

# *On the Ideological and Political Teaching of “Molecular Biology”*

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**Abstract:** Classroom teaching is the main position for university to implement academic education and moral education. It should practice Xi Jinping's new era educational thought, transform disciplinary resources and academic resources into educational resources, and implement curriculum thinking integrated with “knowledge imparting, ability training and value guidance”, so as to train qualified builders and reliable successors of socialist cause. “Molecular biology” is the main course of biology major. This paper explores the teaching reform ideas of “molecular biology” from the aspects of course objectives, ideological and political elements mining and implementation path, in order to achieve the goal of talent cultivation with both moral and vocational education.

## **1. Introduction**

“Molecular biology” is a professional core course in the biological undergraduate training system, which explains the mechanism of genetic information replication, transmission, expression, regulation, mutation, repair and interaction at the molecular level. Based on the curriculum goal of “strengthening the foundation, broadening knowledge, enhancing ability and improving quality”, teachers should actively explore the ideological and political aspects of the curriculum, implement the education of ideals and beliefs, patriotism, core values and national culture in the whole process of teaching, build the curriculum as the Archimedes' fulcrum of morality and cultivating people, and realize “teachers are also teachers, and teaching is based on things” Yu Zhude (Dai Sheng's book of rites) and “learning must be based on morality and behavior (Wu Cheng's Caolu study plan)” are the foundation of university education. Teachers and students realize that “morality is the foundation of career, and career is the work of morality.” The essence of “virtue and benefit is further improved, while the essence of” industry and benefit is improved “(Note 3 by Zhang Luxiang) is to cooperate with” to shape things, to know, to be sincere, to be honest, to cultivate one's mind, to cultivate one's self and to show one's own virtue “[1].

## **2. Remolding the Goal of Ideological and Political Education in “Molecular Biology”**

The value orientation of the curriculum goal must be the unity of the individual standard and the social standard. The setting of the university curriculum teaching goal should implement the principle of “taking this as the basis”, promote the principle of “returning to common sense, duty, original heart and dream”, adhere to the combination of knowledge imparting and value leading,

restore the essence of pursuing truth, exploring advanced knowledge, and combine the hidden ideological and political morality contained in the curriculum<sup>[2]</sup>. We have set up a three-dimensional goal of “molecular biology” based on the idea of Ideological and political education in the curriculum, which is to cultivate the scientific spirit, ideological and moral character, practical ability and humanistic quality throughout the whole process of talent cultivation. (1) Knowledge goals. The core content of “molecular biology” course is to reveal the structure, function and relationship between nucleic acid and protein. Through course learning, students are required to master the theoretical knowledge and cutting-edge progress of molecular fine mechanism involved in regulating the stability, replication, transcription, translation, recombination, mutation and selective expression of biological genome; master the experimental design logic and data analysis methods involved in research in the field of life science<sup>[3]</sup>. (2) Capability objectives. Build a systematic, well structured and international “molecular biology” knowledge system. Continuously improve the ability of critical literature reading, scientific analysis, problem finding and solving; acquire the ability of knowledge transfer, and form innovative thinking, awareness and habit<sup>[4]</sup>. (3) Ethical goals. Enhance the international vision and pattern; cultivate the personality quality of sincere cooperation, selfless dedication, cultural self-confidence, knowledge and practice; shape the spirit of science, rhetoric and craftsmanship; enhance the sense of responsibility, mission and historical mission of the times; sublimate the ideological level, political awareness, moral quality and cultural quality, and become a firm believer of the socialist core values Active communicators and model practitioners<sup>[4]</sup>.

### **3. Ways to Promote the Ideological and Political Teaching of “Molecular Biology”**

#### **3.1 Implementing Research Teaching**

Driven by the new teaching concept and new educational technology, the classroom teaching mode is changing from “Teacher centered” to “student-centered”. Teachers should be good at building flipped classroom, split classroom, TBL (team based learning), PBL (problem based learning) based on the guidance of constructivism and cooperative education theory CBL (case-based learning), bilingual teaching and other multi-channel parallel teaching modes will run through the teaching process of “knowledge construction, putting forward problems, analyzing problems and solving problems”, put knowledge transfer in the specific situation of solving specific scientific problems, create an efficient learning atmosphere for students, establish a learning community, and promote students to consciously carry out in-depth learning Second and achievement learning, through the students' own initiative to explore to establish the subject knowledge structure, cultivate scientific thinking and learning ability, improve the comprehensive quality and innovative thinking. “It is better to give fish than to give fish.”. In the process of teaching, it helps students to cultivate divergent thinking and subsequent learning ability, realize the integration of new and old knowledge, and establish their own updated and more reasonable knowledge system. At the same time of knowledge imparting and skills training, “moistening things silently” guides students to study hard, firm four self-confidence and practice socialist core values; enhance social responsibility and sense of historical mission; establish international vision; cultivate scientific spirit, learn to communicate and cooperate in teams<sup>[5]</sup>.

#### **3.2 Carry out Formative Assessment**

Formative assessment has the functions of summary, appraisal, diagnosis, feedback, guidance, improvement, motivation and management for the teaching process. However, at present, most colleges and universities in our country still adopt the traditional end of term closed book final

mode, which has the disadvantages of “emphasizing knowledge memory over ability training, emphasizing standard unification over personality differences, emphasizing knowledge transfer over problem inquiry, emphasizing teaching results over learning process”. Therefore, the curriculum group carries out the concept of “cultivating morality and cultivating people” in “molecular biology”, carries out the reform of examination methods, and establishes an examination system combining formative evaluation and summative evaluation, which promotes the transformation of teaching essence from “teaching” to “learning”, from “results” to “process”, and from “memory” to “ability”. To achieve a comprehensive and comprehensive evaluation of students' learning ability, motivation, attitude, emotion, will, personality, interpersonal skills and other intellectual and non intellectual factors, to overcome the shortcomings of traditional summative evaluation, such as utilitarian purpose, textbook content, mechanization of questions, lack of feedback process, and to organically combine teaching and learning activities. This kind of course assessment method based on “process examination ability” can effectively urge students to internalize abstract theoretical knowledge and improve learning efficiency in the whole learning process<sup>[6]</sup>.

### 3.3 Improve the Ideological and Political Level of Professional Teachers

For a hundred years, education is the foundation; for education, teachers are the foundation; for teachers, morality is the foundation. The moral, cultural and ability level of professional teachers directly restricts the effectiveness of Ideological and political courses. “Learning high school is the teacher and being positive is the model”. Teachers should be “teachers of classics” for “teaching and dispelling doubts”, and “teachers of people” for “Mingde preaching”. They should be proficient in professional skills and profound professional emotions to solid curriculum thinking and politics, and practice the important task of shaping the soul, shaping life and shaping people. “Those who devote themselves to their work should devote themselves to their work (Zhu Zi anthology)”. Teachers should devote themselves to work, love work, music work, diligence, thought work, and precision work, so as to achieve the unity of “teaching and educating people, speaking and teaching, devoting themselves to asking questions and paying attention to society, academic freedom and academic norms”. In the course of Ideological and political education, we should cultivate our own characteristics of “three highs”, that is, “to build ourselves on morality, to build learning on morality, to teach with morality”, to “work hard, to seek truth and knowledge, to concentrate on asking” and to “improve teaching learning, to control classroom ability”. “Those who are good at education must be able to pay attention to students' morality in order to develop their beautiful character (the introduction of Western learning to the East)”. Teachers' personality power is an important source of students' growth, which comes from teachers' noble morality and teachers' deep love for education and students. “To be a teacher, we must first correct ourselves, then we can teach and educate people. This is the foundation of teachers' morality (Li Ji · Xue Ji)”, “to be a teacher first, and to cultivate morality first (the Analects)”. Teachers should set up correct historical, national, national and cultural views, and strengthen the confidence in the road, theory, system and culture of socialism with Chinese characteristics in the new era Good teachers with ideals and beliefs, moral sentiments, solid knowledge and benevolence can fully realize the guiding function, influence function, edification function and cultivation function of teachers in the course of Ideological and political education<sup>[7]</sup>.

## 4. Conclusion

Curriculum ideological and political education is the educational concept of socialism with Chinese characteristics in the new era, which emphasizes the close combination of value building,

ability training and knowledge teaching. Teachers should tap the resources of Ideological and political education, establish the goal of moral education, construct academic classroom, carry out academic research, implement efficient classroom teaching mode, and promote the continuous deepening of Ideological and political education. The road of Ideological and political education is long. Teachers should “respect virtue and ask questions and learn”, “beautify the way and be cautious in their actions”, “think of all the wise and think about themselves when they see the unseen”, “learn without tiredness and teach without tiredness”, and play a leading and exemplary role in the growth of students.

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