Model Research of College Oral English Test Based on Fuzzy Theory

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Abstract. Targeting at the problems existed in the present college oral English test, a test model correspondent to the oral English application ability of college students is proposed. Compared with other oral tests, this model focuses on the interactivity, situationality and reality of students’ oral English application ability, therefore, the test results and capability description could be more objective. In addition, aiming at solving the problems in the test, the paper also explores how to make the English oral test more objective and scientific. That is, targeting at the fuzzy feature of college English oral test, using the method of fuzzy mathematics to establish a comprehensive evaluation model for fuzzy assessment. This model is a comprehensive evaluation of procedural and diagnostic methods, and could effectively provide feedback to the teaching process, and furthermore, provide guidance for the college oral English teaching reform.

Introduction

The “Teaching Guidance of College English Teaching” of edition 2015 from Chinese Ministry of Education points out that the aim of college English teaching is to cultivate the comprehensive ability of English application of students, especially their listening and speaking skills, so that they could communicate in English in their study, work and social activities. Therefore, the design of college English curriculum should take the requirements of cultivating students’ listening and speaking abilities into full consideration. At the same time, with the wider and wider use of English as working language in modern society, particularly the promotion of the cultivating model of “major + foreign language” or “foreign language + major quota” of universities, reform of college English teaching is a must in order to improve the listening and speaking abilities of college students.

Pre-Research

Listening and speaking play an important role in communication, however, in fact, the actual English language application environment is not favorable enough, therefore, the improvement of students’ ability is restricted. Meanwhile, the research of the need, motivation, difficulties and solutions of oral English study shows out that the oral English study is still the weakest point of all the basic English skills and badly need improvement. Since the problem is already found, then the development of effective oral test model is necessary to promote the teaching and studying process in turn. Traditional English teaching and assessing model put
more weight on language, result, overall development than ability, process and individuals, so that we have to combine the summative assessment and procedural assessment together. Based on changing traditional evaluation model and satisfying the actual oral application needs of society and students, Beijing International Studies University, with the support of Beijing Municipal Education Commission, started the program of testing oral English application ability of college students, of which the research of oral test evaluation is a crucial part.

**Fuzzy Theory and Its Educational Application**

The present test usually employs objective items to evaluate students’ listening and speaking as well as communication ability, which has some faults and could not fully reflect examinees’ oral English application ability. In addition, it is found that there is little relation between the CET 4 (CET 6) marks and oral test marks, so it is improper to infer a better oral English application ability only according to one’s higher CET 4 (CET 6) paper testing marks. Meanwhile, the ability of oral English application is a kind of fuzzy ability, and could not be given a clear definition but need the help of fuzzy theory for evaluation and calls for relatively scientific and objective oral application ability test model and assessment standards.

**The Theoretical Basis of Fuzzy Language Theory**

Fuzzy set theory is first proposed by American professor Zadeh, which starts the research of fuzzy theory and derives fuzzy-related subjects like fuzzy language, fuzzy mathematics, and fuzzy logic and so on. American professor Lakoff and professor Wu Tieping are leading researches in the field of fuzzy language though from different perspectives. Fuzzy language theory provides description and research methods to many fuzzy phenomena and language study, and what’s more, provides effective explanation. And the outcomes vary the understanding of language nature and its application. Besides, it has some enlightenment in terms of correctly understanding the fuzzy concept in present foreign language teaching, guiding the teaching and practice of foreign language teaching as well as cultivating oral communication ability of college students.

Fuzzy language does not mean vague, equivocal and misunderstanding language. On the contrary, it makes use of the semantic fuzziness to reflect various concepts in life clearly and correctly. The language is fuzzy, but the meaning is clear. Fuzziness is a nature of natural language. The contradiction between the limitations and discreteness of language symbols with the continuity of certain objects, together with the thinking and needs in communication, make fuzzy language a common phenomenon in life. The fuzziness of language does not hinder communication. In fact, daily communication needs lots of fuzzy language, because it could help to promote expression efficiency and correctness, and improve language inflexibility and make our language more euphemistic and polite as well as vivid.

**Application in Education of Fuzzy Theory**

It is important to stress various fuzzy phenomena in foreign language teaching process, and guiding foreign language teaching and studying with theory and methods. The object basis of fuzzy teaching is the existence of lots of fuzzy information. The fuzziness of teaching guideline and teaching purpose is favorable for evaluating the performance of teachers and students. In nature, the oral ability level is kind of fuzzy phenomena, but it is used to be illustrated by clear scores. This method, manually précising something fuzzy is easy for
statistics and comparison, but it could not reflect the nature, on the contrary, it makes students see more on marks than the acquire and application of knowledge. Therefore, it is more proper to use such descriptive language as excellent, good, fine and bad to assess the students’ performance. At present, all the teaching methods have a relation of mutual exclusive and mutual conflict, as well as mutual related and mutual succession and development. This latter relation makes the boundaries between schools fuzzy. Therefore, the fuzzy set theory could be used to analyze the individuality and common characters of different schools and the ambiguity between them, so that people could get a better understanding of these teaching methods, making use of its strengths and avoiding the weakness, integrating and optimizing the methods for a most suitable way for individual teachers and their students.

Fuzzy language theory could be employed to better cultivate the oral communication ability of students, who need to understand under what circumstances fuzzy language is used properly for communication. At the same time, they need to analyze the strategic purpose of others’ fuzzy language and strategically use fuzzy language to realize their own communication targets. Fuzzy language is vivid, euphemistic, implying and flexible, so the proper application of the fuzzy language could improve the art results of teachers’ professional oral teaching and further improve the teaching effects. As students, they are supposed to understand and adapt to the fuzzy teaching strategy and learn to use it to give feedback and communicate with teachers, in this way, the communication between teachers and students could be more relax, polite and prosper. What is more, teaching and studying would be mutual-promoted at the same time.

**Designing Oral Test Model Based on Fuzzy Theory**

The newly developed oral test is divided into 3 levels to examine the oral application ability of college students. The standard of primary test is: communicate in daily topics, and make simple presentation after simple preparation in familiar topics, and discuss a given topic. The standard of higher level is: relatively fluently communicate in common topics, basically express personal suggestions, emotions, opinions, and basically illustrate facts, reasons and describe events. And that of advanced test is: relatively fluently and correctly communicate and discuss in common or professional topics, summarize a given oral or written material with certain difficulty and length. The 3-level requirements are correspondent to general requirements, higher requirements, and advanced requirements in“College English Curriculum Teaching Requirements”, so that the test could be effectively related to the text books.

College English oral test is not summative test, but a procedural evaluation. By diagnosing the problems existed in oral communication, it provides feedback to teaching and tries to develop language application environment to improve the oral English application ability of students. During the TEP test, every examination room is equipped with two examiners (major and assistant) and two examinees. Major examiner will ask questions and give an overall mark while assistant examiner will give detailed marks according to the grading rules. During the exam, examinees will interact with examiners and their partners, in this way, it examines the language interactivity of students and put weight on language application ability and check their oral communication capability. TEP test gives scores from 4 aspects: communication effects, content organization, tones, words and grammar. And different levels give different weights in each part. This model gives a more detailed and comprehensive evaluation of individuality and differences of students. There is not only scores, but also
diagnostic description of the oral application ability, so that it plays a guiding role in personal improvement and changing teaching process. Test is not the purpose but a method, TEP is just for testing the oral English application ability of college students, so the marks of the examinees should be correspondent to their abilities.

Since oral test is rather subject, and the marks is easily affected by the examiner’s language level, emotions and their understanding of the grading rules in the process, so the credit is relatively low. Then how to improve the consistency and stability of grading becomes the focus. Factors influencing the oral test like grading index bears the feature of fuzziness, so the employment of fuzzy comprehensive evaluation method of fuzzy mathematics could be used to quantizing English oral test for a more object and reasonable marking to make up for the weakness of present marking methods.

There are two methods of present marking of English oral tests: comprehensive method and analyzing method. In the former method marks are given by examiners through overall impression according to certain standards. While in the latter method, the tested contents are divided into different elements such as grammar, contents, tones, fluency, correctness and words and etc., then detailed marks are given according to detailed grading standards. Compared with comprehensive method, which emphasis on the communication function and effects, analyzing method, puts more weight on language structure and grammar rules. Comprehensive method gives an overall evaluation of students’ oral performance, and has a higher validity. And analyzing method examines language elements and is more object with higher credibility. In the pre-test of this study, the combined method of comprehensive given by major examiner and analyzing given by assistant examiner is employed. After a certain dealing of portion calculation, the final marks are determined.

It is rather subjective and hard to handle when it comes to the oral test element grading rules, so the marks are fuzzy to some extent. For the same student, different examines may give different marks, and even the same examiner, may give changed marks to the same student at different time. But the present grading methods require scorers give accurate judgement immediately and then give precise marks. However, pursuing precision does not go in accordance with the mentality when people doing something subjective, and it gives such a big pressure to the examiners then they are engaged in a high level mental and physical labor in large-scaled oral tests. In addition, it is hard to handle the consistency of grading, that is, it is hard to guarantee the consistency within and inter scorers.

Based on previous working experience and above analyze, this test makes use of fuzzy evaluation method. English oral fuzzy comprehensive grading is to give marks using fuzzy comprehensive evaluation in English oral test. Fuzzy comprehensive evaluation is to give an overall evaluation based on the principle of fuzzy transform and the principle of slave degree maximum and considering the influences of factors related to the objects to be evaluated. This method, could not only exclude the distraction of extreme factors to improve the overall credibility and validity, but also could realistically simulate the mental process of comprehensive evaluation for a detailed solution to the problems.

**Establishing Evaluation Object Factor Sets**

The factor sets is a collection of all factors that influence the evaluation object. The establishment of the set matters whether the evaluation is objective, and whether the assessment could be conducted effectively, and whether the assessment could make scientific and correct value judgements. Therefore, the establishing a reasonable evaluation factor is the precondition of guaranteeing the scientific feature of oral test grading. Here in this paper,
“evaluation object” means the oral English test, and “factor” means oral English test grading rules.

**Determining the Portion of Each Grading Factor**

Since each factor has a different impact on the test, so each factor takes different weight in the process. And whether the portion is reasonable directly affects the correctness of the evaluation results. And the portion in this program is confirmed by consulting experts.

**Establishing Evaluation Level Sets**

Evaluation level set is a collection of m kinds of evaluation levels as evaluation standards. In this paper, v1, v2, v3, v4 are used to present the four levels of excellent, good, fine and bad.

**Confirming the Membership Relation, Getting Judging Matrix, and Giving Judgements**

The relationship between the factor state levels and the factor set constructs a U-V fuzzy matrix. So the syndetic calculation could determine evaluation levels.

**The Importance to College English Teaching Reform of College Oral English Evaluation Test**

**Principle of Actual Oral Communication**

Testing could be conducted in various forms, but the point is to promote the test process to guide the students express their own opinions and promote their listening ability through communication. Meanwhile, the ability of exchanging opinions and communicating to agreement is also promoted, so that students could put what they have learned into practice. On the other hand, this test has high requirements of training and qualifications of examiners, who are actually in-service and professional teachers. Through training and testing process, the test standards and requirements are integrated into teachers’ coconsciousness and teaching procedures, so that it could serve as a breakthrough point of college English teaching reform.

**Target of Serving Student and Teaching**

The purpose of the test is to improve the comprehensive application ability of students and further the overall education reform. So it is better to avoid too many tests in the process, but try to make students feel it as a language communication exploration. Experiencing the situation and process of language use and finding their own strength and weakness so that students could study with a specific target and teacher could clearly understand the oral capability and feature of their students, all this is favorable in the process of adapting with specific targets in the process of teaching and studying.

**Principle of System and Trapezoid**

TEP includes three levels: primary, higher and advanced level. All these three levels examine four aspects of language. There are close relations between them but have grades in between, so students at different levels could adapt to the different level of study. In addition, this test is closely related to teaching process to examine the teaching and at the same time provide feedback for teaching.
Conclusion

Through the conduction of this program and the presence and evaluation of college English teaching, it is found that it is necessary to strengthen the practice of oral English in teaching process, and provide more opportunities for practice, especially oral practice. In addition, the practice of oral activities that adapt to the thinking habits and perception habits could help promote participation of students. At the same time, the establishment of virtual training platform could provide simulated actual situations and satisfy the training needs of oral communication activities of students. Last but not least, turn the test focus of basic knowledge to the application of language could effectively promote the communication ability of students.

References


