

School enterprise linkage in design education: research on the cultivation mode of composite talents under the background of informatization

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ABSTRACT

With the rapid development of information technology, informatization has become a significant force driving transformation across various industries. In the field of education, talent cultivation models in the context of informatization are undergoing profound changes. Taking the Urban Design and Landscape Character Research major as an example, this paper explores the new requirements for cultivating composite talents, the construction of cultivation models, and implementation strategies in the informatization context. By analyzing the characteristics and challenges of this major in the informatization context, a series of innovative cultivation models and strategies are proposed, aiming to provide theoretical and practical guidance for cultivating high-quality composite talents equipped with information literacy, interdisciplinary knowledge, and innovation capabilities.

KEYWORDS

Informatization Context; Composite Talents; Urban Design and Landscape Character Research Major; Cultivation Model

The advent of the information era has presented new challenges and demands for talent cultivation in the Urban Design and Landscape Character Research major. On one hand, the rapid development of information technology provides richer tools and methods for urban design and landscape character research; on the other hand, it also requires students in this major to possess higher levels of information literacy, interdisciplinary knowledge, and innovation capabilities^[1]. Therefore, how to construct a scientific and rational cultivation model for composite talents in the informatization context has become an urgent and important issue to be addressed in this field.

1 New requirements for cultivating composite talents in the urban design and landscape character research major under the informatization context

1.1 Integration Requirements for Information Literacy and Technological Innovation Capabilities

As the wave of informatization sweeps the globe, students in the Urban Design and Landscape Character Research major face new challenges and opportunities. To adapt to this context, students must not only possess profound professional knowledge but also deeply integrate information literacy with technological innovation capabilities. Information literacy, encompassing comprehensive abilities in information acquisition, processing, analysis, and application, is key for students to grasp the pulse of the information age. The integration of technological innovation capabilities requires students to flexibly apply information technology tools to innovative research and practice in urban design and landscape character. This means that, on the basis of mastering a solid theoretical foundation in urban design and landscape, students also need to actively learn modern information technologies such as programming, data analysis, and virtual reality to achieve precise expression of design concepts and in-depth exploration of landscape features. Only in this way can composite talents who understand design and excel in innovation be cultivated in the informatization context, contributing wisdom and strength to urban beautification and landscape shaping^[2].

1.2 Requirements for Enhancing Interdisciplinary Knowledge Integration and Application Capabilities

In the informatization context, the complexity of the urban design and landscape character research field is increasingly prominent, requiring students to possess the ability to integrate and apply interdisciplinary knowledge. This major involves multiple disciplines such as architecture, urban and rural planning, landscape architecture, environmental science, and information technology. Students need to focus on the intersection and fusion of knowledge from these disciplines during their studies to cultivate interdisciplinary thinking and innovation capabilities. This means that students must not only deeply understand the basic theories and methods of each discipline but also possess the ability to organically integrate this knowledge and these methods to address complex problems encountered in urban design and landscape character research. Through interdisciplinary learning and practice, students can develop a more

comprehensive and in-depth professional understanding, enhance their ability to solve practical problems, and provide more diverse and innovative solutions for urban beautification and landscape shaping.

2 Construction of the cultivation model for composite talents in the urban design and landscape character research major under the Informatization context

2.1 Innovation in Curriculum System and Teaching Content

To meet the talent cultivation demands in the informatization context, the Urban Design and Landscape Character Research major needs to innovate its curriculum system and teaching content. On one hand, courses related to information technology, such as data analysis, programming techniques, and virtual reality, should be added to enhance students' information literacy and technological innovation capabilities. On the other hand, traditional course content should be optimized by integrating interdisciplinary knowledge and methods to cultivate students' interdisciplinary thinking and innovation capabilities. At the same time, attention should be paid to the design and implementation of practical teaching segments, enhancing students' practical and innovative abilities through project-based learning, industry-university cooperation, etc.

2.2 Exploration of Practical Teaching and Industry-University Cooperation Models

Practical teaching, as a key link in enhancing students' practical and innovative abilities, is particularly important in the informatization context. The Urban Design and Landscape Character Research major should actively explore new models of practical teaching and industry-university cooperation to meet the needs of industry development. On one hand, close cooperative relationships can be established with relevant enterprises to jointly design practical teaching projects and scientific research projects, enabling students to learn and practice in real work environments, thereby deepening their understanding and application of professional knowledge. This cooperation model not only enhances students' practical abilities but also promotes the transformation and application of scientific research achievements, realizing deep integration of industry, academia, and research. On the other hand, constructing virtual practice environments relying on informatization platforms is also an effective way to improve the effectiveness of practical teaching. By simulating real urban design and landscape planning scenarios, it provides students with more diverse practical opportunities and platforms, allowing them to freely explore and innovate in a virtual environment, thereby further stimulating their innovative thinking and practical abilities. Through the deep integration of practical teaching and industry-university cooperation, the Urban Design and Landscape Character Research major can cultivate more composite talents with practical abilities and innovative spirit, injecting new vitality into the sustainable development of the industry^[3].

2.3 Faculty Development and Enhancement of Teacher Capabilities

Faculty development is a key factor in talent cultivation. The Urban Design and Landscape Character Research major should prioritize the construction of its faculty team and the enhancement of teacher capabilities in the information age. On one hand, actively introduce personnel with informatization backgrounds and interdisciplinary academic experience to join the faculty, injecting fresh blood and new ideas. These individuals can not only bring cutting-edge academic thoughts and advanced technological concepts to the major but also promote interdisciplinary communication and facilitate the innovative development of the major. On the other hand, strengthen the training of current teachers in teaching skills and self-improvement. Regularly conduct information technology training in relevant subject areas, hold interdisciplinary teaching seminars, etc., to improve teachers' information literacy and interdisciplinary teaching abilities. Encourage teachers to participate in various forms of scientific research and practical activities, applying theoretical knowledge to practice, and organize more training courses such as invited observation and exchange learning opportunities. Improving the teacher training system and incentive mechanisms helps the faculty to better leverage their knowledge, and can also better motivate students in the major to continuously improve their professional level, cultivating more composite talents with innovation capabilities and practical application skills.

3 Implementation strategies for the cultivation model of composite talents in the urban design and landscape character research major under the Informatization context

3.1 Strengthening the Deep Integration of Information Technology in Course Teaching

To innovate the talent cultivation model for the Urban Design and Landscape Character Research major in the

informatization context, it is essential to deeply integrate information technology with courses, restructure courses with information technology, and focus on researching methods and pathways for integrating IT with courses, reflecting and applying this in teaching methods and techniques^[4].

On one hand, professional courses must effectively utilize information technology tools, integrating IT into professional courses, and digitally and network-transforming traditional courses. Employ modern teaching methods such as multimedia teaching resources and virtual reality to transform abstract theories of urban design and landscape character into visible and tangible teaching content, completing teaching tasks in an intuitive and relaxed manner. Furthermore, use information technology to increase course interactivity, enabling students to learn and understand professional knowledge through interactive communication.

On the other hand, explore and practice new teaching methods such as online teaching and blended learning. Online teaching breaks down spatio-temporal barriers, providing students with more diverse and flexible learning pathways; blended learning combines the flexibility of online learning with the advantages of offline classroom teaching, reflecting the effectiveness of joint teacher-student guidance and better cultivating students' autonomous learning abilities. Adopting these teaching models can significantly improve students' sense of learning efficacy and learning outcomes, serving as an important means for cultivating composite talents.

3.2 Building Industry-University Cooperation and Industry-Academia-Research Integration Platforms

The successful implementation of cultivating composite talents in the Urban Design and Landscape Character Research major in the information age is inseparable from industry-university cooperation and the construction of industry-academia-research integration platforms. Such platforms can not only provide a training and innovation ground for talent cultivation but also inject new vitality into industrial development.

Close ties with enterprises help teachers and students in the Urban Design and Landscape Character Research major understand industry development needs and the latest technological achievements, allowing timely adjustments to the curriculum system and teaching content according to development needs. Schools can also collaborate with enterprises on talent cultivation projects, such as organizing internships and practical training in companies, joint cultivation programs, etc. This allows students to better apply their learned knowledge in practical work and learn through application, further acquiring more solid professional skills. Furthermore, cooperation on scientific research projects and the transformation of technological achievements are also important aspects. New technology R&D and new product development can be carried out jointly with enterprises to promote industry development and technological upgrading.

3.3 Optimizing Faculty Development and Enhancing Teachers' Information Literacy

Firstly, the effective implementation of the cultivation model for composite talents in the Urban Design and Landscape Character Research major under informatization conditions relies on faculty development and the improvement of teachers' information literacy. These two are guarantees for the quality of talent cultivation and also important means for promoting the integration of professional education and information technology.

Optimizing the faculty structure is a prerequisite for improving teaching quality and efficiency. The academic groups of the Urban Design and Landscape Character Research major should continuously introduce talents with rich practical experience and solid theoretical knowledge to strengthen the faculty. Regularly conduct various training, inter-university exchanges, teaching seminars, skill competitions, etc., to enhance professional teachers' teaching awareness and improve their teaching levels. Actively guide professional teachers to participate in scientific research projects and industrial practice activities, applying theoretical knowledge to practice and practical experience to teaching, thereby improving the overall level of the faculty.

Furthermore, strengthening teachers' information literacy and teaching capabilities is in line with the requirements of the times. The Urban Design and Landscape Character Research major should vigorously carry out informatization teaching training, guiding teachers to learn to use information technology tools (such as multimedia teaching, virtual reality technology, online teaching platforms) for instruction and to flexibly apply them in the classroom. Actively participate in informatization teaching competitions to stimulate their interest in informatization teaching during the competition, enabling them to continuously innovate and improve their teaching methods in their work. Establish a complete teacher evaluation and incentive system, making information literacy and teaching ability key aspects of teacher evaluation. This not only motivates teachers but also unleashes their individual initiative, which is of great significance for cultivating composite talents.

3.4 Improving Student Evaluation Systems and Incentive Mechanisms

In the information age, for the cultivation model of composite talents in the Urban Design and Landscape Character

Research major to be truly implemented, the construction of a comprehensive student evaluation system and incentive mechanism is indispensable. Establishing such an evaluation system and incentive mechanism is an important guarantee for improving cultivation effectiveness and a crucial pathway for stimulating students' potential and promoting their growth and success.

Establish a diversified student evaluation system. Traditional student academic performance assessment can no longer meet current talent cultivation requirements. The Urban Design and Landscape Character Research major should boldly try and explore diversified evaluation methods, including academic performance, practical ability, innovation ability, teamwork ability, etc. This not only facilitates a comprehensive and objective measurement of an individual's abilities and qualities but also benefits students' growth, success, and development, and is very beneficial for their long-term future development.

In addition to organizing various extracurricular activities, students can be motivated by establishing reward mechanisms for innovation and practical achievements. Students who achieve outstanding results in scientific research, competitions, and social practice should be commended and rewarded. This can fully mobilize students' innovative consciousness and practical enthusiasm, encourage excellence, improve the school's education and teaching level, and further enable the reward mechanism to exert its practical effect. Additionally, reward mechanisms can be set up to encourage student activity participation, guiding students to engage in various activities and gain experience, thereby building certain strengths and laying a good foundation for future employment.

3.5 Strengthening International Cooperation and Exchange, Broadening International Perspectives

For cultivating composite talents in the Urban Design and Landscape Character Research major in the context of the information age, strengthening international cooperation and exchange is essential. This helps improve the quality of talent cultivation and also enables students to become new-type composite talents with an international perspective in the global information age, and can better promote cultural exchange among countries worldwide. On one hand, actively promoting the establishment of long-term stable cooperative relationships with renowned foreign universities and research institutions is an important part of internationalizing talent cultivation. Both sides can expand platforms and resources for foreign exchange and learning through joint cultivation programs, such as joint degrees, dual supervisors, etc. Both sides can also promote in-depth cooperation on scientific research innovation, technology transfer, etc., through multiple channels such as jointly undertaking research projects and conducting academic exchange activities. This, on one hand, enhances students' research practice abilities and knowledge application levels, and on the other hand, enables students to meet more high-level scholars and researchers from home and abroad, thereby broadening their horizons.

Encouraging students to participate in various international academic conferences or overseas study tours, exchanges, etc., can enhance their international competitiveness and cross-cultural communication skills. At the same time, international academic conferences are an important platform where students can present their research results and listen to the views of domestic and foreign experts and scholars, enabling them to keep abreast of the latest developments in their disciplines.

Studying and exchanging overseas allows students to personally experience different national cultures, educational methods, and design concepts abroad, which has a positive significance for cultivating students' cross-cultural communication skills and broadening their horizons. Participating in various activities can further help students better adapt to international work environments and lay a good foundation for future employment.

4 Conclusion

The research and practice of the cultivation model for composite talents in the Urban Design and Landscape Character Research major under the informatization context is a long and complex process. In this process, it is necessary to further analyze the characteristics and difficulties of this major in the informatization context to formulate new innovative cultivation methods and pathways. And it is necessary to continuously revise and improve relevant content for some of its links. In the future development process, new methods and cultivation approaches will be continuously added with the further deepening of informatization and relevant adjustments to cultivation requirements. Only in this way can it provide beneficial guiding significance for the future cultivation of composite talents in the Urban Design and Landscape Character Research major.

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