

The Enlightenment of Procedural Grounded Theory to Chinese Education Research

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Abstract

Although some researchers have called for the use of grounded theory in the field of Chinese education, the academic community still lacks understanding of the theory. The characteristics of grounded theory help to bridge the gap between theory and practice, avoid the arbitrariness of research results, and curb the arbitrariness of research results. On the basis of systematically introducing the history, development and operation procedure of procedural grounded theory, this paper explains the operation steps of procedural grounded theory by taking the published papers as an example, in order to promote the application of this research path in Chinese education research.

Keywords

Chinese education ; procedural grounded theory ; research procedure.

1. Introduction

Grounded theory has attracted much attention in the field of educational research. In the field of Chinese education, although many researchers have called for the use of grounded theory [1], the theory will bring new atmosphere to Chinese research [2]. However, limited to the writing ideas, there have been studies and detailed development. Based on this, this paper clarifies the other reasons, historical development and application methods of grounded theory from the layered structure of why, what and how to do, and explains it with specific cases. It is hoped to promote the evolution of grounded theory in the field of Chinese education research and help the sound development of Chinese education research.

2. The Benefit of Grounded Theory to The Defects of Chinese Education Research

2.1. The theory summarized from experience makes up for the gap between practice and practice

The separation of theoretical research and teaching practice makes the Chinese teaching theory fall into the dilemma of involution, and the effectiveness of teaching practice guidance is insufficient [3]. Educational theory and teaching practice should be a two-way promotion relationship. However, at present, the two have broken off, which is manifested in the considerable volume of educational theory, most of which are experience summary and few deep breakthroughs. This not only weakens the value of theoretical research, but also weakens the effectiveness of guiding practice. At present, there is little to reveal the basic principles of Chinese teaching to guide classroom practice[4]. First-line teachers not only do not benefit from theoretical evolution, but also are forced to move forward. Taking large unit teaching as an example, the researchers have a heated discussion on the connotation, characteristics and teaching value of large unit teaching. It is unquestionable that the construction of educational theory precedes the teaching practice. If carefully considered, it is inevitable to sigh. Since it is a discussion about teaching, there is little discussion on what kind of teaching literacy teachers

need to have to support large unit teaching. In the case where theoretical research is not fully available, large-unit teaching has been carried out in schools [5]. There is no breakthrough in theoretical research, and how bright flowers can be opened in teaching practice ?

The characteristics of the grounded theory itself help to bridge the gap between educational theory and practice [6]. As a research path, it emphasizes the use of empirical data as the cornerstone to find the core concepts that show social phenomena and form new theories through the connection between concepts. The research process is from bottom to top, from practice to theory, to constantly concentrate the empirical data and then construct the theory. In this process, the disclosure of the original data, the transparency of the coding process, and the construction of the model still need to be triangulated. Although the theory of grounded theory must be traced back to the original data and must be based on empirical facts, it is not limited to experience, and new theories should be sprouted from the facts of experience. To sum up, ' data comes from practice, process is oriented to practice, and result is for practice ' is the logic of grounded theory generation and construction of new theory.

2.2. Based on systematic operating procedures, avoid the arbitrariness of research results

The research on Chinese education is more arbitrary [7]. The reason is that it is more a summary of personal experience than an objective and objective analysis[8], but the application premise of ' quasi-theory ' based on experience summary is rarely taken into account. For example, in Chinese teaching and research, most famous scholars combine their personal experience to provide teaching and research experience sharing for younger students, which is beyond reproach. However, the personal experience of famous scholars cannot be reproduced to the life experience of each member of the group, and the specific personal life experience seems to be difficult to bring universal value to the growth of the teaching and research ability of group members, resulting in weak promotion. The lack of systematic procedures for constructing theories may be one of the reasons for this situation.

The grounded theory provides researchers with a complete research process and ensures the verifiability of the research results[9]. Different from the research path of " I think, I advocate, " the grounded theory emphasizes that the researchers themselves cannot set up the theory and deduce the logic in advance. They must find, develop, construct and test the theory from the empirical data (such as interviews, literature, etc.). It includes the following processes (slightly different in different versions) : (1) Data collection. Literature, interviews and other forms can be, and strive to diversify sources of information; (2) Step by step coding. Including: open coding, axial coding and selective coding, coding is the first step to obtain the core concept ; (3) Category refinement. Constantly compare, summarize, and summarize various categories of data and concepts; (4) Theoretical construction. Discover the specific relationship between different concepts, refine and develop the generic relationship for many times, and gradually form a theory under the guidance of practical logic; (5) Saturation test. With the help of original data, the integrity of the constructed theory is tested. If it does not pass, go back to the first step to re-initiate the process. It can be seen that the characteristics of gyration, observation and theoretical cooperation in the research process ensure the generalization and replicability of the research findings.

2.3. The model construction derived from professional knowledge avoids the arbitrariness of research results

The century-old development of Chinese education can be said to be an autonomous process of de-Westernization and local theoretical construction. First learn from Japan and the United States, and then move closer to the former Soviet Union. After the cutting robe, there were discussions such as ' the struggle between literature and Taoism ', ' humanity and

instrumentality'. During this period, although there were continuous disputes, they were still within the scope of local theoretical viewpoints. In terms of Chinese teaching, at the beginning of the 20th century, Mr. Li Jinxi and others realized the transformation from "Confucian education" to "life education." Then, Ye Shengtao, Zhu Ziqing and others concretized the concept of "life education." In the 1970s and 1990s, Yu Yi, Ning Hongbin and other gentlemen were engaged in the first line of Chinese teaching, forming teaching concepts and methods such as 'emotional edification school and thinking training school' that have influenced the present. However, with the social transformation in the 1970s and 1980s, the western education theory took advantage of the opportunity and seized the supreme place of theoretical construction. Turning over the academic papers contained in academic journals with high popularity in recent years, the shadow of Western academic thoughts can be seen everywhere. It has indeed opened up a theoretical vision and given teachers new ideas for teaching, but the goal of introducing foreign academics is not to apply them, but to transform them based on the reality of Chinese language education, in order to build a Chinese language education system with Chinese characteristics and solve the problems in teaching practice. To achieve this goal, Chinese education research needs to continue to move in the direction of localization.

The model construction based on professional knowledge can help the formation of localization theory[10]. Theoretical originality not only means that the research materials are derived from the Chinese language teaching classroom, but also reflected in the use of the professional knowledge of the Chinese discipline system for theoretical construction. Grounded theory needs three kinds of things in model construction: (1) original data from reality. There are already words in the previous text, which is not repeated here. (2) The background of academic literature. The use of academic literature helps to improve the theoretical sensitivity of researchers, which is beneficial to the discovery of appropriate perspectives for explanatory materials. Based on the professional knowledge under the Chinese discipline system, it provides the conceptual attribution and theoretical framework reflecting the Chinese academic style for the analysis data. (3) Personal experience of the researcher. The researchers' understanding of the original data from the perspective of personal empirical knowledge ensures the researchers' full understanding of the original data, and personal empirical knowledge is grown under the Chinese discipline system and developed in the real environment of Chinese language. The use of empirical knowledge with Chinese language characteristics is one of the factors that form the localization theory. In a word, the triangular interaction between the original materials from the reality of Chinese education, the research results under the Chinese academic system, and the experience and knowledge of researchers is not only the source of constructing new theories, but also provides a realistic guarantee for the formation of localized theories.

3. Generation, Development and Characteristics of Grounded Theory

In 1967, GLASERBG and STRAUSSA first proposed this research path in their co-author 'The discovery of grounded theory: strategies for qualitative research'. After that, the two founders and their colleagues and students had different understandings of the theory, and gradually evolved into three major factions of grounded theory.

3.1. The formation of grounded theory

The reflection on the three academic trends is the background of the birth of grounded theory[11]. In the 1960s, there were three main research trends in American sociology. For example, some scholars will copy the grand theory and partially modify it based on their own experience to form a new theory. The two founders reflect on this. For example, most anthropological and ethnographic studies only describe research phenomena, and do not clearly elaborate on the theories they have constructed. Although some studies have

established good theories and models, they cannot clearly express the information about the generation and steps of the theory. Researchers of the grounded theory believe that the ambiguity of the theory generation process and interpretation makes it difficult to judge the credibility and use of the theory. In the face of the above drawbacks, grounded theory hopes to generate new ones on the basis of empirical data, existing literature and researchers' personal professional knowledge. Reliable theory, and based on this, clearly explain the formation process of the theory, and then eliminate the shortcomings of the research trend of the times. Symbolic interactionism and pragmatism provide the theoretical basis for this research path. Symbolic interactionism holds that the social action of the actor is constructed by him. If the perspective of the actor is missing, the information world they construct will not be understood. Pragmatism holds that fact and value are interrelated, and usefulness is truth. Through observation, experiment and other systematic methods, we find experience and summarize new theories from the rich and changing world. Based on this, Glass et al., taking the above theoretical basis as a bridge, believe that grounded theory should not only present the behavior variation of actors in dealing with a problem, but also find various behavior patterns, and finally express these patterns in the form of theory.

The publication of 'The discovery of grounded theory : strategies for qualitative research ' heralded the birth of grounded theory. The establishment of grounded theory is considered to be a major breakthrough in the field of 20 practical qualitative research[12].With the academic exchanges around the world and the mutual reference between disciplines, the application scope of this research path has been expanding, such as sociology research, religion, education and many other fields.

3.2. Schools of grounded theory

'The discovery of grounded theory : strategies for qualitative research ' has laid the theoretical foundation between different schools, which is also the classical grounded theory [13]. Later, GLASERBG and STRAUSSA, based on their different understandings of grounded theory, gave birth to different genres of grounded theory.

In 1987, Strauss published the book " Qualitative Data Analysis, " which marked the birth of Proceduralized Grounded Theory[14]. After that, Strauss and Corbin co-authored the book " Basics of Quantitative Research Analysis, " which made the procedural grounded theory widely promoted. Charmaz, who once obtained a doctorate under the guidance of Strauss, drew on the advantages of the other two versions to form a new version-The Constructivist 's Approach to Grounded Theory.

The emergence of the three major schools of grounded theory reflects the epistemological differences between positivism, interpretivism and constructivism[15]. Classical grounded theory holds that theory can exist independently from special situations. Different from it, procedural grounded theory holds the opposite view that everything is a scene. Constructive grounded theory not only inherits Glaser 's point of view, but also emphasizes the constructive significance of the theory. The above differences are concentrated in the coding link[16]. Based on this, the grounded theory has formed three versions that are both connected and not exactly the same.

3.3. The characteristics of procedural grounded theory

Compared with other research paths, the advantages of grounded theory lie in the diversification of data sources, the gyration of research process, and the delay of literature review. The characteristics of procedural grounded theory compared with the other two versions are as follows :

3.3.1. The operability of the coding process. The coding process embodies the difference between the classical grounded theory and the procedural grounded theory. The former has

two steps, namely substantive coding and theoretical coding, and the latter includes three steps. And the coding methods and meanings of the two versions are not the same. Although the coding process of classical grounded theory can find more abundant theoretical forms, procedural grounded theory is more convenient to operate. The three-level coding of procedural grounded theory has a clear concept of direction. Based on the change of direction, it ensures the generation of new concept connotation. This change will continue until the concept is saturated, so it is easier to find out the causal relationship between concept and category, which is more suitable for the current Chinese education research.

3.3.2. The use of interactive model. The research process of grounded theory mentioned above has a strong gyration, which is embodied in the following aspects : first, data collection and data analysis are carried out simultaneously and simultaneously ; the second is to compare continuously in the process of collecting data, such comparison occurs between data and data, data and theory. After comparison, it is necessary to analyze the structural factors that affect the interaction strategy of actors[17] and use practical logic such as causal logic to construct a theoretical model. For example, pay attention to the dimensions of time, place, character, and why to collect data during the interview, and then form the collected information into a complete ' story ' through the connection of practical logic.

4. Usage and Case of Grounded Theory

Mr.Chen Xiangming brought the procedural grounded theory into the field of educational research and widely used it. In the field of Chinese education, so far, there are only a handful of literatures on the application of procedural grounded theory in the field of Chinese education, indicating that the Chinese education community lacks understanding and understanding of the procedural grounded theory. Therefore, this paper introduces the procedural grounded theory to deepen the academic community 's understanding and understanding of the research path.

4.1. The scope of application of procedural grounded theory

Some researchers have concluded that the grounded theory of management is applicable to the application of vertical theory construction and horizontal theory construction[18]. Based on the characteristics of Chinese subject, this paper holds that the application scope of grounded theory includes but is not limited to the following problems of Chinese education research :

4.1.1. The procedural issues of theoretical construction. Procedure refers to the process, rules, mechanisms and other procedural and systematic categories corresponding to specific phenomena, including influencing factors, logical context, internalization mechanism and so on. Such as Dong Yang and Wei Xiaona[19] with the help of student interview data, using the grounded theory to study the factors of primary school students ' reading generalization ability training, and think that reading purpose, text complexity, reading strategies are the internal factors, prerequisites and important factors that affect students ' generalization ability.

4.1.2. The interaction between publicity and individuality. The ' interaction ' here can be the interaction between the individual and the reality, or the interaction between the individual and the group. For example, in recent years, large unit teaching has become a common practice. Some schools encourage or even use administrative power to require teachers to carry out large unit teaching. However, can the factors such as teachers ' individual pre-knowledge reserve and teaching ability meet the quality requirements of large unit teaching ? Does the teacher have extra time to write a large unit teaching design when the workload is saturated ? The actual situation of individual teachers needs to interact with groups or organizations.

4.1.3. The problem of internalization of experience. Grounded theory emphasizes finding problems from daily life and giving back to daily life. In the solution of the problem, that is, '

from life, to life '. Research questions come from life and depend on the academic sensitivity of researchers. Going into life means putting forward countermeasures and suggestions. The research results of this kind of problem have been published. Primary school Chinese teachers should deal with the content of labor education in teaching, which is the normal state of teachers ' teaching. Therefore, ' teaching path ' can be thought of from ' labor education content ', and academic problems can be found in practical teaching. Professor Ren Rui[20] uses the grounded theory to propose countermeasures such as ' selecting the object of labor education for students through text selection and organization ', and returns the research to the solution of daily problems, so as to ' return to life '.

4.2. The research procedure of procedural grounded theory

The research process of the classical grounded theory has been clearly explained[21]. Based on this, this section will introduce the research procedure of the procedural grounded theory. This study divides the research process of procedural grounded theory into five stages : problem definition, data selection, data analysis, saturation test and model interpretation.

4.2.1. Problem definition. There are two aspects. On the one hand, it is to study the way in which the problem is generated. Researchers should experience the real teaching and education situation, and naturally put forward research questions in the interaction with others, that is, ' asking is born of the heart '. On the other hand, when the research question is clear, it is also necessary to define the problem according to the scope of application of grounded theory. Whether the problem is suitable for using grounded theory, the scope of application of grounded theory has been stated above.

4.2.2. Data selection. It includes two aspects : one is data collection. Data collection methods strive to enrich and diversify, literature review, interviews, etc. The grounded theory is more inclined to interview. During the interview, it needs to be carried out in a relaxed way such as heart-to-heart talk and chat, so as to encourage the interviewees to state their true thoughts. Researchers should avoid any guidance and prompts and use more open questions. At the same time, during the interview, the researchers always pay attention to the emotional ups and downs of the interviewees, and need to record them if necessary. On the other hand, after the interview, it is necessary to sort out the collected data in order to optimize the data and establish a database. At the same time, a third of the literature is reserved for the fourth step.

4.2.3. Data analysis. The procedural grounded theory needs open coding, axial coding and selective coding. The coding methods and meanings of the three levels are different. In the open coding stage, researchers can 't presuppose concepts and select data that can answer research questions only by theoretical sensitivity. Read the data word by word. Repeatedly review, compare, conceptualize, and categorize. This stage follows the operation process of data → labeling → conceptualization → categorization ; on the basis of open coding, what axis coding should do is to form categories, attributes and dimensions, develop and test the relationship between various categories ; selective coding selects a core category in the category of spindle coding, and other categories become supporting categories, integrating various elements through story lines or other means[22].

4.2.4. Saturation detection. Data collection is re-conducted here, or the data retained in the database is extracted as a sample. The number of samples is one-third of the database, and the three-level coding is re-conducted. If no new main categories and relations appear, the model can be considered to pass the theoretical saturation test.

4.2.5. Model interpretation. When explaining the model, it is necessary to carry out triangular interaction between the existing research results, the researcher 's personal pre-understanding, and the original data [23] ,so as to support the rationality and scientificity of the model.

4.3. The case demonstration of procedural grounded theory

Taking the papers of Dong Yang and Wei Xiaona as an example, this paper further explains the research procedures mentioned above from the above five stages. It needs to be clear that although the author does not explicitly indicate the type of version used in the text, it can be concluded that the author uses the procedural grounded theory based on the procedure of its coding and the meaning of the coding.

4.3.1. The problem can be solved by using the grounded theory. The typical causes of students' errors in the process of reading generalization are analyzed.

The research questions of analysis, inquiry and induction meet the requirements of grounded theory.

4.3.2. Interview method to form a database. This paper chooses the way of interview as the source of data, interviews 32 students, and takes the interview records of 32 students as the database.

4.3.3. Data analysis. In the open coding stage, through the close reading of words and sentences in the original data, 25 initial categories were formed. In the axial coding stage, 25 initial categories of 'text plot is complex and text content is too much' were classified, and finally 9 main categories such as 'text difficulty' were obtained. In the open coding stage, the author adopted the establishment of core categories, forming 2 core categories such as 'text characteristics'.

4.3.4. Saturation detection. In this stage, the author re-collected the data of two students and conducted three-level coding. Through open coding and other research procedures, the 10th main category and relationship were not found. Therefore, the model was considered to pass saturation detection.

4.3.5. Explain the construction model. In the third part of the paper, the second section of the "text complexity" of the "text structure" section is shown as an example. There are six sentences in this paragraph. The first and second sentences are the author's personal elaboration. The third, fourth and fifth sentences are the author's reference to the research results of Zhu Xinhua, Wei Xiaona and other teachers and their expansion as the use of existing research results. The sixth sentence is the author's use of interview data to once again confirm the rationality of the research results. The whole paragraph clearly shows how the text structure, as a constituent factor of text complexity, affects the causes of errors in the process of students' reading generalization.

Based on the progressive structure, this paper supplements the reasons for the use of grounded theory in Chinese education research, clarifies the historical context of grounded theory, shows the research scope, research procedures and specific cases of procedural grounded theory in Chinese education, and broadens the theoretical vision of Chinese education research. It is true that no matter whether the research path is from theory to practice or from practice to theory, as long as the benign interaction between theory and practice is realized, the problem of Chinese education can be solved in essence.

5. Summarized and Prospected

The application of procedural grounded theory in Chinese education research helps to bridge the gap between educational theory and teaching practice. Its standardized research steps and methods to avoid the arbitrariness of research results; the model construction derived from professional knowledge is helpful to the formation of localized teaching theory. This paper supplements the reasons for the use of grounded theory in Chinese education research, clarifies the historical context of grounded theory, shows the research scope, research procedures and specific cases of procedural grounded theory, and broadens the theoretical vision of Chinese

education research. Therefore, it is of great significance to promote and apply the procedural grounded theory in the study of Chinese education. If Chinese education researchers can fully grasp and use this method, they may make their own contributions to the solution of Chinese teaching problems, the formation of localized teaching theories and even teaching schools.

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