An Empirical Study on the Improvement of English Reading Ability of Chinese College Students Based on Big Data——Based on the Lens Grading System

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Abstract. The vocabulary system is the most widely used classification technique in the United States. It uses "vocabulary" as a unit to measure students' reading ability and text difficulty, and has important reference value for teaching materials, test papers and evaluation. This article discusses the REACHE3000 system and scoring method based on the computer-based Lexile framework, and finally demonstrates the improvement of students' reading ability through the practice of English teaching in a university in Xi’an.

Keywords: Empirical Study, Improvement of English Reading Ability, Lexile System, Big Data

1. Introduction
Achieve3000 is based on the Lexile Framework for Reading. Through five steps: "activities before reading, reading articles, reading comprehension test, discussion after reading, writing practice", Lexile provides internet-based English reading and writing learning courses to gradually improve their reading comprehension and writing ability for primary and secondary school students, college students and adults. There are five aspects for Achieve3000 core value. First, mass hierarchical reading chapters. Second, customize content [1-3]. Third, regular article push. Fourth, scientific continuous assessment. Fifth, big data analysis and diagnosis report. At present, its courses have been spread to more than 2.1 million students and more than 7,000 schools in 125 countries and regions around the world [4-6].

2. The Lexile reading scale
2.1. The lexile framework for reading
The Lexile Framework for Reading was developed by The National Institute of Child Health and Human Development (NICHD). This approach brings together distinguished professors from the American reading society, universities, and the child language development research community. It is specially designed to improve students' reading ability and comprehension. It is a scientific measure of
Reader Ability and Text Readability.
It is the most widely used and trusted rating system in the United States. There are two kinds of lens measurement in this method: Lexile reader measure and Lexile text measure.

Lexile reader measure represents a person's reading ability. Lexile text measure represents the difficulty level of the text. The combination can help readers choose a book or reading material that is suitable for difficulty. The Lexile reader test is also used to monitor reader development over time. The values obtained are expressed as "L". Lexile went from the lowest SL to the highest 2000L. If the ability is less than 200L, we will place it in beginner reader. The average Lexile value is between 200L and 1700L. The higher Lexile value indicates stronger reading ability.

![Figure 1. The lexile text measure and lexile reader measure.](image)

2.2. The corresponding between Lexile Text Measure and Lexile Reader Measure
In the actual classroom, a textbook is used as the primary reading material for all students. Students' reading ability may not be well matched with the text difficulty, which will lead to a wider expected understanding rate of the same text. It is shown in figure 2 (the character represents the Lexile Reader value; People represents the Lexile Text value; Light bulb represents expected understanding rate).
Figure 2. The corresponding between lexile text measure and lexile reader measure.

For example, a book with a 1000L difficulty index. If you can read 75%, lens thinks your reading ability index can reach 1000L. If you can read 96% or more, your reading ability index can reach 1500L.

3. Empirical study on the improvement of college students' English reading ability

The Lexile reader test gives a numerical description for a student's reading comprehension. Meta Metrics does not offer a specific test. They use existing assessment programs, or existing student reading score assessment programs, including the Scholastic Reading Inventory. Achieve3000 system used in a Xi'an university. This paper takes 24 students as test samples. The test data of students for one year is shown in Table 1. The growth rate of students' reading ability is shown in figure 3.

| Time No. | Feb. | Mar. | May | June | Sep. | Nov. | Dec. | GROWTH |
|----------|------|------|-----|------|------|------|------|--------|
| 1        | 675  | 755  | 895 | 930  | 910  | 985  | 1005 | 330    |
| 2        | 765  | 775  | 925 | 970  | 945  | 985  | 1020 | 255    |
| 3        | 560  | 860  | 1065| 1135 | 1160 | 1315 | 1365 | 805    |
| 4        | 645  | 815  | 1030| 1075 | 1050 | 1125 | 1195 | 550    |
| 5        | 685  | 805  | 930 | 970  | 995  | 1100 | 1130 | 445    |
| 6        | 685  | 795  | 975 | 1000 | 985  | 1115 | 1130 | 445    |
| 7        | 995  | 995  | 1075| 1105 | 1125 | 1140 | 1145 | 150    |
| 8        | 735  | 770  | 895 | 920  | 950  | 1000 | 1015 | 280    |
| 9        | 590  | 630  | 815 | 820  | 845  | 835  | 860  | 270    |
| 10       | 705  | 795  | 945 | 985  | 1020 | 1060 | 1065 | 360    |
| 11       | 530  | 620  | 875 | 935  | 885  | 955  | 980  | 450    |
| 12       | 765  | 875  | 995 | 1045 | 1050 | 1090 | 1100 | 335    |
| 13       | 465  | 690  | 960 | 1020 | 1005 | 1145 | 1200 | 735    |
| 14       | 830  | 980  | 1095| 1130 | 1135 | 1285 | 1345 | 515    |
| 15       | 765  | 910  | 1000| 1035 | 1070 | 1145 | 1190 | 425    |
| 16       | 765  | 835  | 990 | 1015 | 1040 | 1135 | 1155 | 390    |
| 17       | 680  | 810  | 960 | 1040 | 1000 | 1070 | 1080 | 400    |
| 18       | 770  | 960  | 1120| 1170 | 1180 | 1310 | 1330 | 560    |
| 19       | 500  | 715  | 805 | 800  | 775  | 770  | 780  | 280    |
| 20       | 560  | 825  | 1105| 1140 | 1135 | 1260 | 1315 | 755    |
| 21       | 735  | 790  | 975 | 1025 | 995  | 1045 | 1050 | 315    |
| 22       | 615  | 720  | 885 | 925  | 955  | 980  | 990  | 375    |
| 23       | 800  | 845  | 1015| 1040 | 1015 | 1100 | 1110 | 310    |
| 24       | 645  | 760  | 930 | 960  | 945  | 965  | 960  | 315    |
Figure 3. The growth rate of students' reading ability.

Through specific teaching practice, it can be seen that Achieve3000 system based on Lexile Framework for Reading has incomparable advantages to traditional teaching mode in college English teaching. Colleges and universities should use this mode to teach college English courses, which is great help to the improvement of college students' English reading ability and comprehensive ability.

4. Teaching practice of improving college students' English reading ability

There is a huge gap in English reading ability between Chinese and American students. The best way to improve your English reading ability is to read more, but it is not easy to find English books suitable for college students. Achieve3000 system based on Lexile Framework for Reading could effectively solve the following problems.

First, teachers can monitor students' reading process and arrange homework to improve their reading achievement through Achieve3000 evaluation system. Teachers can determine whether the difficulty of reading materials is suitable for students' reading level, and then make timely adjustments. In this way, we can improve students' English reading ability step by step.

Second, the students were divided into groups using the Lexile score. In this way, we will better serve the practice of college English graded teaching reform. English teachers can select teaching contents according to the scores and groups, so as to improve students' English level more quickly and effectively.

Third, the Lexile score subdivision is beneficial to the students' development. Students with reading difficulties can understand the articles content, improve their self-confidence and reading skills. Students with high reading scores were asked to "read more," which will help them even more.

5. Conclusion

In the 21st century, in the age of electronic information, the adaptive construction of rural communities should follow the construction law. Based on the community construction model in Taiwan, China, discuss the construction of rural communities in China. The adaptive construction of rural communities comes from the concept of harmonious coexistence between man and nature. Among them, it advocates the close integration of community construction and ecology. It echoes with sustainable development, which is very important in rural revitalization.

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