

Managerial guidelines of landscape architecture education in higher education under Henan Province

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ABSTRACT

This study aimed to identify the components of landscape architecture education management in higher education institutions in Henan Province, China, and to propose managerial guidelines for improving its quality and effectiveness. A mixed-methods design was used. In the quantitative phase, 364 instructors and administrators were selected through stratified random sampling from 7,066 personnel at 10 higher education institutions offering landscape architecture programs. Data were collected using a five-point rating-scale questionnaire and analyzed with descriptive statistics and exploratory factor analysis. In the qualitative phase, data from in-depth interviews with 16 key informants and a focus group discussion with 11 experts were analyzed using content analysis. The findings identified seven components of landscape architecture education management: 1) teaching theory requirements, 2) teaching practice and application, 3) teaching objectives and social needs, 4) learning atmosphere, 5) evaluation criteria, 6) resource development, and 7) innovation and development. Based on these components, 16 managerial guidelines were developed to strengthen curriculum relevance, practical learning, supportive learning environments, assessment systems, resource development, and educational innovation in higher education institutions in Henan Province.

KEYWORDS: Landscape Architecture Education, Educational Management, Higher Education, Managerial Guidelines, Henan Province

Introduction

Higher education plays a crucial role in developing human resources capable of responding to economic, social, and environmental changes. In China, higher vocational and higher education institutions have been recognized as important mechanisms for implementing national strategies related to scientific development,

innovation, and talent cultivation. As China continues to advance urbanization and sustainable development initiatives, the demand for qualified professionals in landscape architecture has increased significantly. Consequently, landscape architecture education has become an important field for preparing graduates with the knowledge, skills, and competencies

required to address contemporary environmental and urban development challenges.

The rapid development of urban and rural construction has led to increasing public concern regarding environmental quality, ecological sustainability, and landscape improvement (Wang, 2017). As a result, landscape architecture has become a key discipline supporting urban planning, ecological conservation, and community development. The growing demand for highly competent landscape professionals has encouraged higher education institutions to strengthen their educational programs and enhance the quality of teaching and learning in this field (Chen, 2019).

Despite these developments, several challenges remain in landscape architecture education. Existing educational practices often face difficulties in aligning curriculum design, teaching methods, practical training, and graduate competencies with the rapidly changing needs of industry and society. Xing (2020) emphasized that landscape architecture programs should continuously adapt their professional structures, curriculum content, and educational processes to meet labor market demands and social expectations. Similarly, Pang (2018) noted that research related to landscape architecture education remains fragmented and lacks a systematic framework that integrates educational theories with professional practice.

Previous studies have contributed valuable knowledge regarding specific aspects of landscape architecture education, including teaching theories (Li, 2020; Li, 2022; Lin, 2014; Jia, 2017), practical and

applied learning approaches (Liu, 2021a; Liu, 2022), educational objectives and professional development (Liu, 2021b), learning environments (Li, 2017), assessment systems (Song, 2018), resource development (McGraw, 2022), and innovation in landscape architecture education (Kingsbury, 2019). However, these studies have primarily focused on individual dimensions of teaching and learning rather than providing a comprehensive educational management framework that integrates these dimensions into a coherent system for higher education institutions.

Particularly in Henan Province, where higher education institutions are expanding their role in supporting regional development and professional workforce preparation, there remains limited empirical evidence regarding the essential components of landscape architecture education management and the managerial guidelines necessary for improving educational effectiveness. The absence of a comprehensive management framework may hinder the ability of institutions to systematically enhance curriculum quality, teaching effectiveness, resource utilization, innovation capacity, and student learning outcomes.

Therefore, this study seeks to identify the key components of landscape architecture education management and develop managerial guidelines for higher education institutions under Henan Province. The findings are expected to provide a systematic framework for educational administrators, instructors, and policymakers to improve the quality and effectiveness of landscape architecture education. Furthermore, the proposed

guidelines may serve as a practical reference for curriculum development, educational management improvement, and future policy formulation aimed at strengthening landscape architecture education in China.

Purposes

1. To explore the components of managerial guidelines of landscape architecture education in higher education Under Henan Province.

2. To propose the managerial guidelines of landscape architecture education in higher education under Henan province.

Literature Review

Landscape Architecture Education in Higher Education

1) Landscape architecture education plays a significant role in preparing graduates with professional competencies that integrate environmental knowledge, design thinking, ecological sustainability, and practical problem-solving skills. As urbanization and environmental challenges continue to increase, higher education institutions are expected to develop educational systems that produce graduates capable of responding to social and professional demands. According to Xing (2020), landscape architecture education should be continuously adjusted to align with industry requirements, employment trends, and societal needs. Similarly, Pang (2018) emphasized that landscape architecture education requires a more systematic educational framework integrating professional knowledge with educational theory.

2) Teaching Theory Requirements.

Teaching theory serves as the foundation for effective learning and educational quality. Li (2020) stated that landscape architecture education should emphasize conceptual understanding and the integration of theoretical knowledge with professional practice. Li (2022) further highlighted the importance of adopting learner-centered and blended teaching approaches to improve student engagement and learning outcomes. Lin (2014) suggested that landscape architecture education should promote research-based learning and innovative teaching models, while Jia (2017) emphasized the importance of integrating professional design principles into teaching processes. These perspectives indicate that effective educational management should ensure the systematic development and implementation of sound teaching theories.

3) Teaching Practice and Application. Practical learning is an essential component of landscape architecture education because students must apply theoretical knowledge in real-world contexts. Liu (2021a) explained that landscape engineering education should strengthen practical experiences to enhance professional competencies. Furthermore, Liu (2022) argued that the discipline of landscape architecture requires educational systems that emphasize application-oriented learning, project-based activities, and professional practice. Therefore, educational management should support opportunities for experiential learning and practical skill development.

4) Teaching Objectives and Social Needs. Educational objectives should be aligned with national development priorities, labor market demands, and societal expectations. Liu (2021b) emphasized that landscape architecture education must cultivate graduates who can contribute to environmental sustainability, urban development, and community well-being. Effective educational management should therefore ensure that curriculum goals and learning outcomes remain relevant to contemporary social and professional requirements.

5) Learning Atmosphere. A positive learning atmosphere significantly influences students' academic achievement and professional development. Li (2017) suggested that learning environments should encourage interaction, creativity, collaboration, and active participation. Supportive relationships between instructors and students contribute to effective learning and improve students' motivation and engagement. Therefore, educational administrators should promote learning environments that foster academic growth and professional competence.

6) Evaluation Criteria. Assessment and evaluation systems are important mechanisms for monitoring educational quality and student achievement. Song (2018) emphasized that effective evaluation should measure both theoretical understanding and practical performance. Comprehensive assessment systems provide valuable information for continuous improvement of teaching and learning processes. Consequently, educational management should establish clear, reliable, and systematic evaluation

criteria that reflect program objectives and professional standards.

7) Resource Development. Essential for supporting effective teaching and learning. McGraw (2022) highlighted the importance of developing educational facilities, digital learning resources, and technological support systems to enhance educational quality. In contemporary higher education, resource development extends beyond physical infrastructure to include information technology, online learning platforms, and professional learning networks. Effective management therefore requires strategic planning and investment in educational resources.

8) Innovation and Development. Innovation is a critical factor in maintaining educational quality and responding to changing professional environments. Kingsbury (2019) emphasized that landscape architecture education should encourage creativity, interdisciplinary collaboration, and sustainable design practices. Educational institutions should continuously improve teaching methods, curriculum structures, and professional development opportunities to remain responsive to emerging trends and future challenges. Consequently, educational management should support innovation as an integral component of institutional development.

Research Process

The research process was conducted in three phases.

In the first phase, relevant literature, theories, and previous studies related to landscape architecture education and educational management were reviewed to

identify the preliminary components and indicators of landscape architecture education management. The synthesized components were used to construct the conceptual framework and research instruments.

In the second phase, quantitative data were collected from instructors and administrators working in landscape architecture programs at higher education institutions under Henan Province. The questionnaire was developed based on the identified components and validated by experts prior to data collection. The collected data were analyzed using descriptive statistics and Exploratory Factor Analysis (EFA) to identify the underlying components of landscape architecture education management.

In the third phase, qualitative data were collected through in-depth interviews with 16 key informants and a focus group discussion involving 11 experts. The purpose of this phase was to validate, refine, and develop practical managerial guidelines based on the findings obtained from the quantitative analysis. The qualitative data were analyzed using content analysis.

Finally, the findings from both quantitative and qualitative phases were integrated to formulate comprehensive managerial guidelines for landscape architecture education in higher education institutions under Henan Province. The proposed guidelines were intended to support educational administrators, instructors, and policymakers in enhancing educational quality, professional development, and institutional effectiveness.

Population and Sample

The population of this study consisted of 7,066 instructors and administrators involved in landscape architecture education management from 10 higher education institutions under Henan Province, China. These institutions were selected based on their educational provision in landscape architecture and represented different institutional characteristics and scales.

The sample for the quantitative phase comprised 364 instructors and administrators. The sample size was determined using Krejcie and Morgan's (1970) sample size table and selected through stratified random sampling to ensure adequate representation of the target population.

For the qualitative phase, 16 key informants were purposively selected from experienced administrators, academic leaders, and experts in landscape architecture education management from outstanding higher education institutions in Henan Province. Their expertise and professional experience provided in-depth insights into the essential components and effective practices of landscape architecture education management.

In addition, a focus group discussion was conducted with 11 experts specializing in educational management, landscape architecture education, and higher education administration. The focus group was organized to verify, refine, and validate the managerial guidelines developed from the quantitative and qualitative findings.

Instruments

Three research instruments were employed for data collection. First, semi-structured interviews were conducted with key informants to obtain in-depth information regarding the components and management practices of landscape architecture education. Second, a questionnaire was developed based on the reviewed literature and conceptual framework to collect quantitative data from instructors and administrators. Third, a focus group discussion was conducted with experts to validate, refine, and confirm the proposed managerial guidelines for landscape architecture education in higher education institutions under Henan Province.

Data Analysis

Quantitative data obtained from the questionnaires were analyzed using descriptive statistics, including frequency, percentage, mean, and standard deviation. Exploratory Factor Analysis (EFA) was employed to identify the underlying components of landscape architecture education management. Qualitative data collected from the semi-structured interviews and focus group discussion were analyzed using content analysis to validate and refine the proposed managerial guidelines.

Conclusion and Discussion

Conclusion

Managerial Guideline of Landscape Architecture Education in higher education under Henan Province has seven components:

- 1) Teaching theory requirements
- 2) Teaching practice and application

3) Teaching objectives and social needs

4) Learning atmosphere

5) Evaluation criteria

6) Resource development

7) Innovation and development

There are 16 total management guidelines:

(1) In the teaching of landscape design, the principle of "application as the purpose and necessity as the degree" should be earnestly implemented, and the teaching focus is on "mastering the concept, strengthening the application, cultivating the ability and improving the quality".

(2) In teaching, we should combine the teaching content and the characteristics of students, choose appropriate teaching methods and teaching means, consciously create, purposefully and focused atmosphere conducive to the development of students' ability, inspire students' thinking, and promote the improvement of students' ability.

(3) Carry forward democratic teaching.

(4) Using the new teaching mode, we need to pay attention to the differentiated needs of students.

(5) Strengthen the improvement of students' internal thinking.

(6) Talent training goals follow the pace of the times.

(7) Talent training objectives closely follow the national construction.

(8) Must have a good class atmosphere.

(9) Strive to maintain a high degree of consistency between teachers and students.

(10) Must guide students from the study method, so that they master good learning methods.

(11) Practical teaching is incorporated into the assessment system.

(12) Establish a scientific practice teaching evaluation system.

(13) Actively carry out the construction of digital teaching resources and platforms.

(14) Actively carry out research related to educational information.

(15) Strengthen the understanding of the connotation of teaching quality, and further improve the teaching art level of teachers.

(16) Training courses are offered for new teachers and graduate teaching assistants to further improve their educational and teaching ability.



Figure 1. Managerial guidelines of landscape architecture education in higher education under Henan Province

This study aimed to identify the components of landscape architecture education management and develop managerial guidelines for higher education institutions under Henan Province, China. The findings revealed from figure 1 that effective landscape architecture education management consists of seven interrelated

components: teaching theory requirements, teaching practice and application, teaching objectives and social needs, learning atmosphere, evaluation criteria, resource development, and innovation and development.

The results indicate that landscape architecture education management requires a comprehensive and integrated approach that balances theoretical knowledge, practical learning experiences, responsiveness to social and professional needs, supportive learning environments, systematic assessment, adequate educational resources, and continuous innovation. These components collectively contribute to improving educational quality and enhancing students' professional competencies in landscape architecture.

Based on the identified components, sixteen managerial guidelines were developed to support educational administrators and instructors in strengthening the effectiveness of landscape architecture education. The proposed guidelines provide a systematic framework for improving curriculum implementation, teaching and learning processes, resource utilization, educational quality assurance, and institutional development.

Furthermore, the findings suggest that successful management of landscape architecture education should not focus on a single aspect of educational provision but rather on the integration of all seven components as a coherent management system. Such an approach can enhance the quality of graduates, strengthen institutional performance, and better respond to the changing demands of society, industry, and sustainable development. Therefore, the proposed managerial guidelines may serve as a practical reference for higher education institutions seeking to improve landscape architecture education in Henan Province and other similar educational contexts.

Conclusion and Discussion

The findings revealed that landscape architecture education management in higher education institutions under Henan Province consists of seven interrelated components: teaching theory requirements, teaching practice and application, teaching objectives and social needs, learning atmosphere, evaluation criteria, resource development, and innovation and development. These findings suggest that effective educational management in landscape architecture requires a holistic approach that integrates academic, practical, organizational, and developmental dimensions.

The first component, teaching theory requirements, was identified as a fundamental element of educational management. This finding is consistent with the studies of Li (2020), Li (2022), Lin (2014), and Jia (2017), who emphasized that a strong theoretical foundation supports meaningful learning, professional understanding, and the development of design competencies. The result indicates that educational management should not only focus on administrative processes but also ensure the quality and relevance of teaching theories that guide instructional practices. In the researcher's view, theoretical knowledge remains the cornerstone of professional education because it provides the conceptual framework through which students can understand and apply landscape architecture principles in diverse contexts.

The second component, teaching practice and application, highlights the importance of experiential and practice-based learning. This finding supports the work of Liu (2021a) and Liu (2022), who

emphasized the significance of integrating practical experiences into landscape architecture education. The result reflects the nature of the discipline, which requires students to apply theoretical knowledge to real-world environmental and design challenges. The researcher believes that strengthening practical learning opportunities can reduce the gap between academic preparation and professional expectations, thereby enhancing graduate employability and professional competence.

The third component, teaching objectives and social needs, demonstrates the necessity of aligning educational goals with societal demands and national development priorities. This finding is consistent with Liu (2021b), who suggested that landscape architecture education should respond to changing environmental, economic, and social conditions. The result indicates that educational management should continuously review and adjust program objectives to ensure their relevance. From the researcher's perspective, responsiveness to social needs is essential for maintaining the sustainability and competitiveness of academic programs in an increasingly dynamic environment.

The fourth component, learning atmosphere, emphasizes the role of supportive educational environments in promoting student engagement and achievement. This finding corresponds with Li (2017), who highlighted the importance of positive interactions, collaboration, and active learning. The result suggests that effective educational management extends beyond curriculum administration to include the cultivation of an environment

that encourages creativity, communication, and professional growth. The researcher views the learning atmosphere as a critical factor that influences not only academic performance but also students' attitudes toward lifelong learning and professional development.

The fifth component, evaluation criteria, reflects the importance of systematic assessment in ensuring educational quality. This finding is consistent with Song (2018), who emphasized the need for comprehensive evaluation systems that assess both theoretical knowledge and practical competencies. The result suggests that assessment should serve not only as a measurement tool but also as a mechanism for continuous improvement. In the researcher's opinion, effective evaluation systems provide valuable feedback for students, instructors, and institutions, thereby contributing to the enhancement of educational outcomes.

The sixth component, resource development, highlights the significance of educational resources in supporting teaching and learning effectiveness. This finding is aligned with McGraw (2022), who emphasized the importance of developing educational facilities, digital resources, and technological infrastructure. The result indicates that educational quality depends not only on human resources but also on the availability and accessibility of learning support systems. The researcher believes that investment in educational resources is particularly important in contemporary higher education, where digital technologies increasingly influence

learning experiences and educational management practices.

The seventh component, innovation and development, demonstrates the necessity of continuous improvement and adaptation in landscape architecture education. This finding supports Kingsbury (2019), who emphasized creativity, sustainability, and innovation as essential characteristics of contemporary landscape architecture. The result suggests that educational institutions should continuously revise teaching approaches, curriculum structures, and management practices to remain responsive to emerging trends and future challenges. The researcher considers innovation to be a driving force that enables educational institutions to maintain relevance and achieve long-term development.

Overall, the findings indicate that landscape architecture education management should be viewed as an integrated system in which all seven components interact to influence educational quality and institutional effectiveness. Rather than focusing on individual aspects in isolation, higher education institutions should adopt a comprehensive management approach that balances theoretical learning, practical application, social relevance, supportive learning environments, effective assessment, resource development, and innovation. Such integration can contribute to the development of highly competent graduates capable of meeting the demands of the landscape architecture profession and supporting sustainable societal development.

Recommendations

1. Recommendations for Policy and Practical Application

1) Higher education institutions offering landscape architecture programs should establish educational management policies that promote the integration of the seven key components identified in this study, namely teaching theory requirements, teaching practice and application, teaching objectives and social needs, learning atmosphere, evaluation criteria, resource development, and innovation and development. Such integration will contribute to a more comprehensive and effective educational management system.

2) Educational administrators should strengthen the alignment between curriculum implementation and social needs by regularly reviewing program objectives, learning outcomes, and professional competencies to ensure their relevance to contemporary environmental, urban development, and industry requirements.

3) Universities should expand opportunities for practical learning and industry engagement through project-based learning, fieldwork, internships, and collaboration with professional organizations. These initiatives can enhance students' practical competencies and better prepare graduates for professional practice.

4) Institutions should develop supportive learning environments that encourage creativity, collaboration, critical thinking, and active student participation. A positive learning atmosphere can improve both academic achievement and professional development.

5) Educational quality assurance systems should incorporate comprehensive

evaluation criteria that assess both theoretical knowledge and practical competencies. Continuous assessment and feedback mechanisms should be utilized to support curriculum improvement and enhance learning effectiveness.

6) Universities should invest in educational resources, including digital learning platforms, instructional technologies, learning facilities, and professional development opportunities for academic staff. Resource development can strengthen teaching effectiveness and support educational innovation.

7) Higher education institutions should promote a culture of innovation and continuous improvement by encouraging the adoption of innovative teaching approaches, interdisciplinary collaboration, and the

integration of emerging technologies into landscape architecture education.

2. Recommendations for Future Research

1) Future studies should examine the applicability of the proposed managerial guidelines in other provinces of China to determine their generalizability across different institutional and regional contexts.

2) Further research should employ Confirmatory Factor Analysis (CFA) to validate the seven-component structure identified in this study and strengthen the empirical foundation of the proposed educational management framework.

3) Future studies may investigate the relationships among the seven components and their influence on educational outcomes, student competencies, graduate employability, and institutional effectiveness.

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