

Course Ideological-political Education System Engineering Based on God Horn Model

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ABSTRACT

At present, course ideological-political education always lacks a system design, that is, some ideological-political education contents are concentrated on a certain part, while some contents have no ideological-political education. There are plenty of political approvals instead of moral, history and professional concepts. Course plan may be disorganized and education efficiency may become lower. In order to solve these problems, we summarize the content of course ideological-political education, which is based on political education and includes three main ideological systems and seven secondary viewpoints, and propose a systematic view of course ideological content system. Further, we propose a method composed of seven steps to systemically carry out course ideological-political education based on the god horn model. Finally, we put it into practice and achieved certain positive results.

Keywords: *course ideological-political education, content system, god horn model, system engineering*

1. INTRODUCTION

At present, course ideological-political education is very popular. Most teachers can carry out some ideological-political education according to the course content, and some teachers can also integrate the ideological-political education into courses to solve problems of “no ideological-political education” and “two skins” phenomenon, which achieve some effect of “fostering virtue through education”. However, there are still some problems exposed in course ideological-political education, for example, some professional course teachers do not really understand the connotation and denotation of the ideological-political education in the courses, they simply confine the ideological-political education to the courses, resulting in too limited ideological-political education in courses, and some important contents about ideological-political education have not been found out. For example, some teachers repeatedly emphasize politics in a course and rarely mention other contents, such as, morality, history, and career. This kind of ideological-political education is not only less effective, but also will lead to the disruption of the original teaching plan and less efficiency.

Since “course ideological-political education” should be integrated into the course content, it will naturally have a “random and scattered” feature. “Course ideological-political education” will occupy a certain

amount of time and students' energy. Naturally, the original teaching plan is disrupted and the classroom efficiency is diluted. Whether it is necessary to have a systematize “course ideological-political education”?

2. THE NECESSITY OF “COURSE IDEOLOGICAL-POLITICAL” SYSTEM EDUCATION

2.1 The connotation and denotation determine necessity of systematized “course ideological-political education”

The connotation and denotation are the starting and ultimate goals, and the internal decisive factors of the course ideological-political education.

2.1.1 On the connotation from the perspective of its concept

The earliest concept of “course ideological-political education” came into being in 2014. It was proposed to solve the “isolated island” dilemma of college students' ideological-political education and the “two skins” phenomenon between ideological-political theory courses and other courses. At that time, the ideological-political education resources of relevant courses to give full play to the ideological-political education functions

contained in all courses appear in Shanghai colleges and universities ^[1]. From this perspective, the connotation of “Course ideological-political Education” comes from the contents of “ideological-political Theory Courses”, such as basic principles of Marxism, introduction to Mao Zedong Thought, and Scientific Socialism. Accordingly, many scholars have discussed the relationships between “course ideological-political education” and “ideological-political courses”, and have pointed out that “course ideological-political education” is an implicit education, and “ideological-political courses” is an explicit education ^[2]. At the same time, it is also pointed out that since classroom education is the main channel, under the background of complex interweaving of multiple values and multi-directional penetration of various ideologies in society, it is very limited to rely solely on ideological-political courses to guide students’ value. Through the educational joint force of “course ideological-political education” to build a “360 degree melting pot of moral education” and to realize the quiet moistening of “virtue through education” ^[3].

2.1.2 On the denotation from the perspective of its generation and development

“Course ideology and politics” is not proposed overnight, and its denotation has a history ^[4]. There were “ideological-political Education” ^[5], “Moral Education” ^[6] and systematic ideological-political education ^[7] in our history. Story of “Mencius’ Mother Moving Three Times”, “environmental infiltrating method” ^[4], and President Xi Jinping’s metaphor of “air and salt” ^[8], are all the predecessors and theoretical sources. As early as the year of 2005, Shanghai government started to implement the “two programs of education”, that is, The Guiding Outline of National Spirit Education for Students in Shanghai and The Guiding Outline of Shanghai Primary and Secondary School Students’ Life education, so as to promote the curriculum reform of “subject moral education”. This practice of integrating “moral education” into subjects is “course ideology and politics”. Since then, Shanghai government has continued to do a lot in the follow-up, such as, “China’s Series” courses ^[2], the “Big Country”, the “governance of China” of Fudan University and the “understanding China” of Shanghai Jiaotong University. Finally, the concept of “course ideology and politics” came into being in 2014 ^[1,4]. On December 9, 2016, President Xi Jinping pointed out at the National Conference on ideological-political Work in Colleges and Universities that the ideological-political work should carry out through the whole education process. On December 4, 2017, the Ministry of Education issued the Implementation Outline of the Quality Improvement Project of ideological-political Work in Colleges and Universities to promote “course ideological-political education” in China. On April 27, 2018, the Ministry of Education issued Directives on Strengthening the

Construction of “Situation and Policy” Courses in Colleges and Universities in the New Era to continue vigorously promoting “course ideological-political education” throughout the country ^[10]. On May 8, 2020, the Ministry of Education issued The Guiding Outline for Construction of Course ideological-political Education in Colleges and Universities, which defines an overall promotion of course ideological-political education, puts forward the fundamental requirements for “fostering virtue through education”, requires that the courses help students shape the “Three Outlooks”, which are world outlook, values and outlook on life, and proclaims that course ideological-political education should strengthen students’ ideals and beliefs, emphasizes political identity, ideological identity and emotional identity, holds “four confidences”, which are confidence in the path, the theory and the culture of socialism, and patriotism, love for the party, socialism, collective as the main task to systematically carry out education on socialism with Chinese characteristics and the Chinese dream, socialist core values, legal system, labor, mental health and excellent traditional Chinese culture, family and country, constitutional law awareness and moral cultivation.

As mentioned above, denotation of course ideological-political education has been expanding from “ideological-political course” to the cultivation of “Three Outlooks” or “seven Outlooks”, which are composed of “political, moral nationality, rule of law, history and career outlook. The purpose is to “foster virtue through education” in all aspects, and to achieve the goal of “ideological-political education” when “teaching”. The ideological-political education is based on Marxism-Leninism, Mao Zedong thought, core socialist values, Chinese dream, and excellent Chinese traditional culture. Therefore, the ideological-political content of the course has become rich and colorful. For example, Liu Shuqin ^[11] has integrated the cultivation of professional quality of “remain true to the original aspiration, forge ahead, keep improving, approach infinitely, and then accomplish the mission” into the explanation of mathematical limit. Wang Weina et al., ^[12] has interpreted the Marxist philosophy about dialectical relationship between “individuality and generality” and between “concrete and abstract”, the theory of practice, and the concept of development in chemistry class. Xiao Huafeng et al., ^[13] has explored the family and country feelings and craftsmanship spirit of academicians, Ma Weiming et al., have discussed some scientists in the electric power and electronics course, helped students to establish rigorous, objective and upright professional ethics and social responsibility, and has “fostered virtue through education” by analyzing the causes and losses behind the “continuous fire events in South Korea’s energy storage power station”. As Xia Yonglin, Secretary of the Party committee of the Marxism School of Xi’an University of Electronic Science and technology,

said, don't think that "ideology-politics" means "ideological-political courses", or "Marxism-Leninism courses", which narrows the meaning of "ideology-politics".

2.1.3 Course ideological-political content system

According to the connotation and denotation of course ideological-political education, the course ideological-political content is rich. In order to clarify the contents, in table 1, the major events of course ideological-political education, gives the key words involved, which is helpful to analyze the content of course ideological-political education.

Table 1. Course ideological-political education events and the content analysis

Time	Main advocate	Document or project	Key words
2005	Shanghai Municipal Education Commission	"Guiding Outline of National Spirit Education for Students in Shanghai"	ideological and moral construction, ideological-political education, national spirit
2010	Shanghai Municipal Education Commission	"Overall Planning of Moral Education Curriculum for Universities, Middle and Primary Schools" Project	core socialist values political identity, national consciousness, cultural self-confidence, citizen personality
Since 2014	Shanghai Municipal Party Committee and Municipal Government, Universities in Shanghai	"Shanghai Education Comprehensive Reform Plan (2014-2020)", China's Series of courses	Concepts ^[1,4] of course ideological-political education, cooperative education, "whole process, all personnel, all-round"

2016.12.9	National Conference on ideological-political Work in Colleges and Universities	"Run the ideological-political work through the whole process of education and teaching"	ideological-political education, family and country feelings, personality cultivation, tradition, four self-confidences
2017.4.10	Shanghai Municipal Health Commission, Shanghai Municipal Education Commission	"Notice on Promoting the Pilot Work of ideological-political Education and Teaching Reform in Colleges and Universities in Shanghai"	"Ideology and politics", ideology, nationality culture; national interest thought, cultural heritage, cross-cultural communication
2017.9.24	Central Committee of the Communist Party of China	"Opinions on Deepening the Reform of the Education System and Mechanism"	"Course ideological-Political" converted from regional practice exploration to national strategic deployment
2017.12.4	Ministry of Education	"Implementation Outline of ideological-political Work Quality Improvement Project for Colleges and Universities"	National promotion of "course ideological-political education", patriotism, four self-confidences, core socialist values etc.
2018.4.27	Ministry of Education	"Directives for the Construction of 'Situation and Policy' Courses	nationwide promotion of "course ideology-politics", patriotism,

		in Colleges and Universities in the New Era"	core socialist values etc.
2020.4.22	Ministry of Education, Organization Department Central Propaganda Department etc.	"Opinions on Quickening the Construction of ideological-political Work System in Colleges and Universities"	"Fostering virtues through education" Integrated into all aspects of ideology and morality, cultural knowledge, and social practice
2020.5.28	Ministry of Education	"Guiding Outline for Construction of Course ideological-political Education in Colleges and Universities"	political identity, family and country feelings, cultural accomplishment, labor education, accomplishment; mental health
2020.6.5	Ministry of Education	"Comprehensive Promotion of ideological-political Construction in Colleges and Universities"	"Guidelines for ideological Political Construction of Courses in Colleges the world, life, values outlook

As mentioned above, we can see that the course ideological-political education extends to the cultivation of "Three Outlooks" (world outlook, outlook on life and values), or even to "Seven Outlooks" (politics outlook, nationality outlook, history outlook, culture outlook, moral outlook, rule of law outlook and career outlook) in Figure 1. The "Three Outlooks" coincides with the "seven Outlooks" as its core and specific means, and their ultimate goals are to "foster virtue through education". Both "Three Outlooks" and "seven Outlooks" are not isolated, but advisably combined and interactive. The course ideological-political education is not limited to the "Three Outlooks" or the "seven Outlooks" though the "Three Outlooks" and "seven Outlooks" are the important parts of course ideological-political education.

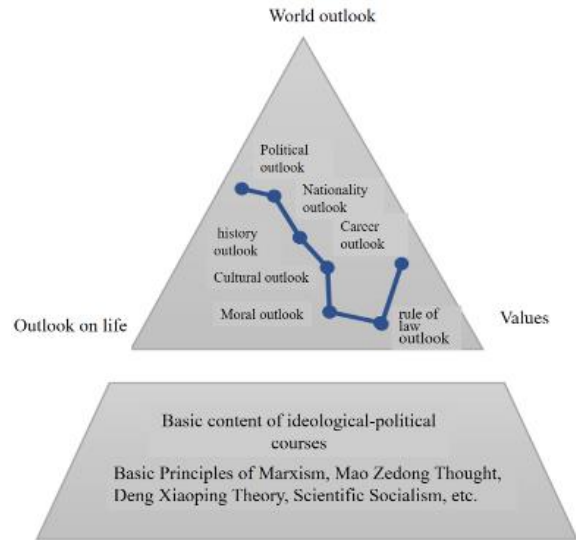


Figure 1 The content system of course ideological-political education

To integrate a complex content system into the course teaching complex activities, system engineer is necessary.

2.2 The "random and scattered" course ideological-political content and the "discount" of classroom efficiency are the reasons why a systematic "course ideological-political education" is needed.

Because the "course ideological-political education" needs to be closely related to the course content, only when the "course ideological-political education" is seamlessly connected with the content can it impress the students, so, "course ideological-political education" should be based on the course content, and it is difficult to be systematic and natural to be randomly distributed, which is the current dilemma of many teachers. Although the seamless "course ideological-political education" is effective, it brings about the problem of "random and scattered distribution". For example, in avionics equipment maintenance course, "course ideological-political education" tends to focus on career outlook such as "work style, professional quality", and the career outlook education is easy to carry out, and the other outlooks are difficult to be integrated into the course. However, if the career outlook education is carried out for every class, the classroom efficiency will be reduced greatly, the students will gain less, and moreover, thus the talent-cultivating goal will be deviated. This situation is not accidental, because teachers must conduct this kind of "course ideological-political education" in some colleges and universities where classroom lecture quality inspection and supervision are popular. Moreover, this kind of ideological-political education is not a problem when only seen from one individual class.

2.3 Some top design documents have pointed out that “course ideological-political education” needs to be systematized.

On May 28, 2020, the Ministry of Education issued The Guiding Outline for Construction of Course ideological-political Education in Colleges and Universities, the part 4 specifically points out the “to scientifically design the teaching system of course ideological-political education. “To scientifically design the teaching system” should contain the idea of constructing systematic course ideological-political education. Qi Pengfei, Dean of Marxism College of Renmin University of China [14], also pointed out that “course ideological-political education is a systematic project, we must strengthen the top design, make a comprehensive planning and gradually promote its systematic construction”.

2.4 The internal attributes of education determine that “course ideological-political” needs to be systematized.

Educational is a system engineering, seen from the internal attribute [15]. Ideological-political education, as an important module of the systematic educational project, is often analyzed as systematic ideological-political education engineering [16, 17]. The characteristics of integrity, comprehensiveness, optimization, and relevance of system engineering are fully demonstrated in the system engineering of ideological-political education. The internal attributes of ideological-political education, especially its systematic attributes, are not only the theoretical basis for carrying out course ideological-political education, but also a way to carry out ideological-political education.

3. THE FEASIBILITY OF COURSE IDEOLOGICAL-POLITICAL SYSTEMATIZATION

3.1 System engineering provides methodological guidance for the systematization of course ideological-political education.

Qian Xuesen pointed out that system engineering is a scientific method to all “systems”, and to plan, research, design, manufacture, test which can be used to complex large-scale systems [18]. Besides, many studies [16-18] have pointed out that education is a systematic project and course ideological-political education is also a systematic project. There are many methods of system engineering. One classic method is the three-dimensional method proposed by A · D · hall in 1969, who is a system engineer in Bell Telephone Company. This method gives specific measures for implementing complex systems

from time dimension, logic dimension and knowledge dimension [19]. The course ideological-political education can also be carried out based on this method.

3.2 System engineering could give the optimal solution in the cases with constraints such as time resources, and with multiple objectives

System engineering refers to the general name of organization, management, technology, and method based on system concepts and optimization method to obtain the overall and comprehensive optimal solution [18]. It is feasible to optimize course ideological-political education based on the method of system engineering, integrate the objectives of the courses and give the best design scheme under the condition of limited teaching time and resources.

3.3 “God horn” model can provide specific methods for optimizing the system engineering of course ideological-political education.

“God Horn” model [20] is a classic model and a solution of a system engineering. The original meaning of “God Horn” model is that when the horn is blown, various kinds of wealth will emerge continuously. The “God Horn” model in system engineering is actually the development process of continuous iterative optimization and spiral rise of an engineering system, as shown in Figure 2. A continuously iterative optimization and spirally rise appear until an ideal engineering system is produced.

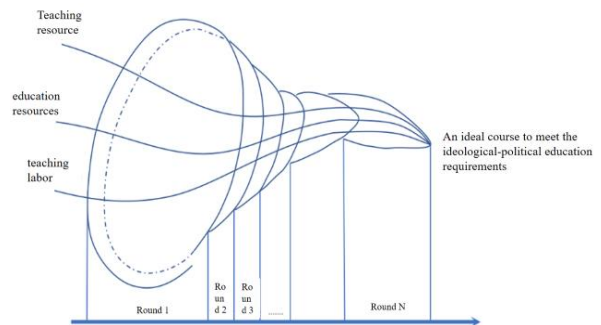


Figure 2 “God Horn” model of course ideological-political education

4. COURSE IDEOLOGICAL-POLITICAL SYSTEM ENGINEERING BASED ON “GOD HORN” MODEL

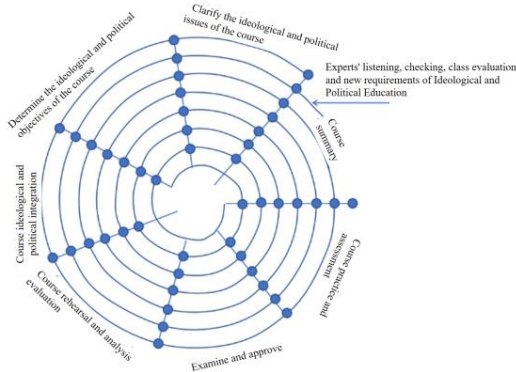


Figure 3 Seven steps in logic dimension of course ideological-political based on “God Horn” Model

As shown in Figure 3, we adopt the structure of the “God Horn” model with these “seven steps” to carry out course ideological-political. The “seven steps” are described as following.

4.1 Clarifying problems to be solved in course ideological-political education

For one course, finding out the problems to be solved in its ideological-political education. That is to say, with reference to the talent cultivating program and the course teaching design, deeply analyze the objectives of course ideological-political education, know well the history, current situation, developing trend and environmental factors, etc. of course ideological-political education, grasp the essence and key of course ideological-political education, analyze the current problems in course ideological-political education, modify the course teaching plan, textbook, lesson plans, etc. accordingly, make teacher clear of the problems, and list the shortcomings and problems in the current course ideological-political education.

4.2 Determining the objective of course ideological-political education

According to the problems discussed above and the characteristics of the course including the course teaching tasks, the overall teaching objectives of the course, the professional content of the course, the arrangement of time, the resources, consider the ideological-political elements closely related to the professional teaching content from the multiple perspectives of “Three Outlooks” and “seven Outlooks”, and finally determine the objective of ideological-political education. The results of the above process are to revise the “course teaching objectives” in the course

teaching plan, which is generally reflected in the quality part among “knowledge, ability and quality” and other parts.

Determining the objective of ideological-political education is essentially a constrained multi-objective optimization problem. It is related to other teaching objectives of the course, to integrate the objective of ideological-political education into the original course objectives, and in essence, it is a multi-objective system engineering. In multi-objective system engineering, there are often multiple alternative schemes. Multiple alternative schemes include zero scheme. In some stages, zero scheme may be the best scheme, that is, no modification is the best. The multi-objective system engineering often involves some constraints, such as the time allocation, course teaching resources, the efficiency and effect of course.

4.3 Integrating the ideological-political education into the course

Integrating the ideological-political education into the original is to be in line with the previously analyzed problems and objectives, to consider the existing teaching hours, resources, to determine how to implement the course with both the professional content and the ideological-political content, for example, to determine theory teaching or practice teaching, classroom discussion or visit, when, where and how to integrate ideological-political education, how to introduce it and how to end it, etc., and finally to give the course teaching plan. The result of this process is to modify “design ideas” in “course teaching plan” and “teaching starting point analysis, teaching objectives and content requirements, teaching resources analysis, and teaching methods and means” in “course teaching design plan”. Of course, the modifications and synthesis of teaching plans, PPT, handouts (textbook) are also included.

4.4 Course rehearsing, analyzing, and evaluating

Course rehearsing is to give the implementation plan of course teaching based on system synthesis and rehearse it. This rehearsal is to practice teaching based on the above teaching plan, PPT, handouts or textbook and to represent teaching plan based on the course teaching plan and course teaching design scheme.

Course analyzing and evaluating are to handle problems in the rehearsal. The purpose is to analyze and evaluate whether the clarified problems in course ideological-political education have been solved, whether the objectives of course ideological-political education have been achieved, whether the teaching of original knowledge and skills has been affected, whether new problems appear, and so on. According to the

analysis and evaluation, to adjust, carry out new systematic synthesis and continuous iteration, and form teaching documents such as new teaching plan, PPT, handouts or textbook, course teaching plan and course teaching design scheme.

4.5 Approving

Approving is to form the decision. Approving mainly refers to the process of submitting the modified teaching documents mentioned above such as “teaching plan, PPT, handouts (textbook), course teaching plan” and “course teaching design scheme” and requesting the teaching management personnel for approval. The teaching management personnel often conducts the approval procedure by convening experts and meeting. The approval is to judge whether the ideological-political education requirements are met and whether other new problems are brought about.

Different from other steps, the implementer of this process is the teaching management personnel, while the implementer of other steps is the teacher.

4.6 Course implementation and examination

The approved teaching documents above mentioned are the resources and foundation for the course implementation. Teachers can make small adjustments, give lectures, pay attention to the reactions of students and the actual situation in the classroom.

Course ideological-political examination is also needed. Since course ideological-political education is a part of course teaching objectives, it is theoretically reasonable to include a examination. This examination often focuses on values, so the students’ learning attitude reflected during the learning process and the “Three Outlooks” and “seven Outlooks” reflected in the students’ words and deeds at ordinary times should be emphasized when the teacher or students give their assessments, with the usual grades as the main part and the theory examination properly added.

4.7 Course summary

Course summary generally includes examination summary and course teaching summary. The examination summary mainly analyzes the students’ average score, score distribution and even the score of each question through the score sheet and test paper analysis report to know how the students master the knowledge and ideological-political contents. The course teaching summary mainly analyzes the course implementation process, including the implementation of the course ideological-political education reform, the advantages and existing problems, the resources to be improved in the course ideological-political education,

better ideas about ideological-political education, and so on.

To sum up, course ideological-political education is a complex system engineering, which needs continuous iteration, continuous optimization, tortuous progress, and spiral rise. After the last round of work is completed, collect the course summary, expert inspection, and new spirit of documents about course ideological-political education, carry out a new round of iterative optimization, and finally output the ideal course that meets the requirements of ideological-political education.

5. PRACTICAL EXPLORATION

The author has explored practically in avionics equipment maintenance support teaching, and preliminarily optimized the talent-cultivating program about avionics equipment maintenance, and implemented the optimized program in the course of “CNI equipment in an aircraft”.

According to the effect, firstly, the examination results of similar courses have increased steadily, and the average score the course has increased from about 85.3 to 87.2 and 87.4 in recent three years. Of course, there are many factors affecting the scores, but it is obvious that the score does not decline due to adding the ideological-political education, on the contrary, it increases. The reason maybe the improvement of students’ learning enthusiasm and classroom interest. Secondly, we analyzed the questionnaires for the management officers of the students, work places and families of the students with the help of the school authorities, and the feedback is positive in the aspects, such as the students’ attitude towards the party’s policies, whether the society is fair, their spiritual outlook, their enthusiasm for life, their enthusiasm for voluntary participation in daily businesses and services, and disclosing their own secrets. The feedback is also affected by many factors, but it is certain that course ideological-political education plays a positive role.

6. CONCLUSION

The construction of the course ideological-political education is always on the road. The connotation and denotation of course ideological-political education is extensive and profound. As for the course ideological-political education, the problem summary, objectives determination and detailing, comprehensive design, implementation and examination design, course summary and a new round of rectification and construction, are like the “God Horn” model, covering a continuous iterative optimization process. Therefore, the construction of the course ideological-political education is always on the road.

The improvement of teachers' ideological-political ability and quality is always on the road. From a professional course teacher to a course ideological-political expert, it is a process of teachers' diligent pursuit and continuous improvement, and more a comprehensive requirement for teachers to achieve the goal of "Great learning makes a teacher, while moral integrity makes a model". For different teachers, the educating effects such as "Three Outlooks" and "seven Outlooks" will be greatly different, which depends on the ideological-political quality of teachers. Therefore, "the way ahead is long and has no ending; yet high and low I'll search with my will unbending." The improvement of teachers' ideological-political education ability is always on the road.

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