On the Paradox in Logic Teaching in Universities

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ABSTRACT. *: At present, there are several paradoxes in logic teaching in colleges and universities: First, the important role of logic discipline and the weakness of logic teaching force in colleges and universities; Second, the rapid development of logic theory research and the little effect of practical teaching; Third, the rapid development of logic formalization and college students 'logic phobia. The reform of teaching methods plays an important role in improving the quality of logic teaching, promoting the comprehensive quality of Contemporary College Students and meeting the needs of society for talents.*

KEYWORDS: *Logic; teaching method; teaching eff*ect

1. Introduction

Logic is a science that studies the form of thinking, its laws and logical methods. It provides common reasoning and argumentation tools for other disciplines, and promotes the theoretical level and scientific research ability of each discipline. At present, many colleges and universities have realized the important role of logic, and have set up this course in some majors, which has achieved certain results, but at the same time, there are also many problems, especially the following contradictory phenomena, the important role of logic is far from being brought into full play.

2. One of the paradoxes

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3. Paradox two

The breakthrough of logic theory research and the effect of practical teaching have little effect. Logic research is multi-level, including theoretical research, applied research and teaching research. Theoretical research is of a high quality and has a strong academic nature. It is at the forefront of science and plays a guiding role in the research of the latter two levels; applied research and teaching research are mostly of a universal nature, and their characteristics are close to the reality, it is closely related to reality and has distinct social function. In the past 20 years, the field of logic has made unremitting efforts for the "logic modernization", and remarkable achievements have been made in the study of logic. However, in recent years, the social image of logic is not good, why? From the view of logic circle, it is mainly that the popularization and application of logic are not paid enough attention to, and the current situation of logic field is generally observed: the Progress of theoretical research is in contrast with the backwardness of practical application, and the academic improvement is out of step with the popularization of the public. On the one hand, logic is the science of thinking, but it is very different from philosophy and psychology. It has many abstract concepts, numerous symbolic programs, and difficult to use in practice, this is bound to bring students learning the corresponding difficulties. On the other hand, college students have not studied logic from primary school to high school, and they usually carry out logical thinking consciously or unconsciously, and have

formed a relatively stable thinking pattern, now all of a sudden, students are required to judge, demonstrate and reason according to logic rules and formulas, which increases the difficulty of logic teaching. But the responsibility of the logic worker himself can not be shirked. The lag of applied research and teaching research of logic relative to theoretical research results in the shortage of excellent logic textbooks for practical teaching. We need logic for talent training, but facing the people who are eager to pursue the utility of modern society, logic will lose its social value and will be left out in the cold.

4. Paradox three

The high development of logic formalization and college students' "Logic Phobia". In order to reform traditional logic and modernize logic, the logic circle of our country has introduced a large number of symbolic logic contents into teaching materials, forming a highly abstract picture of symbolic system, however, this logic becomes abstract and difficult to learn in the eyes of college students, especially Liberal Arts students. At present, the study of logic theory in our country is becoming more and more connected with logic, forming a highly formalized and systematized way. However, the logic education that our college students receive can not be compared with those in other countries, and the logic foundation is weak, made them afraid of modern logic. In addition, the number of hours in logic teaching is not very large. After each chapter's basic content is explained, the time for explaining with professional knowledge and organizing students to do exercises is less. These factors affect the teaching effect of logic, so that students do not feel the real role of logic. To solve the above-mentioned problems in logic teaching in colleges and universities, we must first pay enough attention to high efficiency, train specialized teachers, scientifically offer logic courses, organize logic teachers to carry out teaching and research activities vigorously, continuously improve the teaching level of logic course. Therefore, the logic teaching should pay more attention to the teaching method, diligently summarizes the teaching experience: First of all, accurately grasps the logic language. Language is divided into natural language and artificial language. Natural language is the language of daily use; artificial language is the ideographic system constructed artificially, also known as sign language. This kind of artificial language is an abstraction of natural language, and it performs a certain function of natural language. The logical forms such as lexical items, propositions and reasoning in logic are all expressed in artificial language. The use of artificial language in logic is to avoid the ambiguity of natural language and to increase the accuracy of thinking, which is one of the remarkable signs that modern logic is different from traditional logic. Therefore, the artificial language symbol is the key point that we must break through in the study of logic. The interpretation of artificial language, understanding only through natural language can become easy to understand, in-depth. The propositional form is rigid, the inferential calculus is mechanical, but the natural language is vivid. Explain such as propositional form, inference form, logical law expression, etc. , with accurate and popular natural language, abstract logic principle, formula concretization, visualization, in-depth, simple, only then can enable the learner to understand accurately, grasps the logic basic knowledge, the basic principle. Logic teaching must pay attention to explain with vivid and attractive natural language. To break through the obstacles it brings to us, we must link with facts and cite examples.

5. Secondly

Using flexible and effective teaching methods to resolve the difficulties. Usually, logic teachers may make students feel abstract and difficult to understand when they tell theoretical knowledge, so they can use the example method. That is, in the teaching of the use of the professional combination of anecdotes, famous works to explain, so that the abstract truth concrete, visualization, for example: In the teaching of dilemma reasoning, to quote four lines from a piece of music written by Yao Sui in the Yuan Dynasty: "It is extremely difficult to send your clothes without returning them, to send your clothes without sending them to you, to send them to you without sending them to you, to send them to you without sending them to you, to send them to you without sending them." Students can also be told about the "Lothario lechery Fu" to strengthen the understanding and grasp of the debate. It is also possible to give examples of judicial cases to enable students to understand both logic and theory and to promote the study of specialized courses. Some difficult to distinguish, easy to confuse the problem, but also can use contrast teaching method. For example, in learning logic, students tend to confuse the law of identity, the law of contradiction and the Law of excluded middle. Using the method of contrast teaching, we first point out that the common ground is that all three are laws that guarantee the certainty of thinking, their logical expressions are: a $\rightarrow$ A, something a $\land$

something a, a v Something A. by means of the truth table, it can be proved that the three propositions are equivalent. The difference is: The angle to ensure the certainty of thinking is different. The law of contradiction points out from the opposite side that both positive and negative ideas can not be identical with the truth; the Law of excluded middle further points out that two mutually negative ideas can not be the same as false, the three laws can also be summarized as "the same" , "no two" , "no three" and so on. Special discussion courses can be organized for those problems with difficulty in understanding and many points of disagreement. In short, as long as teachers are willing to explore, for different difficulties will find the corresponding methods, difficult to easy, abstract to concrete, reduce the difficulty of learning logic. Thirdly, practical training is the test and sublimation of students'learning logic. Logic has a high degree of formalization and abstract content, and its study must be based on theory and practice. Seriously do exercises, can be related to the professional courses and other practical content to achieve mastery. Students do exercises is also the knowledge of feedback, teachers can learn from the students to master those knowledge is better, which still have problems, so that the right medicine. At the same time, practical training is also a good way to train students to think correctly. The improvement of students'thinking ability can not be achieved only by teachers'inculcating some logical methods, but only by providing students with space to think and express fully. Students Learn to use logical knowledge to solve practical problems, express the process of logical thinking, and form a thinking pattern in this process, thus forming a scientific thinking habit, in order to promote the study of other disciplines, this is the ultimate aim of logic. Finally, the authentication and evaluation of logic teaching effect. The aim of logic teaching is to improve students'quality and ability of logical thinking, to train students'ability of analyzing and solving problems, and to use logic knowledge in practice, not Zhao Kuo. In order to improve the teaching level of logic, we should attach importance to the authentication and evaluation of the effect of logic teaching. In addition to the traditional written examination questions, it can also be combined with other ways of assessment, such as: reply-style, paper-style, peacetime training expression, etc. The content of the examination questions should focus on practical application, as far as possible to detect the students to grasp the logical knowledge, the use of the situation, so as to urge students to really apply the logical knowledge to practice.

6. Conclusion

In a word, logic is recognized as the foundation and tool of every science in the world. We can see that the development of science and culture in the West, where the theory of logic is developing rapidly, is in the forefront of the world, which can not deny the role of logic. With the development of logic, colleges and universities are required to train higher-level talents. However, if the logic literacy is not high, the theoretical literacy can not reach its proper level and height. Study logic, can form stronger cognitive ability, is advantageous to the innovation ability thought formation and the development, thus enhances the scientific research ability. Having the corresponding degree of logical knowledge and ability has become one of the most basic qualities to meet the needs of the social development of the Times, and the completion of this important task is mainly accomplished through the logic teaching in colleges and universities, colleges and universities should pay enough attention to the course setting, teacher allocation and classroom teaching of logic to ensure that logic teaching can really achieve results.

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