

# The Value and Practical Path of Interdisciplinary Learning

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**Abstract:** The Compulsory Education Curriculum Program (2022 Edition) promulgated in 2022 puts forward the educational concept of interdisciplinary learning and emphasizes the importance of interdisciplinary learning. Interdisciplinary learning is conducive to helping implement the double reduction policy, achieving core literacy goals, and promoting knowledge transfer and integration. However, front-line teachers in China still do not have sufficient knowledge of interdisciplinary learning to carry out valuable interdisciplinary learning activities. Therefore, this study proposes a practical path for interdisciplinary learning. First, to update the concept of interdisciplinary education and improve teachers' professionalism; second, to integrate interdisciplinary teaching contents and promote the integration of subject knowledge; third, to explore interdisciplinary teaching methods and deepen the classroom teaching process; fourth, to innovate interdisciplinary education assessment and achieve students' overall development.

**Keywords:** Interdisciplinary learning; Curriculum program; Curriculum standard

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## 1. Introduction

In April 2022, China promulgated the Compulsory Education Curriculum Program (2022 Edition) (hereinafter referred to as the 2022 Edition Curriculum Program) and the compulsory education curriculum standards for each subject (hereinafter referred to as the 2022 Edition Curriculum Standards). Interdisciplinary learning is the focus of the revision of the 2022 Edition Curriculum Program, as well as the difficulty of the teaching and learning implementation process. The 2022 Edition Curriculum Program clearly states that the new compulsory education training objectives require teachers to break down disciplinary boundaries, strengthen curriculum integration, and focus on the connection between disciplinary knowledge in order to enhance the development of students' comprehensive qualities. The 2022 Edition Curriculum Program further requires that "Each course uses no less than 10% of class time to design interdisciplinary thematic learning." Therefore, constructing meaningful interdisciplinary teaching curriculum and conducting effective interdisciplinary teaching activities are urgent issues to be considered.

## 2. The connotation of interdisciplinary learning

Interdisciplinary learning is a kind of comprehensive learning method that takes problems as the carrier and uses the knowledge of two or more disciplines to solve the same problem, highlighting the student as the main body, which can help students better cope with the complex problems they may encounter in the future society. Interdisciplinary learning is comprehensive, inquiry-based, and practical in nature. However, interdisciplinary learning cannot exist separately from disciplines, and disciplinary knowledge is a prerequisite for interdisciplinary subject learning, and more attention is paid to students' ability to discover problems, ask questions, analyze problems and solve problems in real situations <sup>[1]</sup>.

At present, interdisciplinary learning in China mainly presents two curriculum models. One is the related curriculum model based on disciplinary infiltration, i.e., a curriculum model in which one discipline is the mainstay and other disciplines are used as auxiliary cooperative teaching. The other is a broad curriculum model based on disciplinary integration, i.e., a curriculum model that unites multiple disciplines to form a completely new curriculum <sup>[2]</sup>.

## 3. The value of interdisciplinary learning

### 3.1 Interdisciplinary learning is beneficial to help implement the double-reduction policy

In 2021, China issued the Opinions on Further Reducing the Burden of Homework and the Burden of Off-Campus Training

for Students at the Compulsory Education Stage (hereinafter referred to as the Double Reduction Policy) . Responding to the call of the 2022 edition of the curriculum, interdisciplinary learning also offers new ideas for a double reduction policy. Traditional teaching activities are teacher-driven, reducing classroom interactivity, student motivation, and lowering the level of teaching quality. In interdisciplinary teaching, the teacher is the guide of the classroom and the collaborator of the students. Teaching activities are problem-oriented, and students boldly express their own views and solutions in exploring problems, which highlights the main position of students and enhances their motivation. At the same time, interdisciplinary teaching makes the knowledge of various disciplines closely linked and strengthens the knowledge structure, so that students are more able to integrate and apply knowledge, correlate and reorganize the knowledge in the cognitive structure, which is more effective in achieving empowerment and empowerment than the original “sea of questions” and exactly helps to implement the double reduction policy .

### **3.2 Interdisciplinary learning is conducive to achieving core literacy goals**

Chinese education in the 21st century advocates the theory of core literacy, and core literacy has become the fundamental goal of basic education in China. The core literacy of student development refers to the essential character and key abilities that students should have to be able to adapt to the needs of lifelong development and social development, which contains six major aspects: humanistic heritage, scientific spirit, learning to learn, healthy life, responsibility, and practice and innovation<sup>[3]</sup>. Cultivating students' core literacy should be based on the synthesis of curriculum content, which is closely related to the educational concept of interdisciplinary learning. The cultivation of core literacy is not simply about imparting knowledge, exercising skills, and cultivating students' emotions, attitudes, and values, but also about cultivating students to solve academic problems and real-life difficulties through the knowledge and skills they have learned.

## **4. The practical path of interdisciplinary learning**

### **4.1 Update the concept of interdisciplinary education and improve teachers' professionalism**

First of all, teachers' updating education concept is the key to carry out interdisciplinary teaching, and the interdisciplinary education concept needs to be implemented by front-line teachers. The traditional teaching concept is closed, and it will be difficult for teachers to break the disciplinary barriers if they stick to their old teaching mode and lack the practical ability of interdisciplinary teaching. Therefore, teachers need to establish a correct concept of interdisciplinary education, have interdisciplinary thinking, and truly become teachers who can balance subject teaching and interdisciplinary teaching well, rather than interdisciplinary teachers who can simply add up the contents of multiple subjects.

Second, local governments should provide training activities for teachers on interdisciplinary teaching, using the new 2022 version of the program as a pointer to interpret interdisciplinary teaching concepts and improve teachers' professionalism<sup>[4]</sup>. In addition, each school should use information technology, such as artificial intelligence, to establish an information exchange platform to achieve teaching communication and resource sharing among teachers of different disciplines, to form teaching teams with complementary strengths, and to better promote teacher collaboration and cooperation, as well as to improve the scientific and rigorous nature of interdisciplinary teaching activities.

### **4.2 Integrating interdisciplinary teaching content and promoting disciplinary knowledge integration**

Knowledge includes not only disciplinary knowledge, but also interdisciplinary knowledge and non-disciplinary knowledge, and reconceptualizing and reconstructing knowledge around the search for meaning is the basis of curriculum design.

First of all, interdisciplinary learning advocates that learning content originates from social life situations. 2022 edition of the curriculum clearly states that interdisciplinary thematic learning starts from real-life situations and ends with solving practical meaningful problems, guiding teachers and students to explore the synthesis, transfer and application of knowledge. The problems of interdisciplinary thematic learning should come from real-life situations and real scenarios experienced by students, which can strengthen students' feelings about real problems, attract them to take the initiative to solve problems, choose to develop reasonable solutions, and implement concrete actions of the solutions in a complex environment, so that students can grow.

Second, in terms of course content selection, teachers should use interdisciplinary thinking to find points of integration between disciplines, explore structural forms of interdisciplinary knowledge, and abstract a framework of knowledge from which to organize course content. The organization of course content is to use big concepts as a bridge to interdisciplinary knowledge, so that knowledge is presented as a network and students can form a systematic knowledge network to better master interdisciplinary knowledge to solve practical problems.

### 4.3 Exploring interdisciplinary teaching methods and deepening the classroom teaching process

Interdisciplinary theme learning is not only an innovation of teaching contents, but also an innovation of teaching methods. First of all, teachers should understand students' cognitive development level and appropriately grasp the difficulty of interdisciplinary contents. The difficulty of tasks should not excessively exceed students' cognitive development level and should be kept in the nearest developmental zone in order to promote students' growth; otherwise, it will undermine students' self-confidence and make it difficult to mobilize students' enthusiasm. In addition, teachers through the textbook case to enlighten students interdisciplinary ideas, and to teach students interdisciplinary thinking methods, so that students master migration, analogy and other kinds of thinking methods more targeted problem solving.

Second, teachers should actively explore the teaching mode of large unit teaching, which can help the implementation of interdisciplinary theme learning. Large-unit teaching is a teaching in which the core theme is the backbone and leads several sub-themes, which can ensure the relevance of subject knowledge and the integrity of interdisciplinary content, deepen the classroom teaching process, and is an important teaching mode of interdisciplinary theme teaching<sup>[5]</sup>. After large-unit teaching, students can construct a large framework of knowledge, establish connections between knowledge and knowledge, deepen their understanding of knowledge in a spiraling learning way, and continuously improve their own ability as well as comprehensive quality in large-unit teaching.

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