

# Exploring Teacher's Adaptation to Language Policy in China Based on Their Changing Classroom Discourse: Rational, Issues and Methods

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**Abstract:** China's College English Teaching Guide (*Daxue Yingyu Jiaoxue Zhinan*) was implemented in the year of 2017 to promote EFL (English as foreign language) teaching at tertiary level. Against this, teachers are adapting to the new requirements and standards. EFL teachers' adaptation to this specific language policy and their classroom discourse changes is important to their learning and development. Classroom discourse and education have deep connections and relationships, and classroom discourse studies are very important to teacher education and development. Exploring teacher's classroom discourse can offer insights for a better understanding of teacher's adaptation to current language policy and macro-environment. Classroom discourse studies can not only unveil students' learning process, but also helps teachers to understand their own teaching practice. Classroom discourse of teachers creates a process where students internalize knowledge and negotiate meaning and also represents teacher knowledge, belief and experience in the classroom at the same time. This paper offered an approach for the exploration of teacher's adaptation to language policy based on discourse studies in the examination of the its rationale, issues and methods, in the hope of complementing the understanding of foreign language policy, EFL teacher learning and development and classroom discourse studies, and cast light on English language teaching and learning, EFL teacher development, and language education policy-making at large.

**Keywords:** Teacher's Classroom Discourse, Teacher's Adaptation, EFL Teacher Development, China's College English Teaching Guide

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## 1. Introduction

College English is a compulsory course for non-English majors in China, which plays a major role in Chinese higher education. In order to promote the reform and innovation of College English teaching, the Department of Higher Education of the Ministry of Education issued the Requirements for College English Teaching in 2007 and the New College English Teaching Guide in 2017. The two different syllabuses define and explain the orientation and training objectives of College English curriculum, and also witness the development of Chinese universities and the development of English teaching reform. The implementation of College English Teaching Guide plays an important role in guiding college English teaching in China at present and in the future. It also encourages different college English teaching

methods in different schools, departments or disciplines and focus on the choice of language skills and highlight its characteristics in order to meet the different needs of colleges, departments and students. At present, the reform of College English teaching in China is at a very crucial stage. China's Outline of the National Medium-and Long-term Education Reform and Development Plan (2010-2020) points out that "schools should be encouraged to develop their own characteristics, level, famous teachers and talents". It is a new task for college English teaching in China to cultivate high-quality talents with both proficiency in English and cultural literacy. As a concrete implementer of educational policy, College English teachers are therefore adapting themselves to the new requirements and standards. This paper zooms into how EFL teachers in China make intentional efforts to get better prepared for the change of contents and

forms of their classroom discourse, and how they perceive and understand the curriculum requirements in the new era.

## 2. Rationale & Issues

### 2.1. College English Teaching Guide

As the most widely used language in the world, English is an important component and carrier of western culture, and an essential tool for international exchanges of science, technology and culture. China gradually opened up to the world from the early stage of the Reform and Opening up Policy (*Gaige Kaifang*) in 1978, and moving from the edge of the world to the center stage of the world. In early days, learning foreign languages was mainly for the purpose of learning advanced science and technology from abroad. Today, in addition to that, China wants to use foreign languages to disseminate Chinese ideas, academics and the culture, and open up to the world market more. The Guide emphasizes the importance of English from the perspective of national strategic needs: Through learning and using English, the Chinese students could directly understand the scientific and technological progress, management experience and ideas of foreign frontiers; could learn from different culture and civilization; so that we can strengthen the national language strength, disseminate Chinese culture, promote extensive contacts with the people of all countries. Thus, the soft power of the nation can be enhanced. The Guide believes that College English courses can meet the needs of national strategy, serve the national reform and opening up and the development of economic and social. On the other hand, it can help the students in their professional learning, international exchanges, further education, employment and other aspects. The Guide emphasizes that College English curriculum has a practical significance and a long-term impact on the future development of College students. Learning English helps students to establish a worldwide outlook, cultivate their global awareness, improve their humanistic literacy, and provide a basic tool for their knowledge innovation, potential development and overall development, so as to meet the challenges and opportunities in the new era. According to the new revised Guide, the main contents of College English teaching can be divided into three parts: general English, English for special purpose and cross-cultural communication, thus forming three types of course: compulsory course, restricted elective course and optional course. Colleges and universities in China should follow the rules of language teaching and learning according to its own types, levels, students' sources, orientation and training objectives, arrange appropriate teaching contents and classes reasonably, and form a dynamic, open and reasonable College English curriculum system. The Guide also defines formative evaluation and summative evaluation respectively, and advocates the establishment of a comprehensive, objective, scientific and accurate evaluation system. Furthermore, College English teaching should fully consider students' individual differences and learning styles, applies appropriate

and effective teaching methods. The choice and use of teaching methods should embody flexibility and adaptability in order to enhance teaching and learning efficiency. College English teachers are required to keep pace with the time, constantly improve their awareness and ability of using information technology, and use information technology elements into classroom teaching design and implementation rationally. An important factor influencing the implementation of the Guide and the school-based College English syllabus under their guidance is the participation of teachers. As a concrete implementer of educational policy, College English teachers are therefore adapting themselves to the new requirements and standards. How EFL teachers in China make intentional efforts to get a better prepare for the change of contents, and how they perceive and understand the curriculum requirements in the new era then designing and practicing their classroom discourse become a very important topic for researchers to explore.

### 2.2. Teacher's Classroom Discourse

Fairclough [1, 2] holds that discourse is the description and interpretation of things by the expressor in a specific point of view; discourse is both a form of expression and a form of action in which people interact with the world. Therefore, the current research generally agrees that "discourse" has the characteristics of "existence", and its core connotation needs to be revealed through its use in the context; discourse is not a mere combination of words and sentences, but hides complex power relations and operational logic behind it, which is a statement and expression with the imprint of history, society and system. The subject, object and content of statement and expression are closely connected with rights and control and are influenced by system, knowledge and rationality. Like any linguistic research, discourse research has gone through the stages of grammar research, linguistic research, historical comparative study, structuralist linguistics, formal linguistics and cross-linguistics [3]. Before structuralism, language studies focused on the form and meaning of language and their relationship. In 1916, Saussure proposed the dichotomy of "linguistics of language" and "linguistics of speech". He believed that linguistic studies should choose the former when confronting the two, with a view to research language independent of individuals and essentially social [4]. In contrast, speech exists at the individual psychological and experiential level and has specific and specific use situations. After that, Bloomfield [5] explored speech acts pioneering in the process of social interaction, examined speech from people's interaction activities, and constructed a framework for analyzing speech events. The function of speech is to stimulate (S) - respond (R) between people, and to explore speech acts in a broader space of social interaction. After that, the theory of speech-act [6] regards language more clearly as speech and interaction. Follow the development of discourse research, it gradually presents the interdisciplinary nature, and begins to pay close attention to discourse use in different contexts. The boundaries between discourse research and other disciplines begin to fade away. Scholars of various

disciplines began to explore it from their own research perspectives, and the field of education and teaching research began to incorporate discourse into classroom teaching research. In addition to discourse research, modern classroom research is also the source for the development of classroom discourse research. Foreign scholars have been actively exploring the composition of effective teaching since the 1950s [7]. Bellack [8, 9] explored the significance of classroom communication in senior high school and put forward the concept of "Moves", which compares every interaction between teachers and students as a "step". Every "step" of discourse has different teaching purposes and functions [10]. There are 4 types of steps: Structuring, Soliciting, Responding and Reacting, which make the methods and objects of classroom discourse research structured and systematic. After that, a series of studies have been conducted, which laid the foundation for future studies such as classroom discourse. These early studies explored classroom discourse from both teachers and students. Barnes [11] proposed that there were discourse differences in different levels of school education in his research on classroom discourse in middle schools. Snow [12] caused a loss in classroom discourse research by studying the volume and mode of mother-to-child communication. In addition, there are studies on teacher-student interaction discourse network [13], on teacher-student interaction in teaching discourse [14], and on how to use discourse analysis to promote teaching effectiveness [15]. With the progress of research, many research approaches have emerged in classroom discourse analysis, such as interactive analysis, discourse analysis, ethnography, conversation analysis, systemic functional grammar, critical discourse analysis, multimodal discourse analysis and socio-cultural discourse analysis. These research paths are altered in specific research models and analysis methods. With the turn of western linguistic philosophy and the rise of systemic functional linguistics in the field of linguistics, language has become a frequent topic of multidisciplinary research. With the vigorous development and further refinement of language education teaching research, teacher talk research has gradually become an independent branch and perspective of classroom discourse research from indirect to direct. It can be stated that the research of teacher's classroom discourse develops synchronously with the development of classroom discourse research and is the result of teacher's research turn in education and teaching research. Based on diverse social needs, scholars with different knowledge backgrounds and research interests began to explore them with their own theoretical basis and research path. The most typical research paths are behavioral analysis, discourse analysis and teacher development. Teachers' classroom discourse is a type of discourse practice behavior that teachers carry out in classroom teaching. Teachers also undertake multiple tasks such as management monitoring, guidance and demonstration, information presentation, skill training and combing and interpretation in class. Their classroom discourse is not just the main channel of information transmission, but also the

carrier of knowledge. It is also an important means of regulating students' classroom behavior and communicating teachers' and students' feelings. Teachers' language behavior, which accounts for the largest proportion of classroom teaching behavior, is a critical factor affecting the effectiveness of classroom teaching [16]. The study of teacher talk helps to understand the real situation of classroom teaching and provides a reference for teachers' development. Teachers' classroom discourse research originates from discourse research, and the research and discussion related to discourse has a long history. As early as in ancient Greece, classical rhetoricians represented by Aristotle explored how public discourse should be expressed [17]. The systematic study of discourse is generally believed to begin with the Course of General Linguistics by the Swiss linguist Saussure [18]. After experiencing grammar, linguistic studies, historical comparative studies, structuralist linguistics and formal linguistics, linguistic studies have entered the research stage of cross-linguistics [3], and so has discourse studies. In the 1950s or so, based on Foucault's philosophy, some scholars began to break away from the traditional research theory and paradigm of structuralism and try to study language as a social phenomenon. Language researchers began to explore language with the concepts of "discourse" and "discourse analysis". So far, the boundaries between linguistic research and other disciplines have been gradually weakened, showing the characteristics of interdisciplinary. Language research began to pay attention to the function and use of language, and scholars of various disciplines began to explore it from their own research perspectives; "discourse" as a term began to appear in different disciplines such as linguistics, psychology, pedagogy, sociology, anthropology, literature and philosophy [19].

On the basis of previous studies, teachers' classroom discourse begins to incorporate the theoretical methods and research approaches of social cultural discourse analysis [20, 21, 22]. Teachers' classroom discourse research has also started to cross the boundaries of subject ownership and research methods. As the focus of the research on teacher talk is teacher talk, the research on teacher talk from the perspective of sociocultural theory begins to diverge from the traditional research on teacher talk, and turns to the research on the relationship between teacher talk and teacher development, teacher learning and teacher beliefs. Researchers further began to explore how teachers' classroom discourse can promote their own learning and development.

### **2.3. Teacher Change and Teacher Development**

Teacher change, which is often used with concepts like teacher development, teacher learning, cognitive and emotional changes, is similar to other concepts which are commonly used but difficult to define. Changing is a fundamental challenge for human beings to explore the unknown. It is a process rather than an event [23], a process to challenge but balance interrelationships between the external context such as social, psychological, political domains and teachers' institutional work [24]. Richardson and Placier [25]

had described teacher change as a process of learning, socialization, developing, and growth. In this process, teachers improve and implement something different or new, and then they have both cognitive and effective changes through their self-study.

The key issue discussed and explored in the research of teacher change is teacher's changing actions and beliefs. This involves a procedure which teachers make preparation to accept some new ideas and the philosophy of change, recognize deficiencies in existing practice, and try to pick up some different approaches to integrate them and check their impact. Fullan [26] defined educational change as multidimensional and involving at least three components: the use of new or revised teaching materials, the use of new or revised teaching approaches, and the possible alteration of beliefs, or pedagogical assumptions. Guskey [23] put forward a model to support teacher change in attitudes and perceptions. Ramsay [27] put forward to the democracy and professionalism in teacher change for the rethinking about the New Zealand education system. From a theoretical perspective, Goos and Geiger [28] explored mathematics teacher change based on the approach of Zone theory. Allwright [29] identified Exploratory Practice (EP) with a mutual process of working for understanding, which plays a significant role in promoting teacher change. Most of the teacher change research at abroad is launched by EP. Chris [30] explored teachers' way to develop assessment for learning practices of science, mathematics and English classrooms in secondary school, and stresses the importance of opportunities for professional dialogue between teachers and between teachers and researchers. Wendy [31] investigated how three middle level mathematics teachers use the contexts in which they perform their teaching practices in a longitudinal professional development program.

#### **2.4. Teacher's Classroom Discourse and Their Development**

Around the 1980s, after the constant exploration of teaching elements such as teaching content, teaching methods and teaching objects, the interest of academic circles has gradually turned to the teachers themselves, and the influence of teacher's professional accomplishment on classroom teaching has begun to attract the attention of the academic circles. Teacher's discourse research is gradually related to the research of teacher's professional standards, learning, abilities, knowledge and pedagogy, and has entered the perspective of teacher's professional development. At this stage, a lot of research began to draw on the theoretical basis and research paradigm of other related fields, such as pedagogy and psychology, to explore the internal structure of teacher talk and its implied social and cultural significance, and to try to transcend the traditional discourse analysis theoretical framework for the restraint of teacher talk research. Based on cognitive psychology, Bachman [32] explored the nature and complexity of teachers' discourse awareness. Johnson [33] used Hermeneutics theory for reference, and combined theoretical analysis with case-based proof to summarize the professional characteristics of teacher language as explanatory,

situational and reasoning. Teachers become the leader of classroom discourse because of their linguistic advantages. The mode, quality and direction of classroom discourse have a great influence on the effectiveness of teaching and learning [34]. This influence is reflected at both macro and micro levels. Whether teachers can correctly identify the zone of proximal development (ZPD) and provide effective scaffolding in time has a great impact on promoting teaching and teachers' own development [20, 21]. Teachers should pay attention to how to use classroom discourse to support students and promote teaching. Empirical research is obviously of great significance. The design, implementation and belief of classroom discourse are a part of teachers' cognition and an important aspect of teachers' development.

In recent years, the relevant research at home and abroad has accumulated abundant achievements and formed a consensus on theory and methodology [35, 36]. Teachers' classroom discourse research in the perspective of teacher development studies focuses on how foreign language teachers influence teaching and learning in the classroom with the help of specific discourse behaviors, so as to adapt to current students' language learning, knowledge accumulation and overall cognitive development, and achieve effective teaching. As a result, the main concerns of this research approach have gradually arisen: what are the characteristics of teacher's classroom discourse structure? How do these characteristics affect teaching and learning? How do these characteristics construct and undergo transmutation and remodeling, and how are they influenced by various factors contained in teacher cognition? How to explore the way of teacher's sustained professional development in the research path of teachers' classroom discourse? Generally speaking, the research of teacher's classroom discourse from the perspective of teacher development focuses on the leader of classroom discourse from the overall classroom context, which is the development and deepening of the traditional research path of classroom discourse, and at the same time introduces the real situation of teaching and the actual research results for teacher development research. From the existing literature, the research on teacher talk and teacher development is rare, especially the lack of extensive, sufficient and systematic empirical research [37]. Zhang [37] summarized the structure of classroom discourse and its related dimensions as follows: Distribution of discourse, Discourse process and construction, Role Relations/Participation pattern, discourse. Discourse themes and thematic coherence, level of cognitive ability and effect of discourse [38, 39, 40, 41]; and these dimensions directly determine the structure, characteristics and quality of classroom discourse. Some can be summarized by quantitative statistics; others need qualitative analysis and description to reveal.

The combination of teacher's classroom discourse research and teacher development research can not only make a deep exploration of language and education teaching, but also solve the problem of disconnection between ontological research and applied research in education research. At the same time,

teachers' development can be explored from the perspective of language, emphasizing the attributes of language research in education research and teacher development research. Teachers' classroom discourse, as an important tool for teachers to implement teaching plans, is an important source of information input. It plays a vital role in organizing classroom teaching and learners' language acquisition [42], and so does foreign language teachers' classroom discourse. From the micro level, the most practical problems in education exist in schools and classrooms, in the communication and dialogue between teachers and students. They are the most important thing in the curriculum [43], and also the core of educational reform [44]. Fanselow [45] also proposed that we can learn how to teach by analyzing how teachers communicate with students. Students accept and internalize knowledge and meaning through teacher's classroom discourse, while teachers express knowledge, beliefs, skills, experience and meaning through classroom discourse. Teachers' classroom discourse research based on the perspective of teacher development can not only reveal the teaching process, but also help teachers rethink and understand teaching and promote teacher development.

#### **2.5. Issues of the Research of Foreign Language Teacher Change and Development Based on Teacher's Classroom Discourse Studies**

To a certain extent, clearly describing, interpreting and evaluating how classroom discourse affects foreign language teaching can help to clarify and concretize the direction and goal of foreign language teaching, foreign language teacher change and foreign language teacher development. Based on previous studies, it can be concluded that the basic issues of the research of foreign language teacher change and development based on teacher's classroom discourse studies can be generalized as follow: In a foreign language classroom, 1) What are the language features and characteristics of teacher's classroom discourse? 2) What are the relationships between these characteristics and teacher development? 3) What are the relationships between these characteristics and students' language learning and cognitive development? 4) How does teacher cognition affect their classroom discourse practice and what is the interaction between them? 5) How and why do EFL teachers change their classroom discourse belief and practice? 5) How do foreign language teacher's classroom discourse change influence teachers' reflection and sustained professional development?

The above-mentioned issues are not to study the change and development of teachers in isolation, but to relate the basic elements of teaching activities, which are teachers, classroom discourse and external environment (including students, situations and macro-environment), and to describe and analyze the relationship between them through reality, thus highlighting the practical significance of teacher research. The above-mentioned issues concern not only the micro level of classroom discourse, but also the interaction between teacher cognition and their classroom discourse practice. These approaches are not limited to the description of the discourse

itself, but also explores the relationship between the teacher and their discourse, and pays attention to its practical significance, such as the impacts of teacher's classroom discourse on students' language learning and cognitive development, and the impacts of classroom discourse on teachers' learning and development. From the perspective of relevant research at home and abroad, the study of teacher change and development based on their changing classroom discourse should become a research field with important academic potential and value.

### **3. Approaches and Methods**

#### **3.1. Research Dimensions and Approaches**

By synthesizing relevant literature, six research dimensions in this area can be summarized, including the characteristics of teacher's discourse; contents, themes and thematic coherence of teacher's discourse; the patterns and constructions of teacher's discourse; role relations in teacher's discourse, cognitive matters in teacher's discourse and the effects of teacher's discourse.

1) The characteristics of teacher's discourse means the linguistic features of teacher's discourse, such as the amount and distribution of teacher's discourse. The amount and distribution of teacher's discourse is the most basic element of the characteristics of a teacher's classroom discourse, which refers to the total amount of discourse participants in a unit time. Through the statistical analysis of the amount and distribution of discourse and other features of teacher's discourse in their classroom teaching, we may know the linguistic features of the discourse of teachers. The characteristics of teacher's discourse is generally regarded as one of the important indicators to test the mode and actual quality of classroom participation [38, 46, 40].

2) Contents, themes and thematic coherence of teacher's discourse refers to the content of teacher's classroom discourse, and how teachers organizing their discourse around specific themes, and how these themes act in cooperation with each other to reflect the teaching objectives and tasks. The amount and distribution of teacher's discourse cannot exist without specific themes. In order to achieve the teaching goal effectively, themes that created by teacher's classroom discourse should have strong logic and coherence. The logic and coherence in these themes not only help students achieve a better understanding, but also play as a language, logic and cognition modal for the students. By adjusting and monitoring of their classroom discourse process to match the cognitive level of students, teachers ensure their teaching objectives and tasks are clearly, accurately and smoothly conveyed to students.

3) The patterns and constructions of teacher's discourse refers to the changing process and the development of teacher's discourse. In some cases, discourse amount and distribution may play as a result or a representation of classroom discourse process, but the patterns and constructions of teacher's discourse is the most relevant

factors to the learning space [47]. In a foreign language classroom, teachers often automatically become the guide and controller of the classroom discourse because of their absolute linguistic advantages, while students are difficult to effectively participate in because of their linguistic disadvantages. In this way, the patterns and constructions of teacher's discourse is particularly important for the construction of effective learning space [38], and the turns and moves in their discourse is the most relevant concepts in this concern [46]. In the empirical study of classroom discourse, these concepts are very important, which are manifested in the segmentation, definition and annotation of discourse units, the realization of quantitative annotation and scale measurement of discourse process and construction, and the establishment of qualitative and quantitative basis for in-depth analysis of cognitive function of classroom discourse.

4) Role relations refer to the status, function and role of the subject or participants [1]. Role relations and orientation in teacher's discourse will greatly affect the characteristics, contents and patterns of the discourse. In foreign language classroom, different roles not only may involve different characteristics, contents and patterns of the discourse, but also influence or even determine students' roles and positions. The mode of classroom participation is determined by the relationships between the subjects or participants and embodied in their discourse. For example, in a classroom teaching based on the IRF (initiation-response-feedback) model, the typical participation mode is dominated by teachers, students play as the objects to be asked. The function of the students' discourse seems to always be the response, and only the students who are asked have the opportunity to participate in this response. The research on role relations in teacher's discourse is usually completed by a multi-dimensional description and analysis of discourse distribution, discourse process, and the relationships between discourse subjects.

5) Cognitive matters in teacher's discourse refers to the implicit cognitive factors and requirements of classroom discourse. The ultimate goal of education is to cultivate people to think independently, foreign language education is no exception. Classroom teaching is the core issue to achieve this goal [44]. This approach concerns belief, attitude, perception, and thinking patterns relevant to teacher's discourse. By analyzing their belief, attitude, perception, and thinking patterns, we may understand how and why classroom discourse formed and constructed, and achieve an in-depth understanding teacher's discourse.

6) The effects of teacher's discourse refer to the evaluation of the educational and teaching goals and tasks realized or completed through classroom discourse. Any kind of classroom discourse has a final result. Compared with our daily discourse, classroom discourse may pay more attention to the evaluation of its educational effect, because the starting point of the classroom discourse is the completion of teaching objectives. The effect of classroom discourse reflected in the completion of teaching objectives and tasks. There are two ways to evaluate its effects: the learners' conscious

recognition and the test. In the research practice, because of the delayed effect of classroom discourse, we need to introduce comparative experimental design to obtain the final effect evaluation. As the ethic of comparative experimental design is hard to be ignored, the learners' conscious recognition is usually being used as an alternative for the evaluation.

These six aspects of classroom discourse directly determine the structure, characteristics and quality of teacher's classroom discourse. Researchers can carry out research on one or several aspects. It should be noted that these dimensions and elements can usually be subdivided into more micro dimensions and elements, which can be described, interpreted, analyzed and studied through both quantitative and qualitative methods.

### 3.2. Research Methods

#### 3.2.1. Semantic Waves and Legitimate Code Theory

The Semantic Wave and Legitimate Code Theory mainly explores the meaning reading and knowledge accumulation construction of discourse from semantic gravity and semantic density [48, 49]. It is believed that the change of semantic gravity and semantic density is the key to the formation of semantic wave, and semantic wave is an important way to realize cumulative knowledge construction. There is a close relationship between semantic gravity, semantic density and cumulative knowledge construction. [49, 50, 51]. Cumulative knowledge construction enables students to transfer the learned knowledge to the future context based on previous understanding and cognition [49]. In reality, knowledge in different disciplines is highly related to its context, and knowledge is meaningful only in specific context [52, 53]. As discourse is essentially the result of self-understanding and under the influence of external environment, teachers are socializing through their discourse, which contains beliefs about themselves, others, language (ontology and application), teaching, culture and society. Through the exploration of teachers' classroom discourse, we can better explore the process and results of teachers' understanding of language, textbook, teaching, students, themselves and their social-cultural background.

Matton [49, 50, 51] used semantic gravity and semantic density to represent the pattern of cumulative knowledge construction. Changing semantic gravity and semantic density can represent the change of semantic waves and explain the cumulative knowledge construction. Knowledge construction will be carried out in a certain time range in the form of semantic waves. High semantic density (SD+) and low semantic gravity (SG-) show that knowledge is abstract, but completely out of context; low semantic density (SD-) and high semantic gravity (SG+) show that knowledge depends on a specific context, which is relatively less abstract. The wide range of semantic wave changes indicates that knowledge is constantly re-contextualized in the process of construction, deducting from highly abstract concepts to specific things, and then extracting from specific contexts to form abstract concepts.

Maton [49] proposed that the semantic wave formed by dramatic contour is the premise of cumulative knowledge construction. In the specific classroom teaching, it is usually embodied in teachers unpacking highly abstract and technical theoretical concepts in the process of knowledge imparting, constructing knowledge after using specific examples and contexts to structure it, and then "repacking" the knowledge. The knowledge generated by specific examples and contexts is accumulated and abstracted again. According to Maton [49, 50, 51], knowledge is not only summed up from the concrete objective world, but also deduced from the abstract concept level to the concrete objective world in the process of classroom teaching, so as to obtain the "legitimate" knowledge construction behavior and finally reach the cumulative knowledge construction. However, in reality, teachers may show different semantic waves of classroom discourse because of different personal teaching methods. The theory of social culture holds that teachers' growth, experience and environment have great influence on them. As a socialized individual, teachers have a specific social cognition and cognitive tendency [54]. Together with the social and cultural situation teachers are in, they affect the generation and development of semantic waves in their classroom discourse. Therefore, studies take semantic wave as the research perspective and analysis tool to observe and analyze the classroom discourse of College English teachers can visualize the changing teaching methods of College English teachers from the perspective of linguistics, so as to explore the characteristics and interaction between the faith and practice behind their discourse. Based on the characteristics and explanatory power of semantic wave, exploring teacher's classroom discourse from the perspective of semantic wave enables us to record, describe and analyze the real situation of teacher's classroom discourse from the multiple perspectives of knowledge acquisition, knowledge and knowers.

### 3.2.2. Multiple Coding and Analysis Scheme (MCAS)

Classroom discourse research is a kind of classroom research. The biggest challenge of classroom research to researchers is the mobility, complexity and chaos of phenomena. How to effectively capture and describe the flowing, complex, chaotic and fleeting classroom phenomena represented by classroom discourse and carry out intensive and holistic in-depth analysis is the first methodological problem to be solved. In the past 50 years, classroom discourse studies have made great progress in theory and method. The most widely used frameworks and methods include Interaction Analysis, Discourse Analysis, Ethnography, Conversational Analysis, Systemic-functional Linguistics, Critical Discourse Analysis, Multimodal Discourse Analysis, Corpus Linguistics, and other flexible synthesis analysis methods [55].

The Multiple coding and analysis scheme (MCAS) refers to a method or system that integrates various conceptual frameworks and makes flexible use of various discourse analysis methods, models, techniques and means [39, 40] to

achieve multi-angle segmentation of discourse units in the target classroom and to define, analyze and explain them many times in order to fully and accurately describe the relationship between their classroom discourse and development [56 20, 21, 36]. Previous classroom discourse studies used one specific annotation or analysis scheme alone, which was not conducive to a comprehensive, thorough description and interpretation of the relationship between classroom discourse and language learning, and therefore could not help teachers form effective teaching reflection and learning [57].

MCAS can be used as the most important basic coding, annotation and analyzing tool of the target corpus to form a quantitative and qualitative analysis of the discourse, such as the total amount, time and structure of teacher's classroom discourse, the moves, steps and turns of teacher's classroom discourse, the proportion of teacher-student discourse, etc. On the basis of quantitative annotation, MCAS also annotated the pedagogical functions of each move in the sequence, such as question classification (e.g., display or reference, directed to memory or analytical cognitive ability) [58, 59], feedback steps and specific strategy classification [60], Instructional scaffolding classification [61] and classification based on Bloom's Taxonomy of Educational Objectives [62] and so on, in order to establish the relationship between moves (in teacher's classroom discourse), cognition and learning [20, 21], and lay a solid foundation for quantitative-qualitative analysis of classroom teaching. The corpus based on the above coding, annotation and analysis scheme can still be further quantified and analyzed. This is actually the advantage of MCAS, which can effectively capture and describe the flowing, complex, chaos, discourse-based classroom phenomena, and to carry out an intensive, holistic, in-depth analysis. MCAS also pay special attention to the voices of teachers and learners when trying to interpret the relationship between classroom discourse and learning.

## 4. Conclusion

Classroom discourse and education have deep connections and relationships, and classroom discourse studies are very important to teacher education and development. Exploring teacher's classroom discourse can offer insights for a better understanding of teacher's adaptation to current language policy and macro-environment. With a deep understanding of the intricate relationship among language, interaction and learning, we can help teachers improve their teaching practice. As mentioned before, classroom discourse helps students' internalizing knowledge and negotiating meaning, and also reflects teachers' knowledge, belief and experience. Therefore, classroom discourse research can not only reveal the process of teaching and learning, but also can help teachers to examine their own knowledge and experience, understand their own teaching, which are naturally essential for teachers' learning and development. Therefore, these kinds of research are feasible. These approaches and methods are not only research

ideas, but also practical ways. Hence, more systematic empirical research in this field is required.

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