

Research on The Training Model of Financial Technology Talents Based on Interdisciplinary and Multi-Professional Integration

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Abstract: With the in-depth development of science and technology, the knowledge life cycle is shortened, and the society has more and more demand for compound talents who master multi-disciplinary and multi-professional knowledge, and it is difficult for traditional training methods such as major and minor, double degree, and large-category training (multi-compound training) to meet the needs of compound talent training in the new era. In view of this, we actively explore the talent training model of interdisciplinary and multi-professional integration, with the goal of exploring a new training model that meets the needs of interdisciplinary, multi-professional integration and innovative industry development, and implement the reform of interdisciplinary and multi-professional integration training and the pilot of multi-master sports personnel in industrial colleges by reconstructing the curriculum system, strengthening practical teaching, innovating training methods and organizational forms, and promoting the reform of financial technology talent training model.

Keywords: Interdisciplinary; Multi-professional integration; Talent training model

1. Introduction

With the development of society, science and technology have developed faster, the requirements for knowledge are getting higher and higher, and some complex problems that cannot be solved by a single discipline appear in many fields, and interdisciplinary majors and interdisciplinary majors have emerged. The knowledge will be wider and the knowledge involved will be more. Interdisciplinary and multi-professional integration mainly refers to the new product produced by the integration between two or more majors. There are many interdisciplinary majors and interdisciplinary majors in financial engineering, biostatistics, and biochemistry, and the connotation of these majors has been deepened, expanded and extended, and has gradually become a mainstream in learning. Especially in some major universities in the United States, there will be more interdisciplinary and interprofessional disciplines, and they will become more diversified, and there will be more master's and doctoral programs. These interdisciplinary, multi-professional integration majors will have some advantages better than traditional majors, and the talents cultivated will be more loved by society and more able to adapt to the development of society. Construction and practice of interdisciplinary and multidisciplinary integrated education is an important means to cultivate talents in the new era, and it is also an inevitable trend to adapt to social development. It is based on this that we actively try to build a financial technology talent training model that integrates interdisciplinary and multi-professional integration, and verify the results of talent training through corresponding practices.

2. The Connotation of Interdisciplinary and Multi-professional Integrated Education

Interdisciplinary and multi-professional talent training refers to the process of promoting the integration and internalization of multidisciplinary knowledge, cognitive schemas and values in the minds of the educated through teaching activities that are intersected and integrated by two or more disciplines, so as to improve the ability of the educated to solve complex problems^[1]. The elements of interdisciplinary and multi-professional integration development and education talent training can be summarized as follows:

2.1. Interdisciplinary and multi-professional integrated education cultivates talents with the goal of solving complex problems in science and life

The emergence of interdisciplinary and multi-professional integrated education is, first of all, because the use of single subject knowledge cannot solve the complex problems encountered in the real society, which is an inevitable need arising with social development. With such a demand, a responsive solution is required, and this kind of knowledge from a single discipline knowledge to a multi-discipline, multi-professional intersection and integration development can better solve complex problems, so as to produce the openness and integration of single-discipline knowledge, the formation of interdisciplinary and multi-professional integration development talent teams, and the need for compound talents^[2].

2.2. Interdisciplinary and multi-professional integrated education integrates and reorganizes this single-subject knowledge into a new knowledge system

Within the framework of problem-oriented knowledge, through the integration and drawing on the existing knowledge of a single discipline, the logical relationships, concepts, methodologies, etc. in several disciplines are integrated between cross-professional and multidisciplinary disciplines, and through the analysis of the relationship between knowledge of a single discipline, students are promoted to form a new knowledge system and form a new methodology, so as to achieve the training effect of "1+1>2".

2.3. Interdisciplinary and multi-professional integrated education cultivates a problem-oriented problem-solving process

In the face of complex real-world problems, problem-oriented, students can explore possible ways to solve real-world problems by integrating multidisciplinary and multi-professional knowledge systems, and form a research paradigm with "problem solving" as the core. This process is a process of students' self-awareness, self-evaluation, and self-breakthrough.

2.4. Interdisciplinary and multi-professional integrated education aims to cultivate students' comprehensive quality

Interdisciplinary and multi-professional integrated education aims to cultivate students' comprehensive quality, which is an inevitable trend of real social development. As a goal to meet the needs of social development and cultivate talents who can solve complex problems, the purpose of interdisciplinary and multi-professional integrated education is also unparalleled. Cultivate students' comprehensive quality ability through the integration of multidisciplinary knowledge and problem solving.

Teaching content integration refers to completely breaking the high degree of structure and specialization of the traditional curriculum system, designing the curriculum system, developing and implementing the curriculum system across majors, fully considering the talent training target positioning of each major in the professional group and the characteristics of professional intersection and connection, and configuring modular professional core courses for each major, allowing students to choose different modular course combinations for cross-border learning according to their own interests and hobbies, and broadening professional horizons. Through the integration of relevant professional teaching content, the integration and sharing of course teaching resources within the scope of professional groups can be realized, and the quality and efficiency of course resource development and use will be improved^[3].

Teacher integration is to ensure the teaching implementation of modular courses of professional groups, and to build a faculty team from the perspective of professional integration, completely break the boundaries of traditional teaching and research departments, according to the needs of modular course teaching and innovation and entrepreneurship project implementation, on the basis of fully considering the strengths of teachers of different majors, cross-professional teaching team, each teaching team is composed of teachers from different professional backgrounds with different professional specialties, through teacher integration to promote teaching team members to learn from each other, complementary advantages. So as to maximize the strength of the teaching team.

3. Build A Talent Training Model That Integrates Interdisciplinary and Multi-professional Disciplines

The talent training model of interdisciplinary and multi-professional integrated education has become an important way and means to solve the stubborn problems of traditional education in higher education in the new era. In order to cultivate compound top-notch innovative talents who adapt to the needs of society in the new situation, we should take interdisciplinary and multi-professional integration as the starting point to build a new talent training model.

3.1. Understand the essence and establish a new concept of interdisciplinary and multi-professional integrated education

The educational concept of interdisciplinary and multi-professional integration should focus on the major strategic needs of the country, the needs of discipline development and the frontier of international discipline development, carry out innovative development on the basis of teaching the original major, take the professional characteristics and disciplinary advantages of the original major as the basic platform, enhance the characteristics of discipline teaching according to the requirements of enterprise talents, combined with the future development requirements of regions and enterprises, increase the new characteristics of interdisciplinary and comprehensive, and build a new model of cultivation of comprehensive, innovative and composite innovative talents. Interdisciplinary and multi-professional integrated education must update its concept, innovate new concepts of interdisciplinary and multi-professional integration, multi-subject collaboration, engineering, culture and business, and focus on foundation and practice to improve the added value of students. Universities need to help students transform into learners in different roles while learning and practicing, i.e. from dependent learners to independent learners to cooperative learners. In order to achieve this goal, school leaders and teachers must first eliminate the previous educational concepts, establish the concept of interdisciplinary and multi-professional integrated education, and realize the integration of various majors and disciplines, so as to enhance the practical value of engineering students. In addition, colleges and universities should also pay attention to guiding students to adapt to the integrated learning mode of multiple disciplines and help them smoothly switch different learner roles, so that they can become a cooperative learner^[4].

3.2. Rationalize relationships and establish effective interdisciplinary and multi-professional integration organizations

The implementation of interdisciplinary and multi-professional integrated education requires the support of specialized institutions, so each university must establish a special interdisciplinary organization. The establishment of an effective interdisciplinary organization can strongly support the smooth development of interdisciplinary and multi-professional integrated education. At present, there are three most common interdisciplinary organizations, one is the future technology college formed from the school level, and its composition and institutions have exceeded the scope of the original disciplines and colleges. It is conducive to the implementation of top-level design and optimal allocation of resources in interdisciplinary integrated education. Therefore, the state launched the "Guide to the Construction of Future Technology Colleges (Trial)", aiming to stimulate and promote the construction of future technology colleges. The second is the experimental class or teaching platform set up at the department level, such as the excellence class, talent base class, innovative talent class, etc. The college can provide the main guarantee that teaching reform can be carried out within the department, but the effect of using external resources is not obvious: the third is the innovative team formed across disciplines. The innovation team is mostly a free combination formed on the basis of teachers' voluntariness, which is loosely organized, too dependent on the leader of the team, and not systematic enough in the education of students. From the above three scenarios, the formation of the Institute of Future Technology is the most effective interdisciplinary organization and the main force to promote multi-professional integration^[5].

3.3. Form an overall knowledge view classroom construction thinking

In addition to updating the educational concept, interdisciplinary and multi-professional integrated education should also change the educational curriculum system, and teachers of professional courses need to build an interdisciplinary multi-professional integrated education curriculum system according to the characteristics of the discipline, which should clearly indicate the course objectives and specify specific teaching content to provide assistance for multidisciplinary and professional integration. When

constructing an interdisciplinary multi-professional integrated education course, it is first necessary to select the appropriate main person in charge of curriculum construction, this main responsible teacher must not only master multiple professional knowledge, but also have high learning ability, and then the main responsible teacher needs to determine the course goals with other participating teachers, formulate the curriculum system, form a curriculum construction team, and finally, the main responsible teacher must also formulate relevant systems, set up knowledge integration methods, and provide strong support for team building.

3.4. Set up interdisciplinary courses based on discipline integration, and do a good job in teaching design for interdisciplinary and multi-professional integration

"Integrated course" refers to the integration of knowledge, theories, and techniques from different disciplines in one course to analyze and solve specific problems. This kind of curriculum integration allows students to deepen their connection and application of knowledge, and also improve their ability to analyze and solve problems. The curriculum system is the main carrier of talent training, which is related to the realization of talent training goals and the implementation of professional training standards. The multidisciplinary cross-integration of the curriculum is not a simple patchwork or superposition of the original related professional courses, but an innovation of the original curriculum system, so that the curriculum system and practice system can exert their maximum utility. "Integrated courses" are one of the effective options for cultivating comprehensive and compound talents.

The teaching design of interdisciplinary and multi-professional integration should focus on the following aspects: First, subject knowledge learning, need to ensure the organization and orderliness of subject knowledge, for those interdisciplinary knowledge students only need to be familiar with it, do not need to be proficient, through repeated changes can achieve knowledge deepening. The second is the design of learning activities, when designing learning activities, it is not only necessary to consider students' interests and preferences, but also to reasonably coordinate the relationship between them and teaching goals, especially to grasp the difficulty of learning activities, so as not to cause students to lose learning motivation because the difficulty is too high. The third is how to change in multiple disciplines, and when setting up a number of learning activities, it should be arranged in order from simple to difficult, so that not only can the difficulty of learning be reduced, students' mastery of knowledge will be more solid, but also can students obtain a sense of learning achievement, and interdisciplinary multi-professional integration teaching can also obtain more ideal results.

3.5. Provide diversified training resource support

The "professional education" or "sub-discipline education" of universities requires a lot of support funds, and the cultivation of interdisciplinary and multi-professional integration talents is no exception, and the construction of interdisciplinary integrated courses, the development of interdisciplinary design projects, and the construction of interdisciplinary practice platforms do not require a large amount of financial support. At the same time, in response to the needs of interdisciplinary and multi-professional talent training, universities are also required to tap internal and external potential resources, optimize existing practice platforms, and improve teaching management mechanisms, etc., to ensure that the quality of cultivated talents can better meet the needs of the future society for talents to provide diversified training resource guarantees.

4. The Practice of Interdisciplinary and Multi-professional Integration Training Model

Under the background that human society has entered the new process of the fourth industrial revolution, China's higher education has entered a new stage of connotation development, and the school has embarked on a new journey of "high-level" construction, the school has followed the historical inheritance of "always firmly adhering to the needs of the industry to cultivate high-quality application-oriented talents", closely combining the innovation-driven development and industrial transformation and upgrading strategy of Hainan Free Trade Port, aiming at the development direction of innovative industries, and following the interdisciplinary and multi-professional integration construction ideas of "integration of industry and education, curriculum connection, co-construction and joint management". Implement the pilot reform of multi-professional integration and multi-party collaborative education. The training plan, training standards, curriculum design, teaching content, assessment and evaluation, platform construction, project design and teachers are all jointly planned and determined by multiple school-running entities. A new type of "integrated education class" is established by integrating multiple

majors across disciplines, and talent training plans are formulated separately to stimulate the vitality and creativity of the class. Adopt the "2+2" training model, increase the proportion of practical teaching, and implement flexible and diverse forms of integrated teaching and thematic teaching. Jointly build a number of typical task-oriented and modular courses, and implement a task-based training model for the real production environment of enterprises. Deepen the reform of innovation and entrepreneurship education, and cultivate students' innovative spirit, entrepreneurial awareness and innovation and entrepreneurship ability. According to the goal direction of cultivating students' "innovation ability, change ability and adaptability", we actively explore the cultivation of high-quality innovative application-oriented talents based on multi-professional integration to meet the needs of industrial development, and explore talent training in terms of management mechanism, training mode and curriculum system, and the specific practical plans are as follows:

4.1. Develop a series of interdisciplinary and integrated courses and projects

The School of Industry runs the interdisciplinary into the construction of the curriculum system and various teaching links. Excluding general courses such as ideology and politics, English, sports, history of science, ethics, finance, and entrepreneurship, the total number of four-year undergraduate courses in the college is only 21, which is much less than the number of courses in general majors (about 40-50). Although the number of courses is small, a certain number (46 credits in total, about one-third of the total credits) of interdisciplinary comprehensive courses are offered. Each interdisciplinary integrated course is a synthesis of knowledge from several courses and applies this knowledge to specific project design or system development. Teachers mainly play an organizational and guiding role in the whole teaching process, responsible for stimulating and guiding students to find problems and analyze problems in the process of "doing", so that students can take the initiative to "learn" with problems, and then solve problems, broaden students' independent learning space, enable students to gradually form correct engineering thinking, and improve students' ability to solve complex engineering problems. At the same time, such courses require students from different disciplines to work together in the form of interdisciplinary learning teams, which is more conducive to cross-domain knowledge exchange because the project team members are heterogeneous (from different majors).

4.2. Design project-driven and product development practice system

Undergraduate education must cultivate students' ability to think positively and solve problems by doing; True education should stimulate students' interest, and "hands-on" activities between peers and teachers and students can stimulate curiosity and enthusiasm for learning. The School of Industry has designed a practice system that combines project-driven and product development, and promoted the reform of student-centered teaching methods.

4.3. Implement the integration of industry and education and the integration of school and enterprise

To cultivate talents with innovation and entrepreneurship awareness and cross-border integration capabilities, schools need to take the initiative to ask internal and external resources to create conditions, ask about industrial needs and technological development and reform content, focus on highlighting the cultivation of students' abilities, actively adapt to the ever-changing technological development situation of enterprises under the background of the new round of industrial revolution, closely follow the innovative training model of industrial transformation, and promote the update of teaching content with the frontier of disciplines, the latest development of industry and technology. The School of Industry implements the "2+2" training method, focusing on general courses and basic science courses for two years in the school, and focusing on the field courses in which each major is closely related to the industry in the innovation and development stage and the practical development project training of inter-professional in the two years in the industrial base, and receiving industry-oriented finance courses and entrepreneurship courses and training until the completion of the graduation project. This training method provides students with diversified training resources, allowing students to experience corporate culture, enterprise spirit, and the responsibility and contribution of enterprises to social progress on the spot, leading students to correct values and stimulating students' sense of social responsibility. There are many well-known enterprises in the industrial base, which can create good interaction opportunities and provide project research and practical funding for students of different disciplines. In the process of learning, students can more conveniently contact a large number of actual scenarios of enterprises, specific needs of product development and design and various types of people in enterprises, understand that enterprises not only design products from a technical point of view, design and development

solutions should take into account all links from technology to production, installation, sales, after-sales service, environment, etc., greatly broaden their horizons, and cultivate innovative technological innovation talents suitable for the needs of enterprises^[6].

4.4. Realize professional integration and promote the mutual learning of teachers and students

The implementation of the innovative and entrepreneurial education model of "dual-curriculum integration and professional integration" is conducive to promoting exchanges and cooperation between teachers of different majors and students of different majors, creating a teaching atmosphere of mutual learning and mutual promotion between teachers and teachers, between teachers and students and between students and students, transforming the traditional simple linear "teacher-student" learning exchange into a network three-dimensional communication, helping professional teachers and students expand their professional horizons, and enabling teachers and students to learn from within the profession Knowledge integration and integration between related majors and between theory and practice, and finally complete the integration of multiple professional knowledge and skills, comprehensively improve the professional comprehensive quality of teachers and students, and realize the mutual benefit of teaching.

5. Conclusions

The future society will be an era of uncertain change, and this form and trend have put forward new requirements for the cultivation of interdisciplinary and multi-professional integrated education. Only by always adhering to the "education-oriented", always adhering to the "student-centered" concept of education and education, and constantly improving and practicing the new model of talent training of interdisciplinary and multi-professional integrated education, can we cultivate more compound talents who adapt to the needs and trends of social development and meet the needs of the development of innovative industries to solve complex problems.

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