

Practical Exploration and Ecological Perspectives in New Liberal Arts Construction

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Abstract: The establishment of the new liberal arts has garnered immense interest in recent years. This article delves into the ecological connotations and characteristics of the new liberal arts, offering a groundbreaking ecological perspective on their key functions, adaptability, and environmental implications. By doing so, it puts forth four potential solutions to address the challenges regarding the construction of the new liberal arts. These solutions possess both theoretical and practical implications, serving as invaluable guides for interdisciplinary integration. Taking an ecological viewpoint, this article highlights the construction plan of the new liberal arts, which holds the promise of enhancing students' learning effectiveness. It elucidates how such an approach can foster a balanced and holistic educational environment, catering to diverse interdisciplinary needs. By embracing this plan, institutions can cultivate students' critical thinking, creativity, adaptability, and problem-solving skills, equipping them with the tools necessary to navigate the complexities of the modern world. In conclusion, the ecological analysis presented in this article offers fresh insights into the construction of the new liberal arts. By integrating interdisciplinary perspectives and promoting a comprehensive educational model, institutions can pave the way for a more effective and adaptive approach to learning.

Keywords: New Liberal Arts; Ecological Metaphor; New Liberal Arts Construction; Strategic Path

1. Introduction

The concept of the New Liberal Arts program was introduced by Dr. Lori Varlotta from Hiram College in Ohio, USA In 2017. This forward-thinking initiative seeks to

revolutionize liberal arts education by focusing on professional restructuring and transcending disciplinary boundaries within academic courses. Its overarching goal is to establish a groundbreaking model of interdisciplinary learning in American universities. In August 2018, China unveiled the concept of "new liberal arts" through its proposal of the "four new constructions" in fields such as engineering, medicine, agriculture, and humanities. Wu Yan, from the Department of Higher Education, was entrusted with the significant mission of overseeing the construction of new liberal arts, recognizing its critical role in promoting balanced development within China's higher education industry. Research on the new liberal arts currently explores talent cultivation, disciplinary establishment, curriculum design, research projects, and social services, aiming to uncover its developmental trajectory and strategic implementation. In a significant milestone event in November 2020, a conference on the construction of new liberal arts was organized by Shandong University, resulting in the issuance of the "Declaration on the Construction of New liberal arts." This declaration envisions the establishment of a world-class talent training system that embodies unique Chinese characteristics as a core objective. Building on this momentum, Fudan University hosted a dedicated seminar on the new liberal arts in December 2020. This seminar provided a comprehensive interpretation of the conceptual breadth, scope, and talent cultivation systems associated with the new liberal arts. It contributed to the advancement of the construction of new liberal arts by inspiring novel ideas within the digital landscape. In January 2021, the New liberal arts Professional Committee organized a specialized seminar titled "New liberal arts and Big Data." This seminar delved into topics such as digital humanities, data infrastructure, and interdisciplinary integration, sparking

profound discussions and generating new insights for the construction of new liberal arts in the dynamic context of digital transformation [1].

Distinguished from existing domestic and international research lenses, this article adopts a novel approach grounded in ecosystem dynamics and the imperative for equilibrium. It pioneers in examining the intricacies of new liberal arts construction, uncovering its underlying essence, ecological characteristics, and prevailing challenges. Additionally, it provides a fresh perspective on reconstructing the conceptual framework and strategic pathways for the implementation of new liberal arts construction, while offering concrete plans to guide its realization. These comprehensive insights offer invaluable assistance and support for talent cultivation, disciplinary advancement, curriculum integration, and community engagement within university settings [2].

2. Connotation and Ecological Attributes of New Liberal Arts

The proposition of the new liberal arts concept represents a national initiative implemented in a “top-down” manner, with the construction of new liberal arts being spearheaded by the government. The new liberal arts discipline places greater emphasis on interdisciplinary integration and the practical resolution of real-world problems. It transcends the conventional thinking patterns of traditional liberal arts by embracing inheritance and innovation, intersection and integration, as well as collaboration and sharing. The aim is to foster a deep integration and cross-pollination of multiple disciplines, consequently spurring the modernization and advancement of traditional liberal arts. This shift entails a transition from a subject-oriented approach to a demand-oriented one, from rigid professional divisions to flexible cross-integration, and from adaptive services to proactive support and leadership [3].

2.1 Connotation and Ecological Metaphor of New Liberal Arts

According to Zhao Kui-ying, the concept of “new liberal arts” exemplifies the intersection and integration of disciplines, bearing similarities to the notion of

“Super-Disciplines.” It serves as a novel research and educational model that tackles complex issues present in our daily lives, while erasing the boundaries between traditional disciplines and other fields of study [4]. The construction of new liberal arts emphasizes the need to weaken disciplinary boundaries and foster subject convergence and talent development that align with national, social, and industrial demands. Simultaneously, this endeavor leverages modern science and technology to reshape our value system and modes of thinking, allowing for a more profound understanding and response to the logical connections between science, technology, and the humanities and social sciences.

Wang Mingyu in his exploration of the development pattern within the Humanities and Social Sciences, assert that the construction of new Liberal Arts in educational institutions revolves around three influential factors. Firstly, it represents a new form of liberal arts emerging from the realm of emerging industries. Secondly, it embodies a transformation in the traditional research paradigm. Lastly, it responds to the ever-changing social development and people's evolving needs. Metaphorically speaking, the ecological perspective sheds light on these three factors, viewing them as the result of the main body's selection and adaptation to the environment, similar to the phenomenon observed in ecological systems. The movement towards constructing new Liberal Arts has garnered broad consensus among colleges, universities, and society at large. This ecological endeavor establishes the foundation for the transformation of old liberal arts into the new era. Embarking on the wave of new liberal arts construction, tangible measures have been set in motion. These measures outline four main paths for the construction of new liberal arts: disciplinary integration, curriculum reform, personnel training, and environmental development. Metaphorically, these pathways align with the four major elements adaptable to the subject factor, akin to the principles governing ecological balance [5]. The transition from old liberal arts to the new liberal arts necessitates the harmonious flow of various internal relationships, ultimately attaining a state of stability—an ecological balance. The principal actors within

the new liberal arts ecology encompass the learning community (students), the teaching community (teachers), and the management community. In this context, the term “management community” primarily refers to the collective effort of various departments and individuals dedicated to serving the learning community. It encompasses teachers and students, who play pivotal roles within the educational ecosystem, alongside universities, governments, enterprises, scientific research institutions, industry associations, and others. In essence, the construction of a new liberal arts paradigm can be conceptualized using an ecological metaphor that encompasses the interplay between the subject factor, the object factor, and the relationship between them. Within these diverse ecological relationships, each factor is subject to external influences and objective laws, creating associations, dependencies, and constraints among them.

2.2 Ecological Attributes of New Liberal Arts Construction

It is crucial to emphasize the diversification of personnel training and the long-term sustainability of the new liberal arts ecosystem. View through an ecological lens, the new liberal arts construction can be characterized by the following ecological attributes:

2.2.1 Systematicness

The ecological principles inherent in nature continuously inspire individuals to contemplate and explore the dynamic relationship and adaptive processes between humans and their environment using a systematic framework. In light of the ever-evolving demands of societal progress, how should key stakeholders develop within the new liberal arts ecology? How can they ensure its preservation? The construction of the new liberal arts must prioritize the development of individuals with a systemic mindset, elevating it to the level of the collective human destiny. Approaching the concept from the perspective of the systemic thinking mode of the collective human destiny, the liberal arts fundamentally revolve around the study of humanity, culture, values, as well as the state, society, and organizations. Ultimately, modernization signifies the modernization of human beings themselves. We require the preservation of our cultural heritage, the dissemination of ideas, and a

platform for global expression [6]. With the rapid development of emerging technologies like artificial intelligence, genetics, biotechnology, and big data analytics, humanity has entered an era characterized by interconnected intelligence and a comprehensive understanding of the world around us. In the face of increasingly prevalent “civilization diseases,” it becomes imperative to contemplate and reevaluate civilization from the systemic thinking perspective offered by the collective human destiny. Literature, possessing the ability to transcend race, beliefs, and cultures, serves as the connective thread that unites the spiritual realm of humanity [7]. In the competitive landscape of global powers, the cultivation of talent stands as the key to securing advantages and maintaining initiative. As a crucial hub for nurturing the younger generation, higher education in the liberal arts vigorously fosters a new generation equipped with international perspectives and global competencies. The new liberal arts places an emphasis on addressing the challenges faced by humanity, harnessing collective wisdom, and bearing greater responsibility in the ongoing civilization evolution within the collective human destiny. Adopting a holistic and systematic approach, the new liberal arts education concentrates on the ecological civilization within the framework of the collective human destiny. The construction of the new liberal arts constitutes a comprehensive undertaking, encompassing not just matters related to disciplinary essence and specialization, but also incorporating the establishment of research foundations, knowledge dissemination, effective management, development of research teams, and international collaboration in various domains [8].

2.2.2 Openness

In the intricate web of ecosystems, the notion of closure is an illusion. Just as an ecosystem thrives on openness, nurturing its stability requires a continual influx of energy; otherwise, it risks unraveling. Similarly, the new liberal arts construction is inherently open, driven by the imperative of cultivating talents equipped with comprehensive qualities for the new era. This endeavor calls for the establishment of a distinct digital humanistic environment infused with Chinese characteristics. With the advancements in

digital technology and big data analytics, research in the liberal arts field has evolved into the realm of digital humanities, embracing the trend of interdisciplinary integration. Constructing a liberal arts big data infrastructure and fostering an open platform for humanistic data sharing become vital to synergize humanistic and digital technologies, creating a cross-domain, cross-institution, and cross-platform space for collaborative exploration. Such endeavors are essential in meeting the evolving demands of the new liberal arts in terms of personnel development. Furthermore, the new era and its accompanying missions demand swift innovation and progress in liberal arts education. Innovation, in both importation and exportation, takes center stage. China's remarkable achievements in crafting its global discourse system since the advent of reform and opening up serve as a testament to the significance of this endeavor. It stands as the paramount objective in the construction of the new liberal arts. Building upon the foundations of assimilation and absorption, the new liberal arts must intertwine with China's national conditions and forge its own unique path of practical innovation [9]. Collaboration with domestic and foreign educational institutions, exploring open theoretical systems and research paradigms, participating actively on the international stage, and amplifying China's resounding voice hold the keys to expanding international influence.

2.2.3 Dynamic Balance

The ecosystem, a dynamic and evolving entity, undergoes an organic process of development. In the realm of constructing the new Liberal Arts, the relationship between the "new" and the "old" does not imply a binary of acquisition and abandonment. Rather, it necessitates the exploration of crossroads, seeking a dynamic equilibrium between them. Within the field of humanities and social sciences, the interplay between the new and the old encompasses an intricate balance that embraces both inheritance and persistence. CHEN Zhou-wang, a scholar from Fudan University, asserts that the "new" in new political studies, which represents one of the major disciplines in the new liberal arts, manifests itself in research methodologies and pedagogical practices. It entails a continuous impetus to challenge established norms,

engage in introspection, and discover fresh theoretical breakthroughs through academic research and daily teaching [10]. Thus, the distinction between the old and the new lies not in superficial or arbitrary innovations but in the implementation of novel thinking patterns and actions. The new paradigm of liberal arts does not negate traditional liberal arts; rather, it upholds the essential and core characteristics that define the liberal arts. The notion of "new" signifies a reorientation in the construction of liberal arts. With a foundation rooted in the original principles of the liberal arts, it repositions the conceptual framework, objectives of talent cultivation, and the modes of construction to meet the exigencies of national development and the evolving needs of society.

3. Ecological Plan for the Construction of New Liberal Arts

The construction of new liberal arts exhibits a certain adherence to principles derived from biological laws. In this regard, ecology offers innovative research methods and perspectives, thereby enriching the exploration of practical paths in new liberal arts construction. Resonating with the ecological concept, the learning community, teaching community, and management community within the new liberal arts construction can be likened to biological entities [11]. By closely integrating various subjects, such as curriculum reform, personnel training, and environmental development, the construction aims to optimize and foster an ecosystem conducive to mutual growth. Specifically, the factors influencing this ecosystem encompass all environments that facilitate academic study, scientific research, and effective management. These encompass the physical and conceptual parameters constituting the ecological circle. The focal point of new liberal arts construction lies in the establishment of an enriched environment, the optimization of personnel training approaches, and the reconfiguration and integration of disciplines and majors. Through these endeavors, the goal is to cultivate multidisciplinary talents with outstanding comprehensive capabilities, tailored to China's national conditions and the demands of the new era. Enlightened by ecological principles, the construction of new liberal arts should prioritize long-term

development objectives and adhere to ecological laws. Consideration of an ecological strategic path is thus imperative in new liberal arts construction.

3.1 Create Mutually Beneficial Symbiotic Relationship and Build a New Training System for High-Quality Liberal Arts Talents

The concept of the benign ecological circle in new liberal arts highlights three interconnected levels: symbiosis, mutual generation, and regeneration. The emphasis in the new liberal arts ecology lies in nurturing a mutually beneficial and symbiotic relationship within the subject community. This community encompasses not only a learning community but also a teaching community and a management community, each exhibiting intricate dynamics of internal coexistence and competition. In the context of colleges and universities, the ecological subject of new liberal arts serves the ultimate purpose of supporting and guiding the learning community to generate high-quality talents that meet the needs of society. Furthermore, a symbiotic relationship exists between the subject of new liberal arts and its environment. To effectively deliver high-quality human resources in the field of liberal arts to society, it is vital to grasp the mutually beneficial symbiosis between the subject and the environment. An ideal environment for new liberal arts construction is one that provides a conducive and symbiotic ecosystem for the subject's learning community. The construction of new liberal arts should encourage the coexistence of mutual benefits between the subject and the environment. Moreover, the environmental development should ensure the hierarchical symbiosis of the subject within the contextual factors. This symbiosis encompasses not only the mutually beneficial relationship with the subject but also the sustainability and renewability of the environment itself within the new liberal arts discipline.

3.2 Make Use of the Thinking of "Internet+" to Create a Balanced Development Model for the Construction of New Liberal Arts

Nomadic communities demonstrate a remarkable aptitude for understanding and

maintaining the delicate balance of the grassland ecological circle. They establish protective conventions and implement control measures to ensure the equilibrium of the grassland ecosystem. Rather than resorting to indiscriminate killing, these communities exemplify wisdom, unity, and agility in safeguarding various elements of the grassland, including vegetation, water sources, and the delicate balance between predator and prey. Their holistic approach captures the essence of nomadic thinking. In a similar vein, the construction of new liberal arts should embrace this nomadic thinking. It should incorporate not only short-term goals but also long-term considerations. As we approach the era of widespread interconnection, driven by the rapid advancement of smartphones and Internet technology, a paradigm shift has occurred. This shift, known as Internet thinking, enables the seamless interconnection of individuals, their needs, and real-time interactions with the world. By breaking away from the confines of traditional liberal arts thinking, the construction of new liberal arts emphasizes the simultaneous fostering of heritage and innovation, the convergence of diverse disciplines, and the creation of a discourse system unique to China. To inform the environmental development of new liberal arts, we can draw inspiration from the nomadic thinking within the context of the "Internet Plus" era. This involves not only transforming existing environments but also integrating emerging technologies and methodologies. By embracing interdisciplinary and cross-disciplinary approaches, we can introduce novel elements, such as digital humanities constructions and biotechnological support, without neglecting the preservation of the original liberal arts ecology. Consequently, a new liberal arts environment can be established, one that strikes a harmonious balance between the maintenance of the original ecosystem and the incorporation of new advancements. It is essential to formulate comprehensive plans for construction and development, collectively forging a sustainable and well-balanced model for the new liberal arts discipline.

3.3 Create a "Double-Teacher Classroom" and Reshape the Main Role of Teaching

The double-teacher classroom represents a

pioneering approach to education, leveraging the power of network interactive video live broadcast technology to create a unique method known as "online live broadcast-offline guidance." By combining state-of-the-art hardware and software equipment, this innovative learning model involves the collaboration of two remote instructors who assume distinct roles as lecturers and tutors. In practice, the lecturer delivers captivating course content via online streaming on a large screen, while the tutor assumes responsibility for managing, answering questions, and maintaining classroom discipline offline. This transformative approach reshapes the traditional role of the teacher, with the lecturer assuming the role of a "teaching actor" endowed with remarkable pedagogical skills and a comprehensive knowledge base. Their ability to captivate and engage students is paramount, demanding not only expertise in their respective professional fields but also exceptional teaching and acting abilities. Meanwhile, the offline teachers in our school provide indispensable support for classroom management, teaching supervision, homework evaluation, and more. Furthermore, as the field of education embraces the potential of artificial intelligence (AI) and machine learning, a new form of the double-teacher classroom has emerged. This groundbreaking iteration involves the collaborative efforts of AI-powered education robots and human teachers, working in tandem to facilitate the teaching process. Within this context, education robots assume certain teaching responsibilities, offering personalized learning services and assisting teachers in delivering comprehensive instruction. The double-teacher classroom represents the future trajectory of classroom development, embracing a division of labor between teaching and learning, harnessing the expertise of renowned educators, and prioritizing deep student engagement. By providing efficient and comprehensive teaching services, this model aims to elevate the overall quality of education in colleges and universities, empowering students to thrive in their academic pursuits.

3.4 Guide Diversified Coordination and Promote the Ecological Construction of New Liberal Arts

In the realm of future education, it is imperative for teachers to embrace and navigate the intelligent teaching landscape characterized by "human-machine collaboration." Focusing on the core principle of "educating people," teachers must foster students' awareness and aptitude in working alongside machines, thereby laying a solid foundation to cater to the demands of the Artificial Intelligence era. The integration of Digital Humanities and artificial intelligence aligns harmoniously with the evolving mindset and objectives of new liberal arts education. The advent of new liberal arts education necessitates multifaceted dialogue and collaboration among various stakeholders. Human-Computer collaboration, a vital subset of artificial intelligence, capitalizes on the synergy between human intelligence and machine intelligence to forge machine learning models. Notably, this field encompasses a wide array of applications, including natural language processing, computer vision, sentiment analysis, transcription, and many more. Through Human-Computer cooperation, models such as text classifiers, computer vision algorithms, and information search and retrieval systems can be refined and adjusted, ensuring the precision and effectiveness of decision-making processes. Moreover, the collaboration between human intelligence and machine intelligence empowers the examination of vast datasets through sophisticated machine analysis while leveraging human cognitive abilities to unravel intricate concepts and resolve intricate problems. This collaborative approach transcends the confines of each individual intelligence, leading to transformative outcomes.

4. Conclusions

This article focuses on bridging the technological gap that exists between the establishment of a learning community and the creation of a new liberal arts environment. By adopting the proposed construction plan for the new liberal arts, the roles of teachers and students are redefined, laying the foundation for the development of a thriving learning community. This transformative process aims to enhance the learning environment and ultimately improve the effectiveness of learners. A key aspect of this construction plan

is the careful attention given to the ecological development of the new liberal arts. Recognizing the significance of long-term sustainability, the article emphasizes the need for a progressive and continuous construction process. By incorporating ecological principles and practices, the new liberal arts can flourish, benefiting both university teachers and students. By repositioning the roles of teachers and students and fostering a dynamic learning community, the proposed construction plan can create an optimal learning environment. This approach not only enhances the learning effectiveness of students but also supports the growth and development of university teachers. It is through this holistic and ecological lens that the construction of the new liberal arts can thrive and evolve over time. In conclusion, this article highlights the importance of addressing the technological gap in constructing a learning community within a new liberal arts framework. The proposed construction plan, guided by ecological principles, offers a sustainable pathway for universities to establish a conducive learning environment. By embracing this approach, institutions can optimize the learning experience and ensure the continuous growth and success of both teachers and students.

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