Research on Language Ability Assessment Method Based on Computer Contextualization

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Abstract. Language is the main way of human social communication, language ability in people's life learning and social work has a very important role that is a basic ability one must have as well as be trained from a child. Language is the main tool for people to communicate with each other, it is the carrier of all kinds of information transmission. Language is one of the main ways to inherit culture, which is an important force to promote social progress and development. The cultivation and development of language ability affect everyone's status and development prospect in society in the future. Therefore, great attention should be paid to the cultivation of language ability. To cultivate and develop language competence, we must first understand the current situation of language mastery and evaluate language competence.

Key words: Language ability, Computer contextualization, Measurement

The evaluation of language ability is inseparable from the authenticity of the language environment. However, the actual situation is that it is a waste of time for the assessment in the real environment. Based on this, this paper studies and discusses the language ability assessment method of computer contextualization. In the traditional language ability assessment, most of the assessments merely target at reading ability and writing ability, while language expression is not only limited to written language expression, but also oral expression[1]. Therefore, there are more and more application fields of language ability assessment based on computer contextualization while voice technology in language ability is gradually developing, which provides a new method for the interaction between human and computer, and also reduces the difficulty of operating computer. In this paper, through the assessment of language ability based on computer contextualization, the multimedia and voice technology are used to construct the listening and speaking situation, and the grades and items of language comprehension, language culture and language expression are designed to gradually improve the contextualization of the natural language environment[2].
1. Connotation of language competence

1.1 Language ability
Language ability simply refers to people's ability to master language and use language. It means that the relatively objective concept can be expressed accurately and clearly with accurate words, concise sentences and smooth literary reasoning[3]. It includes the language system used by people in the process of communication, such as English, German and Chinese, and the writing system used in the process of communication, such as letters and articles.

1.2 Composition of language ability
The composition of language ability is divided into listening, speaking, reading and writing skills, as shown in figure 1. It is manifested in whether the intention expressed by the other side can be understood accurately in communication and communicated through language or words.

![Figure 1. Language competence diagram](image)

Language competence is mainly composed of basic language knowledge, language comprehension ability and language expression ability, among which the basic language knowledge includes the mastery of basic words in a language, the mastery of word phrases composed of words and the corresponding basic grammar knowledge. Language comprehension is not only the comprehension of listening and reading in language activities, but also the comprehension of whole sentences or whole text through the recognition of speech and text on the basis of mastering the basic language. Language expression is the process of expressing ideas in written or spoken language with the knowledge of the language.

Language competence involves not only the basic knowledge of words, expressions, grammar and pronunciation, but also the ability to correctly use the language in different situations.

2. Importance of language ability
Language is the most important communication tool for human beings and also the carrier of information in interpersonal communication. It plays a very important role in interpersonal communication and is an important component of the progress of human civilization. The development of language ability is related to a person's achievement in other aspects. It is a kind of social application ability. With the continuous development of the society, interpersonal communication is increasing day by day, and the importance of language competence is becoming increasingly prominent. Good language ability is regarded as the essential ability of modern talents. From social development to career development, it will be disadvantageous for a man of little words who can only work for the development. Because in today's society, talents who can meet the needs of the society not only have to have good professional knowledge and innovative ideas, but what' the most important is to put new ideas in their new insights and to better display. So, poor language ability will lead to misunderstanding. In social work, language is the most direct way for people to
communicate with each other in terms of ideas and feelings. Only with outstanding language expression ability can people identify with one’s ideas, gradually eliminate strangeness and become familiar with each other, and eliminate differences to achieve mutual understanding. Therefore, language ability is an important way to improve quality as well as an important basic skill to control life and improve life, which is the golden key to open the door to success. The improvement of language ability can bring endless wealth and harvest to life, as shown in figure 2.

![Figure 2. Effect diagram of language competence improvement](image)

3. Use of computer technology to carry out assessment research based on computer contextualization

3.1 Language proficiency evaluation method
In terms of the development of computer technology, the evaluation method of language ability mainly adopted the traditional written test. With the development of electronic information technology and computer technology, computer-aided test has been gradually added. Traditional written test will be conducted mainly in the form of pen and paper to test people's grasp of grammar rules and inflections as well as the use of words. It pays more attention to the written language ability of the mastery but less to spoken language. At present, the Chinese proficiency test in our country adopts this evaluation method.

The use of computer technology to assist language proficiency test breaks the limitation of traditional written test and it can improve the authenticity of language proficiency test, make language proficiency test more close to the real environment. It can also provide different metrics for different goals. With the continuous improvement of computer technology, new computer evaluation systems emerge constantly, which can make it more accurate to use computers for language evaluation. In addition, compared with the traditional written test method, the use of computer testing saves a lot of invigilation and review of labor costs as well as time and space.[4]

3.2 Introduction to computer contextualized assessment
Computer contextualization assessment is to use computer virtual test situation and complete the test of language ability in the virtual situation. It can enable the subjects to complete the virtual task in the virtual speech interaction situation test with the existing language knowledge they have mastered, so as to achieve the purpose of evaluation. The application of computer contextualization to test language ability can not only test written language ability of language ability, but also evaluate listening and speaking through advanced human-computer interaction technology, so as to comprehensively evaluate the language ability of the subjects.
3.3 Use computer technology to create listening, speaking, reading and writing evaluation situations

With the development of computer technology and electronic information technology, speech synthesis technology and speech recognition technology are gradually applied to the teaching system. Using computer contextualized language ability assessment, that is, using voice technology of human-computer interaction design, can let the computer talk. For example by voice synthesis technology (TTS) the corresponding text information in text content converts voice to let computer make voice and be able to read. Applying this technology can create listening test scenarios. If we use ASR (automatic speech recognition) to create assessment scenarios, then the computer can understand the language and make corresponding conversion or operation.

Conclusion

By means of the analysis of language ability evaluation method, combining with the existing computer interactive technology and voice technology (TTS) and speech recognition (ASR), we can create the evaluation situation of listening, speaking, reading and writing and break through the bottleneck of traditional evaluation by using multimedia scene design language ability evaluation system. Moreover, we can make language competency assessment more objective and true to ensure the accuracy of the evaluation in a comprehensive way.

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