Research on the Application of Children's Reading Analysis Based on Artificial Intelligence——Take "Small raccoon Reading" and "Jiao Jiao Reading" as examples

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Abstract. Artificial intelligence technology is widely used in the field of education, and the development of children's Chinese reading field is increasingly mature. Using the boundary awareness of AI algorithm for reference, the Chinese reading class should also awaken the boundary awareness of Chinese subject. In the AI algorithm, only the annotated data are valid data. The reading text can become effective learning materials through natural language processing only when it is "annotated" out of ability points. Through machine learning, AI constantly generates self-learning data sets based on trial-and-error feedback. The feedback mechanism, trial-and-error opportunity and Chinese teaching design are transformed into each other to build student portrait and specifically improve students' independent Chinese learning ability. This article analyzes the application of artificial intelligence technology in the development of children's Chinese reading services by taking the examples of "Small raccoon Reading" and "Jiao Jiao Reading.

1. Introduction

Artificial intelligence is a new technological science. The participation of artificial intelligence in Chinese reading is not new. AI classes are based on AI technologies such as image recognition and natural language processing, simulating real teachers and creating classrooms with teaching scenarios. The whole class uses natural language recognition, facial expression recognition and other technologies to complete the teaching for students through pre-set algorithms. With the popularization of information technology in school teaching, students have begun to contact with modern teaching mode from the first grade of primary school or even kindergarten, and children are no longer unfamiliar with AI class. Children have become one of the important consumption objects of AI course, and the market potential of children's Chinese reading AI course is huge. As learning AI conditions are not very demanding, many parents are willing to take advantage of these AI courses to increase their children's reading in addition to carrying out parent-child reading with their children in the traditional way of reading. With the development of AI technology develops, human intelligences have been imulated and extended. At the same time, there is an urgent need to study the rules of children's Chinese reading teaching and expand children's learning time and methods.
2. Analysis of the advantages of artificial intelligence applied to children's Chinese reading and learning

2.1. Abundant resources

At present, there are many English AI courses, and the technology of AI application in English courses has been very mature. These all provide a good reference for children's Chinese reading class. Although the integration of artificial intelligence and Chinese reading teaching is still in the exploratory stage, it has shown great advantages. For example, in the same teaching of "Three in Four", some courses focus on asking children to retell the story, while some courses focus on understanding the general idea of the story. Students can choose what they like from many similar resources to accumulate. Building an intelligent reading cloud platform through artificial intelligence technology can not only integrate a single reading resource into effective learning, teaching, and data resources, and provide a rich storage platform for these resources; it also enriches and expands reading learning, thereby, linking up learning in and out of class. For example, reading the Story of the Chinese Zodiac in Jiao Jiao Reading courses, which is a unique component of Traditional Chinese culture. Children should be exposed to traditional culture education from an early age to cultivate their patriotic consciousness. This text combines reading and literacy, each text allows students master three Chinese characters, repeating exercises from strokes and sequence. At the same time, after understanding the content of the Zodiac, they will also be interested to ask "What are the parents and grandparents belong to?" This is the extension and expansion of zodiac knowledge, with the added characteristics of each zodiac being happily compared. Taking into account the child's ability to accept and study time, each course is generally controlled within 15 minutes, which brings great challenges to AI lessons. If a story or a text is told in such a short time and children are left with time to answer questions, it is impossible to cover all aspects of the course. So teachers can integrate multiple platform resources to meet the needs of different levels. For example, when teaching "Sima Guang Smashing the Tank", Questions set in the course "Is there any other way for children to save their companions in the tank?" Students are encouraged to answer questions and explore whether these methods are useful. In this lesson, children are required to learn the words "horse" and "light". If students are still interested in this course, teachers can guide them to repeat the story. The study was conducted with a class of 30 students, ranging in age from 5 to 6. And the study is illustrated in detail such as Table 1, which is referenced from the network.

| The date | Quantity of literacy (units) | The reading time (minutes) | The total time (minutes) | Increasing quantity (units) | The final increment (units) |
|---------|-----------------------------|---------------------------|--------------------------|-----------------------------|---------------------------|
| 12.29   | 150                         | 40                        | 314                      | 50                          | 145                       |
| 1.2     | 200                         | 45                        |                          | 20                          |                           |
| 1.6     | 220                         | 37                        |                          | -20                         |                           |
| 1.10    | 200                         | 30                        |                          | 40                          |                           |
| 1.14    | 240                         | 35                        |                          | 20                          |                           |
| 1.18    | 260                         | 37                        |                          | 10                          |                           |
| 1.22    | 270                         | 45                        |                          | 25                          |                           |
| 1.26    | 295                         | 45                        |                          |                             |                           |

The results showed that over the course of nearly a month, with a total of 314 minutes of reading, literacy increased by 145.

2.2. Lively and interesting

AI reading software is beautifully made, with interesting pictures and lively words. For example, start with "Hello, my dear little friend, I am a little fox that everyone loves" of the Small raccoon reading course. This form is very distinctive and captures children's psychology of liking cartoon characters, which is helpful to attract children's interest. Reading learning is divided into 5 sections, which are
"helpful to open a book", "quick and eager to learn", "confident and ready to learn", "fruitful" and "thousands of miles of sound transmission" respectively. Only after completing the contents of the previous section can children continue to learn, which is also in line with the law of learning from easy to difficult gradually. There are role-playing and follow-up readings for each character in the story. For example, in the text of "Fox Fake Tigers", the two characters of the fox and tiger are selected for children to follow. As the king of the forest, the tiger is confident and his voice should be loud. When the fox met the tiger, he was afraid. Later, he used a trick to let the tiger follow him to wander in the forest. Then the fox straightened his back and spoke cunningly. During the follow-up reading process, children can understand the tiger's simple character and fox's cunning characteristics, which can deepen their understanding of the idiom "fox fake tiger power". At the same time, let the children understand that they can't bully others in life and learn how to get along with their peers. And when the child is reading or answering questions, it can be repeated in the form of recording. When the child hears his own voice, it is very interesting. It is also convenient for parents or teachers to find the highlights of the child’s answer to the question, and to better encourage the child to learn. The last link is "Sound Transmission over a Thousand miles". After the child finishes learning the contents of the previous four parts, click on "Sound Transmission over a Thousand miles". This is a way of simulating communication with the teacher. It not only exercises the courage of the child, and introduces himself to the teacher. It also allows children to learn how to call. These abilities are very important in interpersonal communication. Children will feel very novel, usually at home to see their parents talking on the phone with others, children also want to imitate, so "a thousand miles sound transmission" just provides such an opportunity. In this part, the teacher will sort out and review the previous content and put forward a thinking question to check whether the child really understands the content. After reading a text, there is an overall evaluation, with the number of stars awarded as a grade. Although it is a virtual reward, children like this form of encouragement.

3. Analysis of the application of artificial intelligence to Children's Chinese reading learning

3.1. Lack of flexible guidance
Artificial intelligence has the advantage of storing data in an extremely large capacity and processing information very quickly. In the process of integrating artificial intelligence technology with children's Chinese reading, it brings not all convenience to teachers and students, and there are certain problems and risks. Each student is a separate individual and has its own particularities. When learning AI reading courses, students must internalize, absorb and associate in the individual's mind. This process cannot be simulated by artificial intelligence. "A thousand readers have a thousand hamleys", even if they learn the same reading text at the same time, each student's comprehension and learning ability are different, and the feedback effects will not be the same. The set procedures and content are basically fixed, and they cannot respond to individual students. It is difficult to accurately evaluate learners. They are only roughly graded, ignoring learners' differences and individual characteristics. It is not enough to monitor the learning process of students. As a special group, children are far from mature mentally, so they need more supervision and company. It is possible that children, out of curiosity and momentary novelty, mumble in their expressions, or "a blind cat meets a dead mouse" just happen to click on the right answer, which are all possible. AI reading does not pay enough attention to the individual students, and it lacks the guidance of teachers in traditional classrooms. The drawbacks of this kind of programmed learning are still more obvious. Therefore, it will take a long time to solve these difficulties in studying artificial intelligence reading teaching and how to make this kind of reading teaching work better.

3.2. Lack of communication with peers
Students can also benefit from the AI course as a supplementary learning method. Online learning breaks through the time and space limitations of traditional classroom, enabling learners to learn anytime and anywhere. However, in AI reading courses, children often face intelligent teachers alone and lack opportunities to communicate and interact with peers, which is not conducive to learning. Chinese
reading is more interactive, and students will have unexpected gains in the process of communication and sharing. In the process of reading "Sit in the Well and Watch the Sky", whenever there is a little doubt can not be explained, will affect the subsequent learning activities. For example, when a child answers a wrong question, he will ask "Why am I wrong?" At this time, the intelligent robot cannot respond accordingly, which will dampen the child's enthusiasm for learning. Some children still struggle with the mistakes in the previous link, and can't calm down to continue learning or even don't want to learn. Some students are more tempted to study at home due to their weak self-discipline, and the learning effect is likely to be greatly reduced. Because children often have a strong sense of competition, when peers study together, students will motivate each other and raise their own questions, which can arouse children's enthusiasm for learning. When a child learns alone, he lacks an environment for comparison. They also don't know whether the degree of knowledge they master meets the requirements of teachers.

4. Reflection on the application of artificial intelligence in children's Chinese reading learning.

In the course of AI reading, there is a part of reading after reading or retelling. Sometimes, speech recognition is not accurate enough. Children need to repeat reading for many times due to their fast speaking speed or sharp voice, so that AI technology can recognize speech. Even sometimes, regardless of whether the child answers correctly or not, the response provided by the AI reader is "You are awesome!" Some children discovered this phenomenon and deliberately made trouble, but thought it was very funny. Without family supervision, children's learning effects cannot be guaranteed. And AI based on statistical data of this situation is also meaningless. Therefore, AI reading courses need to further improve the effect of speech recognition. These hierarchical feedbacks are more appealing to children than the stereotyped "You are awesome!" Children also know what needs to be improved in their answers and know where they are doing well. If the AI voice chat database is more abundant, children and robots can carry out simple daily communication, such as "Hello, little friend!" "Or" Come on!, it also enables children to interact with teachers at a deeper level in the learning process, and gives personalized responses to children to provide more intimate services for learners. The text screens selected in the AI reading class are mainly pictures, with few texts, and some texts do not even have matching texts, causing children to only listen but not read. In particular, graded reading is targeted at students of different ages, and the effect of children's learning over a period of time is also different. The content of graded reading consists of Chinese characters, words, sentences, paragraphs and chapters. After a period of learning, the research finds that learners have made progress in these aspects. And classification of reading is illustrated in detail such as Figure 1, which is referenced from the network.
5. Conclusion
The application of artificial intelligence in the field of children's Chinese reading is becoming more and more mature, which not only provides very convenient help to traditional teaching, it makes full use of big data and other technologies to provide personalized services for learners, but also has some drawbacks. Since artificial intelligence courses are currently used more in families, researchers can give full attention to the role of parents and develop content suitable for children and parents to learn together. Numerous AI courses in Chinese reading rely on WeChat public platform, audiobook platform, app, etc, and learning is full of games. The experience form is limited to following reading and watching animation, which fails to fully mobilize children's learning enthusiasm. In particular, the technical difficulties of children's learning feedback and learning evaluation have not been overcome. If children do not meet the established requirements when reading aloud, AI cannot provide specific correction suggestions. The evaluation system set up is similar and lacks personalized voice evaluation. With the development of technology, artificial intelligence has made greater progress. Under the development trend of human-machine coexistence or artificial intelligence as the assistance, teachers should make full use of the favorable conditions brought by artificial intelligence and get rid of the meaningless and inefficient teaching methods, but they should not be led by artificial intelligence. At the same time, teachers should constantly think about the reform of Chinese reading teaching content and methods, so that children like reading, so as to improve children's Chinese literacy.

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