

Research on the Path to Improving Teaching Quality in Applied Universities

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Abstract: Applied universities have the important mission of cultivating high-quality application-oriented talents, and supporting regional economic development and upgrading industries. These institutions, however, are currently grappling with practical issues of unrealistic educational objectives, lack of variety in educational programs, disjunction between theory and practice in talent cultivation and the lack of depth in industry-education integration. The structural contradiction between teaching quality and industrial development needs has become increasingly prominent. Based on the contemporary context and practical challenges of teaching quality improvement in applied universities, this paper proposes a systematic improvement path from five dimensions: first, solidifying the positioning of application-oriented education and reshaping the values of teaching quality improvement; second, establishing a dynamic mechanism of program adjustment to optimize the structural support for teaching quality improvement; third, deepening the reform of industry-education integrated curricula to strengthen the core processes of teaching quality improvement; fourth, constructing a "dual-qualified and dual-capable" faculty team to build talent foundation for teaching quality improvement; fifth, building a teaching quality assurance system to form a closed-loop mechanism for teaching quality improvement. The study puts forward the idea that the essence of teaching quality improvement in applied universities is to promote the shift of talent cultivation from "supply-driven" to "demand-driven". The key to this transformation is to regard the industrial demand as the starting point and take it as the direction to thoroughly combine the education chain and talent chain with the industrial chain and innovation chain.

Keywords: Applied Universities; Teaching

Quality; Industry-Education Integration; Quality Assurance; Paths

1. Introduction

The *Outline of the Plan for Building a Strong Education Nation (2024-2035)* clearly includes differentiated development of universities according to their functional types: research, application and skills. Application-oriented universities play a key role in serving the national strategy of building a strong nation through higher education and shoulder the important task of cultivating high-quality application-oriented talents, promoting regional development and helping to upgrade industries. But, the quality assurance systems of application-oriented universities are experiencing an intensive transformation due to universalization of higher education and rapid change of the industrial technologies. There are still a number of institutions that are heavily dependent on the talent cultivation models of research-oriented universities, and lack practical training and competency development. The lack of depth in industry-education integration and university-enterprise collaboration leads to a lack of students' practical training.

Teaching quality is the lifeline of higher education and the foundation for the survival and development of application-oriented universities. These universities should focus on improving teaching quality, actively respond to the needs of the economic and social development, build a unique and distinctive development pathway. On this basis, this paper is to systematically analyse the existing problems and difficulties of application-oriented universities in improving the teaching quality, and through analysis, explore the possible improvement measures, and provide references for application-oriented universities to carry out teaching reform and quality construction.

2. The Contemporary Context of Teaching Quality Improvement in

Application-Oriented Universities

2.1 The New Requirements for Application-Oriented Talent Cultivation under the Education Powerhouse Strategy

The building of an education powerhouse takes higher education as its core. Application-oriented universities must clearly define their contribution to the education powerhouse strategy, proactively respond to the major demands of socio-economic development, and stay closely connected with the needs of key industries in the latest round of comprehensive higher education reforms. In March 2025, Shanghai became a leader in the pilot reform of talent cultivation models in application-oriented universities. Five municipal universities published plans for reform, which include changing the body of cultivation from universities to the dual system of universities and enterprises, and changing the system of cultivation from the system of disciplines to the demand of the industry. The pilot reform is a systematic change of the talent cultivation model from "standardized cultivation" to "customized cultivation" in the application-oriented universities [1].

2.2 The Urgent Need for Teaching Reform in the Development of New Quality Productive Forces

New quality productive forces have shined a light on the talent cultivation direction of application-oriented universities, and placed new demands on the quality of talents cultivation. The application-oriented universities should further deepen the integration of industry and education, and create a closed-loop collaboration among the education chain, industrial chain and innovation chain, and play an important role in cultivating new labor forces. In the context of the talent powerhouse strategy and the need for new productive forces, it is necessary to strengthen industry-education integration, and match the supply and demand of talents to alleviate the structural contradictions of application-oriented universities and achieve high-quality development. The basic task of these institutions is to promote the deep integration of the education chain, talent chain, industrial chain and innovation chain [2].

2.3 The Clear Policy Direction for the Institutional Positioning under the

Categorized Development of Higher Education

For a long time, some universities that serve in a more application-oriented context have found themselves in a developmental dilemma of becoming "miniature versions of academic universities". The Education Powerhouse Construction Plan clearly mentions differentiated development according to the functional positioning of universities, and offers a policy basis for application-oriented universities to get rid of identity anxiety and let universities establish their application positioning. These institutions need to decisively stay away from conventional developmental issues, focus on the pain points of regional industry and job market, and adopt a unique development mode of "industry-driven education, education-driven industry, and a closed loop of industry-education integration".

3. The Practical Challenges in Improving Teaching Quality in Applied Universities

3.1 Overly Ambitious Goals and Unstable Positioning

Nowadays, many applied universities are facing difficulties due to unstable positioning and institutional goals that are too ambitious. Many institutions newly becoming undergraduate institutions are keen to have words like "high-level", "first-class", and "research-oriented" in their development goals, but dilute or ignore essential features of their application-centred mission. These universities lack a clear view of positioning and are unable to optimally allocate resources, arrange faculty, and focus on the curriculum, so teaching improvement is difficult to have a strategic foundation. Besides, the current higher education policy system and higher education system are not comprehensive enough for the development of applied universities, which presents latent obstacles for the stable long-term development of applied universities.

3.2 Homogenized Program Offerings and Misalignment with Industrial Needs

There is a clear mismatch between the supply and demand of talent cultivation at macro strategic, process, mechanism and guarantees aspects in applied universities. Specifically, the programs offered often do not match the real needs of region's industries and curriculum

design fails to keep pace with the upgrading of industries, hence the skills of graduates are mismatched with job requirements. Substantive integration of teaching processes with professional standards or job-related skills is lacking, thus there is a disconnect between education and industry. The lack of research on local industrial conditions has resulted in the likes of "one size fits all" models and it has also made it hard for institutions to come up with unique approaches to education [3].

3.3 Disconnection between Theory and Practice in Curriculum Design and Shallow Industry-Education Integration

The courses in applied universities still suffer from a separation of theory and practice, and a well-balanced combination is not yet available. Course content updates lag behind the development of industrial technology, and the quality of practical teaching is also not high enough, so that students have insufficient practical experience in practical application. The integration of industry and education and the cooperation between universities and enterprises are often superficial and "enthusiastic universities and indifferent enterprises" is widely existing. Collaborative work doesn't ensure mutually beneficial and sustainable mechanisms. Universities invite enterprise engineers to be involved in teaching within the classroom, but those mentors from the enterprise have difficulties in contributing their enterprise projects to the classroom. In a similar way, there is limited linkage between research and teaching, and enterprise contribution and classroom learning among the full-time staff, because they hardly involve their research projects in teaching. This shallow integration has now become an important problem which limits the high-quality development of applied universities.

3.4 Imbalanced Faculty Structure and Insufficient Practical Competence

Imbalance in faculty structure is one of the critical challenges in enhancing the quality of teaching in the applied universities. Many of the faculty members are from academic universities, and have no first-hand knowledge of industries or enterprises, so they are not suitable to train application-oriented talents. Faculty development in the context of institutional growth must be a key issue. Nevertheless, definitions, plans and incentives for

"dual-qualified and dual-capable" faculty are still in need of improvement. There is little opportunity for faculty to obtain industry experience, and the faculty are not keen on getting such experience. The overall teaching competence therefore, is still not satisfactory for application-oriented education.

3.5 Fragmented Quality Assurance Systems and Absence of Quality Culture

Given the results of the latest round of undergraduate education and teaching evaluation, applied universities still have something lacking in terms of their approaches, philosophies, systems and cultures to quality assurance. The issues are: Silo mentality, missing quality culture and wrong quality standards. Many institutions still use traditional management models that rely on control, and there are no holistic standards and linkages in operation. There is a need to clarify and improve the awareness of quality assurance among stakeholders and the practical implementation of such systems [4,5].

4. Paths to Improving Teaching Quality in Applied Universities

4.1 Solidifying Application-Oriented Positioning to Reconstruct the Value Foundation for Quality Enhancement

To improve teaching quality in applied universities, it is necessary to have a clear and definite institutional positioning. Thinking about values and setting objectives that are application-oriented is a first step on the way towards quality development. To avoid taking the wrong turn towards becoming "miniature versions of academic universities" is crucial and is more in line with the realities and needs of these institutions.

Institutionalizing application-oriented positioning: It may be helpful to incorporate the application-oriented education concept into institutional charters and plans for development. A strategic design that is thorough can help to keep the university on track when changes in leadership or policies occur.

Establishing regular evaluation mechanisms: Having periodic checks and controls on institutional practices and strategic orientation may help to link the disciplines, curricula, faculty and resources with the ultimate objective of developing application-oriented talents.

Developing distinctive approaches: Rather than aiming for "large-scale and comprehensive" goals, distinctive approaches, which emphasize "distinctiveness, application-oriented focus, and regional relevance", may be more suitable.

4.2 Establishing Dynamic Program Adjustment Mechanisms to Optimize Structural Support for Quality Enhancement

Programs, as the fundamental form of talent cultivation, have a direct impact on teaching quality. Introducing dynamic adjustments to programs and developing them with distinctive characteristics are feasible approaches to improving teaching quality. Dezhou University's "demand-driven, dynamic adjustment, and survival of the fittest" is a typical example of phasing out traditional subjects with weak regional demands and introducing new strategic subjects that are in high demand.

Key measures for dynamic program adjustment include:

Reforming decision-making processes for program design: The decision-making process on programme design should be reconsidered, including the internal cycle of disciplines and programs; committees should be industry-led and analyze industrial trends and changes in job positions according to actual needs.

Introducing program warning and exit mechanisms: Underperforming programs could be addressed through program warning and exit mechanisms, which are based on indicators like graduate employment, employer feedback, and program's alignment with regional industries, specifically targeting those with poor employment, low enrollment, or no corresponding industry.

Proactively develop emerging interdisciplinary programs in fields such as artificial intelligence, big data, and intelligent manufacturing, keeping pace with technological changes and meeting the latest industrial needs.

4.3 Deepening Industry-Education Integration in Curriculum Reform to Strengthen the Core of Quality Enhancement

Industry-education integration in the talent cultivation process, as an intrinsic part of teaching quality improvement, is conducive to the reform of curriculum. Curricula based on the real need and demand of the industry, such as application-oriented brand courses in Sichuan Province, can match the knowledge, methods

and projects with the existing technologies, processes and results. Specific pathways for curriculum reform include:

Reorganization of the course teaching content based on the development of industry technology, new process and updated standards helps improve the applicability and pertinence of the knowledge taught with clear objectives and a forward-looking perspective. Faculty research and the latest developments of the discipline are used as resources to design course content. The "Five Cooperations and Three Alignments" training method piloted by Dezhou University—where schools and enterprises jointly define talent specifications, compile textbooks, allocate dual-qualified teachers, set up research sites, and design training projects—is a feasible approach to highly aligning specialties, courses, and teaching itself with the industrial chain, professional roles, and production requirements.

Case-based, project-based and task-oriented approaches are some of the more innovative pedagogies that can provide opportunities for incorporating real-world situations in the curriculum design and change the traditional lectures into collaborative learning situations. These methods should be promoted on a large scale. Moreover, the content learned in real contexts is integrated with knowledge and abilities at each stage of the curriculum, transforming the classroom into a more efficient and collaborative form of education.

With deep industry-education integration, AI-assisted teaching resources, digital libraries, MOOCs, micro-courses, virtual simulation experiments and project case libraries are developed. Digital intelligence empowering specialty cluster aggregation can dynamically optimize talent cultivation content. Digital intelligence can help to solve the problem of structural mismatch between the supply and demand of talents, as shown by Xi'an Institute of Transportation Engineering's "AI + disciplines" strategy, which reconstructs specialty systems, innovates classroom forms, and creates a distinctive development path.

4.4 Building a "Dual-Qualified and Dual-Capable" Faculty Team to Strengthen Talent Support for Quality Enhancement

Faculty are the primary resource for improving teaching quality. Using strong faculty team building as a guarantee to develop high-quality

application-oriented educators is the foundational project for teaching quality improvement in applied universities [6]. The construction of a "dual-qualified and dual-capable" faculty team should be advanced from the following aspects:

Refine extensive definitions and criteria and procedures to assess "dual-qualified and dual-capable" faculty, and incorporate industry experience, the ability to teach in an applied context and technical expertise in service provision as a part of the faculty promotion and performance important metrics.

Two-way talent exchange between universities and enterprises could be beneficial, such as establishing a regular rotation system for full-time teachers to partner enterprises, supporting teachers to take temporary posts and participate in technology R&D to improve their engineering and social practice skills. Experts from the industry can further enhance the learning experience when they come to the classroom for teaching and practical guidance [7].

Training in AI teaching tools and intelligent course design is effective in enhancing teachers' digital teaching abilities. Incorporating AI and OBE (Outcome-Based Education) reforms could enhance and fine-tune courses and classrooms for a student outcomes-driven approach [8].

4.5 Constructing a Teaching Quality Assurance System to Form a Closed-Loop Mechanism for Quality Enhancement

A robust teaching quality assurance system is essential for achieving sustained improvements. A "five-in-one" system, which includes decision making, goal setting, execution, monitoring/evaluation and feedback and improvement as proposed by PDCA cycle theory, is a comprehensive framework.

At the level of standard construction, specialty construction, theoretical course implementation, off-campus practical teaching, on-campus practical teaching, graduation projects (theses) should be included in whole-process comprehensive quality standards to eliminate the weakness of traditional standards which are scattered. Following the OBE philosophy (outcomes-based) with the goal of improving teaching quality can shape a quality assurance system based on building quality awareness, establishing quality norms, fostering quality culture and achieving quality driven institutional

development [9].

Process monitoring, complemented with AI technology, facilitates a course evaluation system based on formative and summative assessment, aligned with course objectives and emphasizing students' competencies development. A multi-dimensional monitoring network for teaching quality enables the process of comprehensive monitoring, special monitoring and assessment, feedback and improvement, and forms a closed monitoring circuit[10].

The shift from "quality control" to "quality culture" elevates quality culture from superficial behaviours and the physical elements to institutional and ideology. Quality culture in thinking, actions, and processes shifts quality assurance from external drive to internal self-awareness.

5. Conclusion

The improvement of teaching quality in application-oriented universities is a systematic project, involving multiple dimensions such as educational philosophy, professional construction, curriculum reform, faculty team building, and quality assurance. Its essence is to promote a systematic transformation of talent cultivation from "supply-driven" to "demand-driven". Only by taking industrial demands as the logical starting point, with the improvement of teaching quality as the core handle, and through the systematic advancement of firmly adhering to the application-oriented educational positioning, establishing a dynamic adjustment mechanism for specialties, deepening the reform of industry-education integration courses, building a "dual-qualified and dual-capable" teaching staff, and constructing a teaching quality guarantee system, can the deep integration of the education chain, talent chain with the industrial chain and innovation chain be achieved.

At present, the rapid development of artificial intelligence technology is profoundly reshaping the form of education. How to integrate digital intelligence technology into the entire process of improving teaching quality and how to achieve precise teaching management and personalized talent cultivation through digital intelligence empowerment are the directions that future research needs to further explore. Application-oriented universities should proactively embrace changes, innovate while

adhering to the right path, and break through in integration, thus forging a distinctive and high-quality development path.

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