

Review on Research Methods in Applied Linguistics

With the infiltration of natural science research model into the field of humanities and social science research, similar to the development of linguistic research, the development of applied linguistics research has generally experienced the transformation of traditional speculative research to empirical research paradigm. Applied linguistics research transforming from traditional speculative research to positive research paradigm. It has gone through three stages of development: quantitative research, qualitative research and mixed research. If the basis of the quantitative research paradigm can be summarized as positivism-post-positivism, the foundations of qualitative research paradigms can be summarized as constructive-interpretive, then the basis of the mixed research paradigm can be summarized as pragmatism (Robson and McCartan, 2016; Creswell, 2014).

There still exists a lot of debates regarding to the distinction between QUAL and QUAN research methods, even though the differences are quite uncomplicated.

Niglas (2010) argues that if a study uses statistical analysis and structured data, it is quantitative research if its argument is not based on calculations or numbers but on

the substantive analysis of unstructured data, it is qualitative research. qualitative research focuses on understanding the meaning of things and the personal awareness of research participants. In fact, the qualitative research in applied linguistics has a broader definition, which can be attributed to the multidisciplinary, interdisciplinary, multidisciplinary and even anti-disciplinary research traditions. Qualitative research on applied linguistics mostly takes open questions as research themes, and deeply studies some complex issues such as culture, society and personal inner development. In recent years, with the continuous development of applied linguistics research in my country, more and more Chinese experts in the field of applied linguistics have gradually taken qualitative research methods as one of the main methods of language acquisition research.

The main characteristics of qualitative research can be summarized as the

following aspects: a. Natural and objective research environment in natural setting; b. Researchers as key instrument; c. Multiple sources of data; e. Inductive data analysis; f. Participants' meanings; g. Emergent design; h. Theoretical perspective; i. Comprehension exploring; j. Full description (Dörnyei, 2007, p. 37-39; Robson and McCartan, 2016).

Basically speaking, in the tradition of qualitative research in language teaching, ethnography and discourse analysis are the two fundamental types. Benson (2009) proposed a study on qualitative research method of ten journals from 1997 to 2006. The data provided showed that among a total of 344 qualitative research articles, case studies get 225 articles (over 65%); discourse analysis occupy 53 articles (over 15%); and two types together account for nearly 81% of all qualitative studies. Qualitative research mainly uses purposeful sampling method to select research objects. Researchers purposefully select research objects and research sites that can help answer research questions or understand a research phenomenon. There are many methods of purposive sampling. Commonly-used methods include typical extraction sample, unique sampling, maximum variation sampling, convenience sampling, snowball or chain sampling, density sampling and theoretical sampling (Antaki, 2008). After determining the research object, the next step is to determine the data collection method. There are various methods of data collection in qualitative research, include interviews, observations, reflection reports, written documents and video materials.

The principles of qualitative data analysis are largely based on grounded theory. Grounded Theory is a method of constructional theory that theory should be rooted in the original data. In other words, before the research, researchers usually have no theoretical assumptions, but gradually form conclusions through sorting, analyzing and condensing the original data, and finally raise it to a theory (Creswell, 2014). The core of qualitative data analysis is to code the data. Coding is the process by which researchers define the data being analyzed and their inherent meaning. The purpose of coding is to find examples from the data that can answer the research question, summarize the themes associated with the research question, and discover the relationship among themes. Only the systematized-codes can be used as an illustration

to answer research questions. In short, in applied linguistics, the data analysis of qualitative research does not have to be strict and step-by-step, but it must be systematic and sequential.

However, it is broadly admitted that the qualitative research invests a lot of time that it is time-consuming. Participates normally involve in complex, time-consuming data analysis processes. Furthermore, the interpretation of the data analysis is generally a long report. Finally, There are usually no fixed guidelines or specific steps to follow when conducting qualitative research.

The so-called "quantification" simply means digitization. Using numbers to clarify problems and describe things with numbers has the characteristics of being objective and accurate. The method of quantification is the method of statistical analysis. Compared with qualitative research, quantitative research seems to be more tightly controlled. Due to its characteristics of precision and objectivity, quantitative methods are being used more and more widely in applied linguistics. Quantitative research in applied linguistics can be divided into three types: the summary description of the status, the test of the difference between the whole and part or part of some phenomena, and the inspection of the closeness of the mutual relationship between things. The corresponding statistical methods are descriptive statistical methods, inferential statistical methods, and correlation analysis methods (Dörnyei, 2007, p. 32-34). According to Dörnyei, a big shortcoming of quantitative research is that the different underlying process would lead to the similar results and the quantitative research is not very effective in discovering the ground reasons of many phenomena (2007).

What I plan to state more here is the problems exposed in the process of doing quantitative researches in China's linguistic research. In recent years, with the pursuit of quantification, Chinese linguistic research has exposed many problems. For example: 1. Researchers have a simplistic understanding of quantification and are eager for success; 2. Quantitative research is too dependent on software and many researchers and postgraduate students do not understand statistical methods; 3. Researchers lack of a serious attitude towards quantification, and there are some

fraudulent phenomena; 4. Quantification lacks reasonable and strict guidance, resulting in a lot of waste of human, financial and data resources.

It is difficult for individuals who are lack of professional study or training to possess the data, and often rely too much on statistical software. In fact, the problem often lies in the process of investigation and experimentation. Take sampling for example, in order to facilitate the operation, researchers sometimes select people with good language attitude and competence, choose easy-going personalities to cooperate, which results in skewed sampling. Furthermore, There are deviations in the design of questionnaires or scales, such as an imbalance in the proportion of positive questions that are easy to get high scores and negative questions that are easy to get low scores. Some researchers design questionnaires or scales based on feelings, without reliability and validity analysis. Data collected in this way is highly suspect. Experienced scholars often overturn the conclusion by questioning the normative forms of a certain stage in the quantification process. Quantitative methods also have high requirements on the scientific attitude and integrity of the operator. So I strongly agree that a smattering of knowledge about methods involving quantification is dangerous.

Therefore, in my future research, I prefer to use a mixed research method. Both qualitative and quantitative methods have certain particularities. The methods of quantitative analysis and qualitative methods are different in several major aspects, but the results of these two methods are often complementary to each other and help to observe the problem from different angles. Qualitative methods usually rely on natural observation, while quantitative methods usually rely on manipulation and control; qualitative methods start from the point of view of phenomenology and understand human behavior through personal subjective experience, while quantitative methods start from the point of view of logical positivism and emphasize the use of experiments. Qualitative methods are basically inductive while quantitative methods are basically deductive. The ultimate goal of conducting quantitative research is still qualitative. (Porte, 2002). Researchers need to be clear that there is no distinction between the use of research methods, and the use of empirical methods is aimed at solving research problems. Quantitative methods, qualitative methods, and

mixed methods each have their own research paradigms, methods, and paths, and there is no opposition between the three (Creswell, 2014).

Although I am still remain undecided on what research I will do for my doctoral programme, I will use one of the options of my research topics as an example to illustrate the design of mixed methods in this critique. The topic is: research on the current teaching situation of postgraduates' English reading from the perspective of intercultural communication. For a long time, foreign language teaching has presented a mode of emphasizing language skills training, while the teaching of cross-cultural knowledge has not been valued, and it is in a secondary or even dispensable position. After the middle of the last century, many linguists around the world began to realize that in the process of reading, they often encounter cultural backgrounds related to the article. If it is difficult to understand this cultural knowledge, it will be difficult to complete the smooth reading of the article. Since then, the concept of culture as the carrier of language has been deeply rooted in the hearts of the people, and it has been integrated into an important part of linguistics for specific research. Although scholars' research on cultivating intercultural communicative competence in English reading teaching is increasing, the main target is still middle and high school, and targeted research on postgraduates is still relatively scarce. Based on the independent research results of foreign language reading teaching and intercultural communication, I plan to put forward its own opinions from practice, and conduct relevant research on the cultivation of intercultural communicative competence in English reading in postgraduates, helping students improve their cultural awareness.

From a cross-cultural perspective, this research plans to adopt the methods of literature, questionnaire and interview, and mainly studies the following three issues:

1. What is the relationship between the cultivation of cross-cultural awareness and the improvement of reading ability?
2. What is the current situation of English reading teaching in the postgraduate students from Kunming University of Science and Technology under the cross-cultural background?
3. What are the strategies for cultivating intercultural communicative

competence in English reading teaching in high-level of postgraduate students?

The study plans to select more than 150 postgraduate students of Kunming University of Science and Technology of Yunnan Province as the survey objects, and they were supposed to be required to test on IELTS reading materials and will be grouped according to the scores. The sample will be randomly selected from different subjects and genders, and the questionnaire will be pretested to test the reliability and validity. Based on the data collected and analysis, this study will take a post-test on some distinguished items. Besides, in order to explore the current situation and the cultivation of intercultural communicative competence in reading classrooms from the perspective of teachers, this study plans to take interviews for more than ten English teachers from five dimensions, namely: teachers' understanding of "cultural awareness"; teachers' understanding of intercultural communicative competence training for postgraduate students; the method of cultivating postgraduate students' intercultural communicative competence in advanced English reading teaching; the obstacles to cultivating intercultural communicative competence in reading teaching; teachers' suggestions for cultivating intercultural communicative competence in advanced reading teaching. I will also try my best to keep objective when coding and interpreting the data of interview.

In general, no matter what research methods would be adopted in a research, researchers should make decisions from the nature of the research, figure out the paradigms behind the research methods, in order to decide interactive constraints for research designs. Especially, this is the urgency for me to learn and research on, because China has the largest English learners in the world, and the interaction between learners and the educational environment is complex and diverse, so the new progress in English education research needs to be further strengthened by research paradigm awareness and theoretical perspective.

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