

The Exploration of the Path of Building First-Class Graduate Discipline Under the Multi-Disciplinary Intersection

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Abstract

Facing the opportunities and challenges brought by the new scientific and technological revolution and industrial change nowadays, interdisciplinary development has become the inevitable trend in the future, and the construction of first-class interdisciplinary disciplines has definitely meet the country's urgent need for high-quality talents in the new era. Based on the current situation of education and social development, this paper takes the graduate education of Northeast Asian Studies College of Jilin University as a case study. Aimed at the problems existing in the current economic management personnel training process, such as decoupling of positioning and demand, insufficient cross-disciplinary knowledge, limited combination of theoretical teaching and practical application, high barriers to cross-cooperation among teachers, and insufficient leading role of evaluation system, the paper analyzes how to construct the first-class interdisciplinary disciplines from the aspects of talent training positioning, curriculum system, practical teaching system, compound teachers team and comprehensive evaluation system. The purpose of this paper is to explore the training mode of graduate students in Economics, the formation mode of interdisciplinary teaching and the cultivation mode of high-quality research teams, to provide practical paths and countermeasures for the construction of first-class graduate discipline, and to make practical contributions to the construction of new liberal arts and the cultivation of high-level interdisciplinary talents.

Keywords: new liberal arts construction, interdisciplinary, graduate programs, first-class discipline

1. Introduction

The new round of scientific and technological revolution and industrial transformation are accelerating, reshaping human production and lifestyle. In the new era, the breakthrough and solution of many major problems need to transcend the boundaries of traditional

disciplines, which generates an urgent demand for new talents with compound knowledge and strong practical ability, and gives birth to new interdisciplinary majors. The intersection and integration of disciplines have been occurring extensively in various disciplines and have become an inevitable trend in the development

of disciplines. Interdisciplinary is not only conducive to cultivating high-level interdisciplinary innovative talents needed by the country, but also conducive to solving comprehensive scientific research problems and social problems. China attaches great importance to the construction and development of interdisciplinary disciplines, in 2020, the National Graduate Education Conference decided to make a major adjustment of discipline categories and regarded interdisciplinary disciplines as the 14th discipline category in China. The Ministry of Education has also proposed the construction of new engineering, new medical science, new agricultural science, and new liberal arts, and formulated a series of policies to promote the implementation of the “four news”. It can be said that the construction of interdisciplinary disciplines is not only an important topic of discipline construction in the new era, but also an important measure to promote the construction of “double first-class” in China.

The construction of interdisciplinary disciplines plays an important role in the construction of “double first-class”. In the construction of “double first-class”, the construction of first-class graduate majors, as a necessary path to connect the general education and the training of social professionals, is a very important part. Economics is closely related to the people’s livelihood and has strong practicality. It is also the sociology discipline closest to natural science. Under the new world pattern and the background of The Times, economics has become a pioneer discipline in the development of interdisciplinary disciplines.

In the exploration of the intersection and integration of economics and other disciplines, Northeast Asian Studies College of Jilin University has strong advantages and extensive experience. Firstly, Northeast Asian Studies College of Jilin University has a long history in graduate training. The College has regional economics, world economics, population resources and environmental economics, demography, international politics, world history and other majors in various fields, which jointly conduct research based on national and regional issues. Secondly, the college firmly grasps the general trend of interdisciplinary disciplines and new liberal arts construction, and actively explores the construction of first-level discipline in Regional and National

Studies. It is the first teaching and research institution in China to recruit economics (national and regional economic direction) undergraduates, which is a natural “interdisciplinary experimental field”. Under decades of experience in cultivating master and doctoral students, the upside-down establishment of emerging undergraduate major is bound to feed back the graduate education of the college. In addition, the college has a good platform foundation, and has established long-term cooperative relations with nearly 40 research institutions and universities from many countries, promoting inter-university and international exchanges between teachers and students through joint training and joint research. It also relies on the platform of Northeast and Northeast Asian Research Institute of Jilin University, the only national high-end think tank in Northeast China, for talent training. It can be said that Northeast Asian Studies College of Jilin University has made a positive attempt to explore the intersection and integration of economics and other disciplines, which provides theoretical soil and practical basis for the construction of first-class graduate majors and the training of international interdisciplinary talents under the multi-disciplinary intersection.

Combined with the research and exploration of Northeast Asian Studies College of Jilin University over the years, this paper makes an in-depth analysis on the construction path of first-class graduate major under multi-disciplinary intersection, which is of great significance for cultivating high-quality compound economic talents to meet the development needs of the new era and has important theoretical and practical value for the deepening of China’s graduate education, the development of the construction of new liberal arts, and the construction of a world-class university system with Chinese characteristics.

2. Literature Review

In the new era, the development trend of interdisciplinary integration is becoming more and more obvious. Promoting interdisciplinary integration and building interdisciplinary disciplines have become an important topic of discipline construction, which is of great significance to promoting the construction of “double first-class” and serving the national talent strategy. Wang Zhanjun & Lin Genrong (2022) discussed the strategic value of

interdisciplinary construction to the second round of “double first-class” construction from the perspective of the era vision and construction ideas of interdisciplinary construction, and pointed out that promoting interdisciplinary integration has become a breakthrough for countries to build world-class universities and first-class disciplines. In order to further promote the integration and intersection of disciplines, promote the construction of “double first-class” in China, and build an independent knowledge system of philosophy and social science with Chinese characteristics and an independent talent training system, new liberal arts came into being (Fan Liming, 2020). Colleges and universities in China have responded to the construction of new liberal arts and devoted themselves to the practice of cultivating interdisciplinary talents.

Interdisciplinary integration has become a hot issue, and how to promote the construction of first-class majors and cultivate compound innovative talents through interdisciplinary integration has also aroused scholars’ thinking. Many scholars have carried out related exploration and research, which mainly focuses on the discussion of the importance and necessity, construction focus, dilemmas and path exploration of the cultivation of high-level interdisciplinary talents under the multi-disciplinary intersection. Li Liguang (2023) expounded the important status and role of interdisciplinary in the construction of a strong country from the perspectives of national position, higher education, the fate of disciplines and personnel training, and emphasized the special role and value of interdisciplinary in the development of science and technology and personnel training. Wang Zhanjun & Zhang Wei (2023) used stakeholder theory to analyze the value demands of four different participants: government, market, universities and students, the value demands of different participants finally clarified the value connotation and necessity of interdisciplinary construction. Striolo et al. (2023) quantified whether graduates benefit or encounter obstacles from interdisciplinary courses after work to study the impact of interdisciplinary postgraduate courses on employment. The results show that there is a correlation between interdisciplinary courses and employment, and interdisciplinary intersection helps society to cope with greater challenges in the future. As for the focus of

construction, Fan Liming (2020) pointed out that the key task of the construction of the new liberal arts is to explore and practice in the aspects of new majors or new directions, new models, new courses, and new theories. Wang Chuanyi (2023), on the basis of fully understanding the policy meaning of interdisciplinary disciplines and accurately grasping the basic characteristics of different types of interdisciplinary disciplines, put forward the focus of interdisciplinary construction and believed that the construction of interdisciplinary disciplines should be promoted according to different characteristics of disciplines. As an important means to cultivate new talents, interdisciplinary training has been paid attention to and put into practice by many colleges and universities. However, there are still many difficulties in promoting interdisciplinary integration to build first-class majors and cultivate compound talents. Wu Wei et al. (2018) found that there is a dilemma of simplified setting and utilitarian tendency in the practice of interdisciplinary graduate training, which is manifested in the deviation of top-level dynamic design, the blocking of high-quality resource flow by faculties and departments, the inconsistency between export and import during the training process, and the deviation from reality in assessment and evaluation. Ma Xiao, Li Xue & Sun Xiaodong (2021) pointed out in their discussion on the construction of the new liberal arts that at the present stage, the main problems restricting the construction of the new liberal arts include the difficulty of subject classification system to meet the practical requirements, the restriction of interdisciplinary integration in the form of grass-roots academic organization, the difficulty of personnel training system to meet the requirements of the new liberal arts construction, and the imperfect evaluation system. Zheng Zhanpeng, Chen Shaoke & Wu Yuqiu (2022) in their research on how to build a first-class economics major under the background of the new liberal arts proposed that the current construction is mainly faced with difficulties such as the gap between the major setting and the requirements of the new liberal arts construction, the gap between the theoretical training system and the practical ability requirements required by the society, the homogenization of curriculum settings, and the mismatch between teaching and scientific research. In order to get out of these dilemmas,

many scholars have explored the path of talent training under the intersection of multi-disciplines. Saunders et al. (2018) conducted research on interdisciplinary short-term courses set up by institutes in the field of biological science for people with different backgrounds and summarized 11 tips for offering interdisciplinary courses successfully. Klaassen et al. (2018), by studying the cases of interdisciplinary education for students majoring in clinical technology and urban planning, found that interdisciplinary education needs different designs based on the characteristics of disciplines, and pointed out that problem-oriented is the principle of interdisciplinary education design and implementation. Yu Yang & Shang Lili (2021) believe that under the background of new technological revolution, the construction of new liberal arts should promote interdisciplinary integration of disciplines in terms of subject content, realize teaching modernization in terms of teaching, and combine theory and practice in terms of academic research. Ma Canjing & Ma Yinqiu (2022) pointed out that interdisciplinary integration should innovate the research paradigm of interdisciplinary integration, explore the practice mode of interdisciplinary integration and improve the evaluation method of interdisciplinary integration in the path exploration of the construction system of new liberal arts. In exploring the reform of graduate training mode, Fan Mingxian & Xiao Xue (2022) pointed out that graduate education should pay attention to interdisciplinary integration, and the graduate training mode of interdisciplinary and collaborative integration can be realized by setting up special research directions that meet the needs of national industries, constructing cross-integration course systems, and building interdisciplinary teams and tutor teams.

The existing researches are abundant and detailed, but there are still some problems to be solved, such as the target separation is not detailed enough and the construction path is not clear enough. This requires the existing research to take the case as the carrier, aiming at the current problems of the existing training mode, and carry out universal research. Therefore, this paper takes Northeast Asian Studies College of Jilin University as a case study to explore the graduate training mode and the formation mode of interdisciplinary teaching and research team

of economics major under the concept of multi-discipline, so as to provide practical paths and countermeasures for the construction of first-class graduate majors.

3. Existing Training Problems and Deficiencies

There is a partial decoupling between the orientation of talent training and market demand. This is mainly reflected in the design of training objectives, training programs and training modes. From the perspective of training objectives, the current economic talent training objectives in China still need to be deepened and improved. In the new era, only mastering the basic knowledge and methods of economics can no longer meet the needs of economic and social development, but also requires foreign language skills, computer skills, innovation ability and so on. From the perspective of the training program, the existing training program not only does not update the curriculum according to the development and needs of The Times, but also has some problems such as insufficient internal refinement, insufficient highlighting of discipline characteristics and so on. The jobs for economics talents trained according to the training program are still mainly concentrated in traditional and typical positions such as financial industry, enterprises, and public institutions, while it is difficult for them to match new jobs related to economics that are derived from the development of new technologies and industries. From the perspective of cultivation mode, most universities currently have similar talent cultivation modes and adopt similar teaching syllabus and teaching mode, the teaching content and methods lack innovation, the curriculum is relatively fixed, students cannot make independent choices based on their own interests and development directions. As a result, it is difficult to stimulate students' enthusiasm and innovation and achieve diversified development of cultivation mode.

The depth of interdisciplinary knowledge is limited. The interdisciplinary integration is not only a necessity for the construction of new liberal arts, but also a new trend in cultivating talents needed by society. Economics has a strong characteristic of interdisciplinary integration due to its involvement in various aspects of human society development, it has similarities and references with many majors such as mathematics, physics, computer science, linguistics, political science, population and

history, and has evolved into new disciplines in the process of development. But up to now, the depth of cross-training is very limited in the process of economics graduate training in some universities. In the final analysis, on the one hand, some universities lack interdisciplinary consciousness and top-level design in interdisciplinary integration. On the other hand, universities encounter difficulties in the process of interdisciplinary integration, which is mainly manifested in the continuous refinement of majors and curriculum which can make it difficult to implement the interdisciplinary integration training program scientifically and reasonably into the curriculum and teaching, high barriers of economics majors and unformed paradigm of interdisciplinary integration. All these have put forward a higher challenge to training compound innovative talents to meet the needs of The Times.

The combination of theoretical teaching and practical application is not close enough.

Economics is a major that combines theoretical and practical aspects, especially for the training of graduate students, it not only requires students to master economic theories and methods, but also requires students to flexibly apply theoretical knowledge to the real situation, and enhance the ability to analyze and solve economic and comprehensive problems. In the current process of cultivating economics graduate students, there is a characteristic of emphasizing theory over practice. In the existing curriculum, theoretical learning is absolutely dominant, while practical courses account for a small proportion, so there is a phenomenon of disconnection between theoretical teaching and practical teaching. In the theoretical learning process, most universities use similar teaching materials, and there is a lack of case teaching connecting theory and reality in the process of explanation, which makes it difficult for students to put what they have learned into practice. In addition to the neglect of the actual situation, most of the theoretical learning only stays in the field of this major, without breaking through individual disciplines. In the practical process, some universities do not attach enough importance to practical teaching and have not yet formed a scientific and standardized practical teaching mode, there are some problems such as limited or formalistic practical courses, lack of guidance and incentive mechanisms for such courses, and insufficient

construction of practical platforms.

It is difficult to build an interdisciplinary teaching staff. The teaching staff is the key to the development of disciplines, and one of the prerequisites for achieving interdisciplinary cultivation of graduate students is the construction of the teaching team. There are some common phenomena in the teaching team of economics in China. On the one hand, teachers' knowledge backgrounds are mostly in a single discipline, and most of economics teachers are from economics-related majors and have studied and explored in the field of economics for a long time, so that they have formed the cognitive thinking and research mode of the discipline of economics and lack the interdisciplinary knowledge structure. Moreover, due to the confinement of the evaluation system and incentive mechanism, some teachers do not have the awareness or motivation to carry out interdisciplinary research. On the other hand, there are high communication barriers among teachers with different knowledge background. The main reason for this is the constraints of the traditional faculty system. Universities usually set up colleges based on disciplines, this discipline-based division method can not only cause organizational segregation between disciplines, but also can form resource allocation barriers. The organizational segregation between disciplines can easily lead to difficulties in forming a cohesive academic community. Under the traditional faculty system, teachers conduct learning and academic exploration within their professional fields, and are hired and promoted based on their academic achievements in their major, this restricts scholars from expanding into other disciplines and make it difficult for scholars from other disciplines to integrate. As a result, it is difficult to achieve academic exchanges and integration between different disciplines and fields. In addition, departments are relatively independent, high-quality resources are difficult to flow across departments, resource allocation barriers are inevitable, and it is difficult to uniformly dispatch and integrate resources of different departments to achieve resource and information sharing, which is not conducive to the construction of cross-disciplinary teams.

The supporting and leading role of the evaluation system is insufficient. A scientific and comprehensive evaluation system is the key to ensure interdisciplinary integration and

training quality, but there are still some problems that need to be addressed in the existing evaluation system. In the evaluation of disciplines, the current disciplinary evaluation system mostly evaluates the effect of the vertical development of disciplines, it is necessary to strengthen the consideration of interdisciplinary integration and increase the investigation of the horizontal expansion of disciplines; In the evaluation of teachers, most universities tend to prioritize scientific research over teaching, and place greater emphasis on the level and quantity of academic achievements, there is no mechanism for evaluating the innovation of research achievements and the interdisciplinary integration ability of teachers; In the evaluation of students, the assessment of students' course learning is still mainly based on routine exams, which can only assess their mastery of theoretical knowledge, it is a lack of assessment of students' practical and innovative abilities, and a lack of assessment of students' comprehensive application of multi-disciplinary analysis and problem-solving abilities.

4. Suggestions and Countermeasures

Firstly, strengthen top-level design and reposition talent cultivation. In response to the current issue of partial decoupling between the positioning and market demand of graduate talent cultivation in economics, universities and colleges should proceed from the top-level design according to the characteristics of The Times and disciplines, carry out tracking research on the employment destinations of graduate students in domestic and foreign universities based on the overall perspective, and relocate and redesign talent training objectives, training programs, training models and other aspects combined with reality.

In terms of training objectives, universities should combine the characteristics and needs of The Times, conform to the development trend of the era, and highlight the requirements for the innovation ability and the application of the achievements of the development of The Times on the basis of the original training objectives, cultivate innovative, international, applied and compound economic talents who have solid economic knowledge and methods and cutting-edge data analysis methods, are familiar with China's economic operation and reform practice and have an international perspective, and have a solid theoretical foundation and practical application ability.

In terms of training program, universities and colleges should optimize the training program according to the development and needs of The Times from the aspects of curriculum, curriculum content, teaching methods and so on, and highlight the discipline characteristics. For example, in the curriculum design, in addition to attaching importance to the study of basic theories and methods of economics, it can also combine with the development of The Times to increase introductory courses such as language, population sociology, international politics, machine learning, artificial intelligence, data mining and other classes.

In terms of training mode, universities should not only strengthen the study of professional knowledge, but also pay attention to the cultivation of students' practical ability and innovative ability, and constantly broaden the cultivation caliber and innovative training mode to achieve diversified training. For example, in order to cultivate students' practical application ability, the training model can be explored and innovated from the aspects of the combination of school and enterprise, the integration of science and education and the integration of industry and education.

Secondly, break down disciplinary barriers and promote interdisciplinary integration. To address the problem of insufficient interdisciplinary knowledge and superficial interdisciplinary depth, various methods such as building a multidisciplinary curriculum system and joint training can be used to promote interdisciplinary integration and cultivate students' interdisciplinary integration ability.

On the one hand, universities can build a multi-disciplinary curriculum system. Take the lead of the college and cooperate with multidisciplinary teams to absorb the achievements of the new round of scientific and technological revolution such as big data, artificial intelligence, and blockchain, change the curriculum system design of traditional economics majors which focuses on basic economic theories and departmental economics, design an interdisciplinary composite curriculum system, and highlight the characteristics of multi-disciplinary integration training. For example, Northeast Asian Studies College of Jilin University has carefully set up a course selection pool to promote students' cross-learning. Each major student can also choose courses of their own interest in the

course selection pool in addition to their own major courses. In addition, the college also integrates the concept of interdisciplinary integration into the undergraduate training program, and observes and evaluates the training path and effect of undergraduate students, so as to provide experience and reference for the cultivation of graduate students under multi-disciplinary intersection.

On the other hand, universities can promote the joint training mode and open education. Relying on the national high-end think tank platform, subject laboratory platform, and convenient conditions for joint research of Northeast Asian Studies College of Jilin University, the college actively promotes inter school and international joint training of graduate students, utilizes digital and internet platforms to achieve inter school sharing of teacher and course information, so as to realize the depth, breadth, and intensity of interdisciplinary integration. In addition, interdisciplinary lectures, learning interest groups and clubs can also be conducted.

Thirdly, increase the proportion of practice and create a multi-level practical teaching system.

Universities need to combine the characteristics of existing education and teaching to design postgraduate programs and focus on the construction of a multi-level practical teaching system that includes systematic and comprehensive course module practice, professional quality development training throughout the entire learning process and internship training. For course module practice, the proportion of practical application can be increased in the design of the original course, such as designing theories and methods that can be applied to reality as practical assignments, opening economics practice courses and building economics professional laboratories and virtual simulation laboratories. Students can promote the combination of theory and practice and improve their ability to apply what they have learned by practical training in the course. In addition, teachers can also introduce scientific research activities into the classroom to exercise students' necessary abilities such as collecting and processing data, constructing models and analyzing. For professional quality development training, various types of activities such as discipline competitions, scientific research training programs and innovation and entrepreneurship competitions that help to cultivate students' practical abilities can be

promoted and organized, and students can be encouraged and guided to actively participate in them. For internship training, we can rely on government, enterprises, universities and other resources to build internship training bases, so that students can complete the transformation from "learning" to "using" in internship practice activities. Northeast Asian Studies College of Jilin University emphasizes practical experience of discipline, and this system will also run through the knowledge learning, examination and assessment and graduation thesis and design of graduate students in the college. The college vigorously promotes dual degree programs between China, Japan, South Korea, Russia and other countries, short-term and long-term exchange programs, summer school programs and overseas internship practice bases to broaden students' horizons and build learning platforms.

Fourthly, improve the level of the teaching team and build a composite teaching team.

To achieve the cultivation of first-class economics major graduate students with interdisciplinary backgrounds, it is necessary to start from the improvement and upgrading of the teaching staff, and gradually try to cultivate students across disciplines, colleges and even schools. Universities should constantly improve the system of teacher appointment and personnel management, provide convenience for building an interdisciplinary teaching staff, focus on examining tutors' multi-disciplinary educational background and interdisciplinary research experience, and actively recruit talents from other related disciplines as cross-training mentors. At the same time, in order to improve the efficiency and effect of communication between teachers in different disciplines, it is necessary to break down organizational barriers, promote the reform of traditional disciplinary organizations, and enhance the openness of disciplinary organizations and the mobility of researchers. For example, universities can provide interdisciplinary research opportunities for teachers in different departments through various forms such as joint research in multiple aspects. In addition, it is also possible to promote communication between teachers through the establishment of a mechanism of "teaching feeds scientific research", unlike "scientific research feeds teaching", the "teaching feeds scientific research" mechanism aims to indirectly enhance the cross-cooperation

ability between mentors through cultivating excellent interdisciplinary students, and thereby drive the construction of cross-training team among mentors.

Fifthly, strengthen the supporting role and establish a scientific and sound comprehensive evaluation system. In terms of discipline construction, it is necessary to vigorously support the exploration of interdisciplinary integration in colleges and universities, and formulate and improve the evaluation system for interdisciplinary integration, which can start from evaluation indexes, evaluation subjects, evaluation scope, evaluation methods and other multiple aspects, such as optimizing evaluation indicators and highlighting the investigation of the degree of interdisciplinary integration. In terms of teacher cultivation, it is important to enhance the awareness of teaching quality and establish a multi-level teaching quality evaluation mechanism, which can be evaluated from aspects such as curriculum objectives, curriculum content, teaching methods, assessment methods and so on. In addition, a systematic and comprehensive supervision and evaluation group composed of schools, colleges, students can be established to strengthen the supervision of teaching content, provide guidance for the improvement of teaching methods and means, give timely feedback on teaching effect and put forward suggestions for improvement. In terms of student development, emphasis should be placed on the scientific and diversified assessment methods in assessment, which not only assesses students' mastery of theoretical knowledge, but also examines their practical and applied abilities, while encouraging students to innovate and learn across disciplines. In teaching and scientific research, Northeast Asian Studies College of Jilin University and teachers pay attention to students' flexible use and cross-integration of knowledge, and take various forms such as group cooperation, computer exercises and reports to exercise students' practical and application ability. At the same time, they formulate training programs with interdisciplinary characteristics based on students' majors and characteristics, so as to promote students' cross-research.

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