis on the status quo of mother tongue education in China and the United States, and found that there is little research on the application of big data in mother tongue education in China and the United States, and there is no systematic theoretical and practical case reference. In the process of internship teaching and research, I realized that the informatization of education provides favorable conditions for the application of big data. However, the reality of mother tongue teaching is that the utilization rate of informatization education technology is low, and the understanding of big data in mother tongue teaching in China and the United States is not deep enough. There are many shortcomings in this research. As an emerging topic, it seems that everyone knows big data, but few people know big data clearly, so the in-depth analysis of big data in this article is not enough, and further efforts are needed.

Acknowledgments
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