Adult and Higher Education (2026)
Clausius Scientific Press, Canada

DOI: 10.23977/aduhe.2026.080119
ISSN 2523-5826 Vol. 8 Num. 1

Exploring the Reshaping and Practice of Higher Education Functions under the Guidance of New Quality Productivity

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Keywords: New quality productivity; Remodeling the educational function; Structural tension; Paradigm transformation; Institutional ecology

Abstract: The rise of new quality productivity (NQP) requires systematic reconstruction of the functional system of higher education. The traditional educational paradigm centered on knowledge transfer is difficult to adapt to the characteristics of the times, such as the acceleration of technological iteration and the melting of industrial boundaries. Based on the interactive relationship between productive forces and educational functions, this paper deconstructs the adaptability dilemma between the institutional heritage of educational functions formed during the period of industrial civilization and the development needs of NQP. The research reveals that there is a deep tension between knowledge transfer, scientific research training and social service under the mode of branch logic, linear scientific research and one-way service, and then a three-dimensional framework with innovative literacy, cross-domain integration and technical ethics as the core is constructed. The framework emphasizes that the educational function has changed from instrumental orientation to ecological constructive role, and the system coordination is realized through the reconstruction of curriculum clusters, the weakening of organizational boundaries and the innovation of evaluation mechanism. Theoretical analysis shows that only by embedding regional innovation networks into active nodes can universities break through path dependence and achieve functional re-engineering. The success of remolding educational function depends on the overall evolution of institutional ecology rather than piecemeal repair, and ultimately points to the return of human subjectivity value in technological civilization.

1. Introduction

As the core engine driving profound economic and social changes, new quality productivity (NQP) is reshaping the underlying logic of knowledge production and human capital formation [1]. This productivity pattern, which is dominated by scientific and technological innovation and marked by the improvement of total factor productivity, transcends the traditional factor-driven growth paradigm [2]. The adaptability of higher education function is directly related to the sustainability of the development of NQP [3]. However, the existing education system is still mired in the standardization, specialization and one-way output mode formed during the industrial

civilization period [4]. The structural mismatch between the educational function and the evolution of productive forces has become a hidden bottleneck restricting the efficient connection between innovation chain and the talent chain.

Theoretically, the study of educational function has long been confined to instrumental rational analysis from the perspective of sociology, or to ontological discussion within pedagogy [5]. The technological-economic-social complex changes contained in the NQP require a re-examination of the role of universities in knowledge creation, value transmission and social services [6]. This kind of examination is not a simple superposition of emerging technology courses or adjustment of professional catalogues, but a deconstruction of the generation logic of traditional educational functions from the functional core [7]. The reshaping of the educational function of universities is essentially a paradigm revolution around the source of innovation, knowledge transformation and value guidance. Its theoretical construction needs to break through the limitation of linear adaptation theory and turn to ecological and dynamic functional observation.

Based on the interactive relationship between NQP and educational function, this paper tries to build a theoretical analysis framework with structural transformation as the core. The research focuses on the inherent demands of new quality productive forces for educational functions, analyzes the adaptability dilemma of traditional functional paradigms, and on this basis, puts forward the logical path of functional remodeling and the direction of institutional innovation. .

2. Educational meaning and functional appeal of NQP

The NQP profoundly reconstructs the time and space scale of knowledge value realization through the triple mechanism of accelerating technological iteration, melting industrial boundaries and generalizing innovative subjects. The cluster breakthrough of frontier technologies such as artificial intelligence, bio-manufacturing and quantum information has significantly shortened the half-life of knowledge, and it is difficult to maintain the competitive advantage of innovation simply by accumulating knowledge stock [8]. The trend of industrial integration has spawned a large number of cross-cutting job demands, requiring talents to have the cognitive flexibility of flexible migration between the multi-dimensional interface of technology, market and society. Innovation activities spread from R&D departments of enterprises to the whole society, and universities are no longer only the suppliers of basic research, but also need to become active nodes of regional innovation networks. These characteristics point to the triple demands of educational function: knowledge reproduction must be transformed from linear transmission to dynamic generation, human capital cultivation should transcend professional barriers and strengthen systematic thinking, and social service function should be upgraded from passive response to active policy source. The specific demands of different dimensions of new quality productive forces on educational functions show differentiated characteristics, as shown in Figure 1.

The rapid iteration of technical dimension requires the education system to establish an adaptive mechanism for knowledge updating; The cross-border integration of industrial dimensions calls for the substantial reconstruction of interdisciplinary course system; The openness of innovation ecology forces universities to break organizational boundaries and build collaborative education channels with enterprises and research institutes. These demands do not exist in isolation, but form a compound pressure through the vertical penetration of innovation chain and the horizontal coupling of the industrial chain, forcing the educational function to shift from single-dimensional optimization to systematic reconstruction [9].

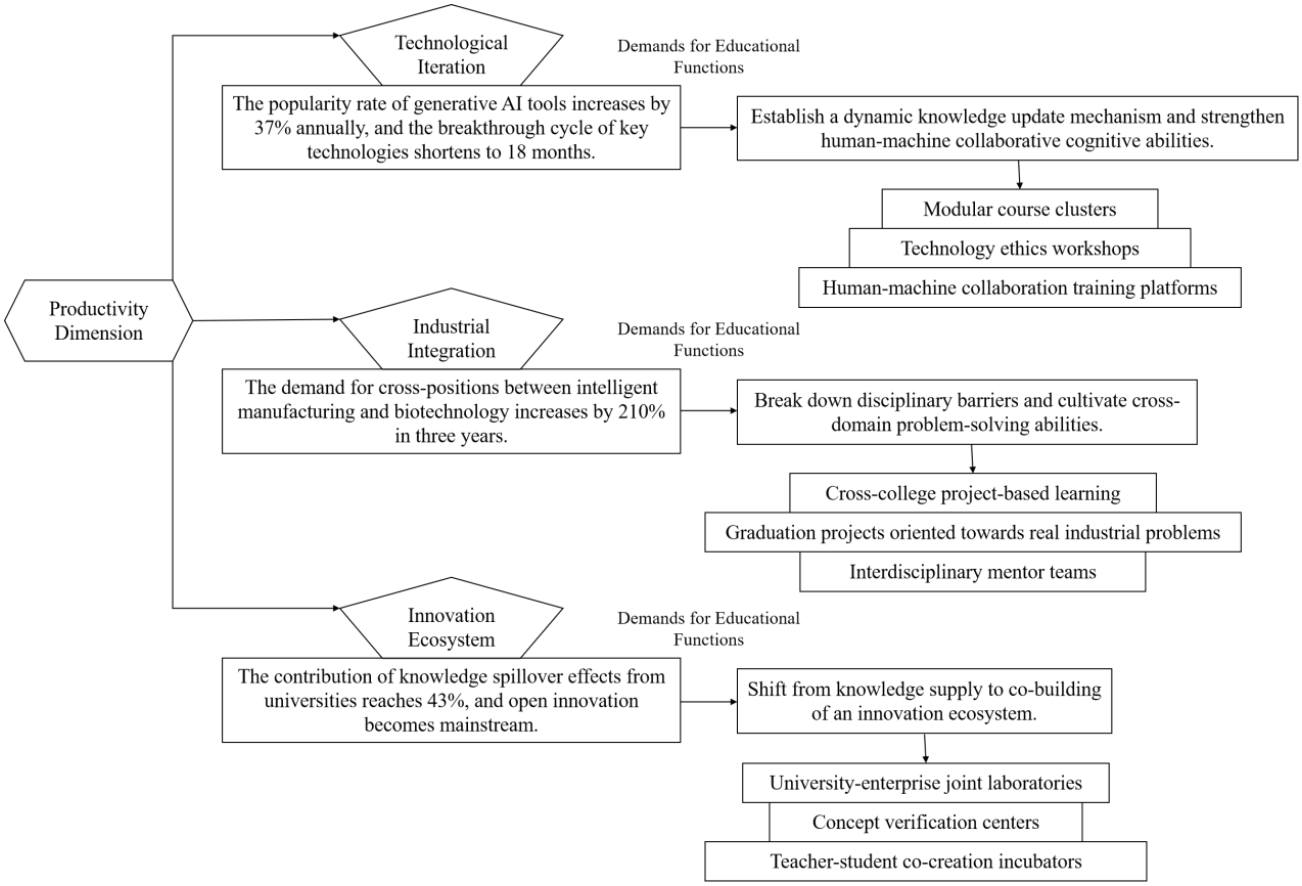

Figure 1 Dimensions of NQP and Demands for Educational Functions

3. Structural tension of traditional educational function paradigm

When the NQP reconstructs the innovation order with nonlinear, cross-domain and ecological characteristics, the path dependence within the existing functional paradigm shows profound structural tension [10]. The function of knowledge transmission has long adhered to the curriculum matrix with strict discipline barriers, and cut knowledge into modular units that are not mutually agreed. Although this kind of divided logic is conducive to the fine inheritance of knowledge system, it is difficult to cultivate the cognitive flexibility needed to deal with the technology integration scene. Students acquire fragmentation skills in highly structured knowledge sequences, and often fall into the dilemma of a single methodology toolbox when faced with a new problem domain generated by the intersection of artificial intelligence and biotechnology.

The above tension is further solidified into a systematic mismatch between evaluation mechanism, organizational structure and resource allocation at the institutional level. The division of departments in universities follows the tradition of discipline classification in the 19th century, and interdisciplinary cooperation often becomes a mere formality because of the attribution of performance accounting. Teachers' promotion relies too much on journal influence factors, which inhibits the long-term exploration of real problems facing the industry; The average course renewal period is as long as three to five years, which lags far behind the technical iteration speed. These institutional inertia together construct the hidden barrier of functional transformation.

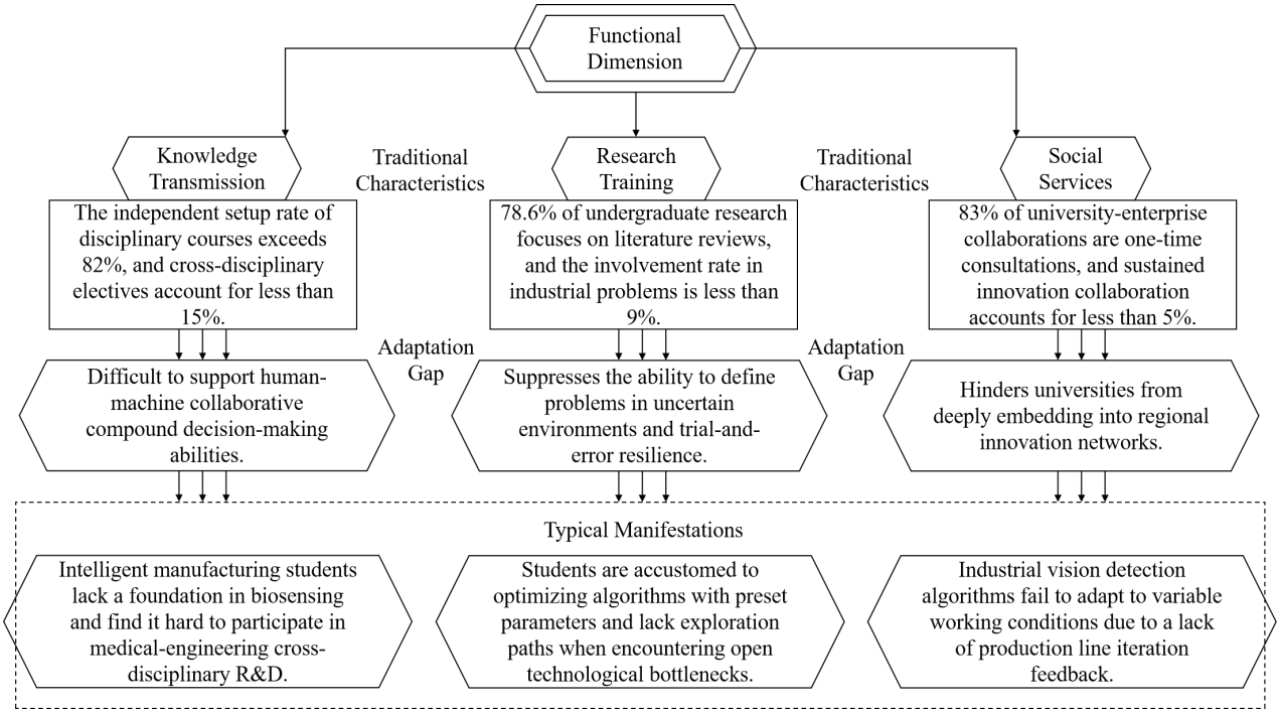

Figure 2 Mismatch between Traditional Functional Paradigms and NQP

Figure 2 shows the mismatch between the core link of traditional functional paradigm and the demand of NQP. It reveals the urgency of functional transformation from linear transmission to ecological co-construction, from closed discipline to problem-oriented, from short-term output to sustainable symbiosis. This tension does not stem from the subjective slack of the educational subject, but from the historical dislocation between the institutional heritage of the industrial era and the productive forces in the digital intelligence era.

4. Logical framework and dimension reconstruction of educational function remolding

The systematic reconstruction of educational function is not a simple repair of traditional function or the superposition of elements, but a paradigm reconstruction based on the internal logic of NQP. This reconstruction process follows the triple progressive logic: on the ontological level, the educational function needs to shift from the instrumental orientation of knowledge transfer to the constructive role of innovative ecology; On the epistemological level, the path of function realization must break through the linear causal thinking and turn to the complex system view that emphasizes emergent properties, interactivity and adaptability; At the level of methodology, the design of functional carrier should abandon the standardized template and build an institutional interface with elastic tension. The above logic points to the fundamental shift of educational function from one-way output to ecological co-construction, and its core lies in reconstructing the coupling mechanism among knowledge production, value transmission and social service.

The reconstruction of functional dimension is embodied in the three-dimensional coordination of innovation literacy cultivation, cross-domain knowledge integration and technical ethics cultivation. Innovative literacy cultivates skills training paradigm beyond traditional entrepreneurship education, and focuses on shaping students' problem definition ability, iterative trial and error resilience and cross-interface cooperation consciousness in uncertain environment. Cross-domain knowledge integration is not simply adding cross-courses, but reconstructing the logic of knowledge organization through problem-oriented curriculum clusters. The cultivation of technical ethics

responds to the derivative risks such as algorithm bias and data privacy in the development of new productivity, and embeds ethical reflection in the whole process of technical learning. These three dimensions are nested and mutually reinforced, which together form a three-dimensional framework for reshaping educational functions.

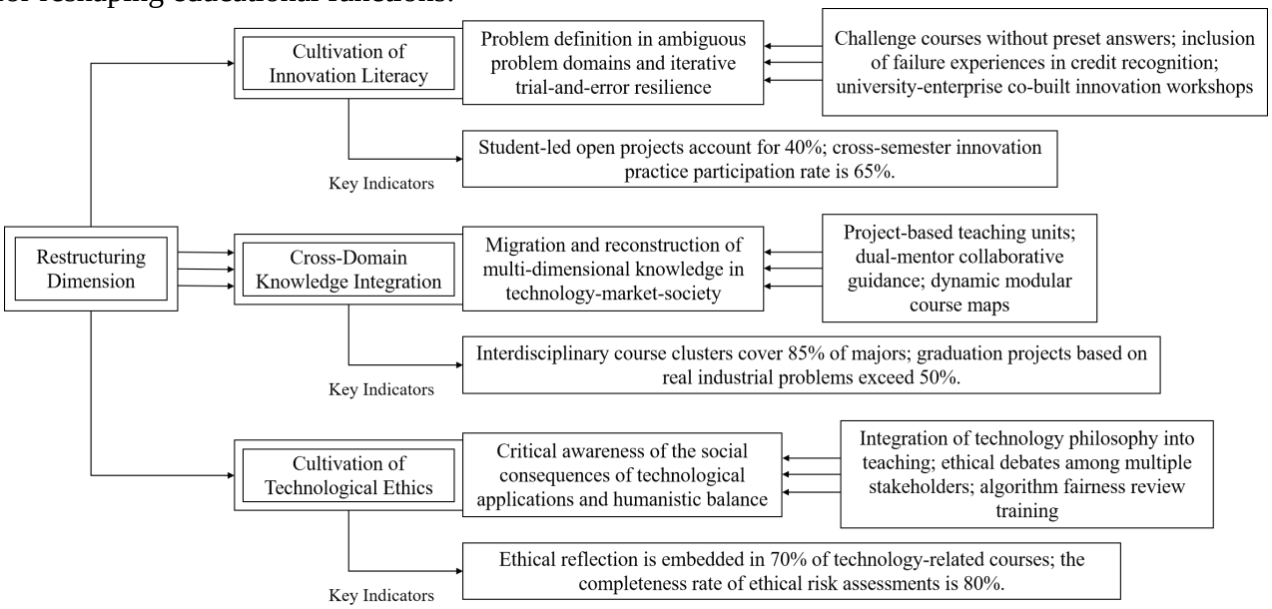

Figure 3 3D Framework for Educational Function Reshaping and Institutional Support

Figure 3 further refines the core operational indicators and institutional support elements of each dimension. This adaptation is not an adaptive adjustment passively following technological changes, but a strategic choice for universities to actively participate in the construction of innovation order. It finally points to the historic transition of educational function from social reproduction tool to civilization evolution engine.

5. Institutional innovation and prospect of practical approach

The remolding of educational function depends on the systematic innovation of institutional ecology. Its core lies in building an elastic institutional interface to support functional transformation. The curriculum system needs to break through the rigid branch structure and turn to the modular cluster design centered on the problem domain, so as to keep the dynamic coupling between the logic of knowledge organization and the trend of technology integration. The academic organization structure should weaken the administrative boundary of traditional departments, cultivate the independent growth space of interdisciplinary innovation units, and institutionalize the flow of talents by replacing the fixed establishment with project-based teams. The evaluation mechanism should go beyond the orientation of a single paper and incorporate the efficiency of technological transformation, cross-domain collaborative contribution and ethical reflection into the evaluation system of teacher development. These institutional changes are not promoted in isolation, but form a synergistic evolution pattern through the triple linkage of curriculum, organization and evaluation.

The function realization of universities as innovation network nodes ultimately points to the deep embedding with the regional innovation system. This embeddedness transcends the traditional contractual relationship of Industry-University-Research cooperation and turns to the symbiotic evolution of knowledge production, technology incubation and talent cultivation. By opening laboratories, building proof-of-concept centers and sharing data platforms, universities will

transform their own innovative resources into regional ecological public goods. This two-way empowerment mechanism makes the educational function change from self-circulation in the closed system to value co-creation in the open ecology. The ultimate goal of institutional innovation is not to optimize the execution efficiency of existing functions, but to reconstruct the role orientation of universities in the evolution of civilization-from the inheritor of knowledge inheritance to the source of NQP development.

6. Conclusions

The reshaping of the educational function of universities under the guidance of NQP is a paradigm revolution that touches the foundation of the system. By systematically analyzing the structural tension of traditional functional paradigm in the dimensions of knowledge organization, scientific research training and social service, this study reveals the historical dislocation between the institutional heritage in the industrial era and the productive forces in the digital intelligence era. This dislocation is not due to the subjective slackness of the educational subject, but a systematic barrier constructed by the divided knowledge system, linear scientific research evaluation and closed organizational structure. The three-dimensional reconstruction framework constructed by the research puts the cultivation of innovative literacy, cross-domain knowledge integration and technical ethics cultivation at the core of functional reconstruction. This framework breaks through the linear thinking that simplifies the functional transformation into the superposition of elements, and instead examines the role reconstruction of universities as innovation network nodes from an ecological perspective. The deep logic of institutional innovation lies in constructing a triple linkage mechanism of curriculum, organization and evaluation, so that knowledge production, technology incubation and talent cultivation can realize value co-creation in an open ecology. This turn requires educational theory to transcend the shackles of instrumental rationality and re-anchor the subjective value of human beings in technological civilization. The ultimate goal of function remodeling is not to optimize the execution efficiency of existing functions, but to promote the historic transition of universities from social reproduction tools to civilization evolution engines. The future theoretical exploration needs to further deepen the research on the coupling mechanism between educational function and innovation ecology, especially paying attention to the dynamic balance between institutional flexibility and functional adaptability.

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