Optimization of Foreign Language Curriculum System and Teaching Models in Energy and Power Sector Universities from the Perspective of New Quality Productive Forces

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Abstract: The development of New Quality Productive Forces (NQPF) has raised new requirements for foreign language talent cultivation in energy and power sector universities. This paper focuses on optimizing the foreign language curriculum system and teaching models within this perspective. It deeply analyzes the connotation of NQPF and its demand for foreign language talents, identifies problems in the current foreign language curriculum system and teaching models of these universities, and proposes specific optimization strategies. The aim is to provide valuable references for foreign language teaching reform in energy and power sector universities, thereby cultivating high-quality foreign language talents who can meet the developmental needs of NQPF.

Keywords: New Quality Productive Forces; Energy and Power Sector Universities; Foreign Language Curriculum System; Teaching Model

DOI:10.69979/3041-0843.25.02.032

1 Introduction

Amidst intensifying global technological competition and deepening economic globalization, New Quality Productive Forces (NQPF), as a new driver of economic and social development, are profoundly reshaping the development landscape across industries. The energy and power sector, a vital pillar of national economic development, faces urgent demands for transformation, upgrading, and innovative development. The development of NQPF requires the sector not only to possess professionals with technical expertise but also foreign language talents with cross-cultural communication skills, international perspectives, and comprehensive foreign language proficiency. This is essential to adapt to needs in international cooperation, technology importation, overseas market expansion, and more.

Energy and power sector universities, serving as crucial bases for cultivating specialized talents in this field, shoulder the responsibility of supplying high-quality interdisciplinary talents to the industry. However, traditional foreign language curriculum systems and teaching models in universities often suffer from issues such as disconnection from industry needs, monotonous course offerings, outdated teaching methods, and insufficient teaching resources. These shortcomings make it difficult to meet the specific demands of the energy and power industry for foreign language talents under the NQPF development context. Therefore, research on optimizing the foreign language curriculum system and teaching models in these universities from the NQPF perspective holds significant practical importance.

2 Connotation of New Quality Productive Forces and Its Demand for Foreign Language Talents

2.1 Connotation of New Quality Productive Forces

New Quality Productive Forces represent an advanced form of productivity characterized by innovation playing a dominant role, breaking away from traditional economic growth models and productivity development paths. They feature high technology, high efficiency, and high quality, aligning with the new development philosophy. NQPF emerge from revolutionary technological breakthroughs, innovative allocation of production factors, and deep industrial transformation

and upgrading. Their fundamental connotation lies in the leapfrog development of laborers, means of labor, objects of labor, and their optimized combinations. The core hallmark is a substantial increase in total factor productivity. Innovation is their hallmark, quality excellence is key, and their essence is advanced productivity.

Within the energy and power sector, NQPF manifest in areas such as the R&D and application of new energy technologies, the construction and operation of smart grids, and the development of energy internet. Progress in these fields requires a large number of innovative talents who not only master advanced scientific and technical knowledge but also possess strong international communication skills and foreign language proficiency. This enables them to engage in technical cooperation with international peers, participate in setting international standards, and expand into international markets.

2.2 Demand for Foreign Language Talents Driven by NQPF

Cross-Cultural Communication Skills: With the increasing internationalization of the energy and power industry, collaboration between enterprises and foreign research institutions and companies is becoming more frequent. Foreign language talents need cross-cultural communication skills to understand communication styles and mindsets across different cultural backgrounds, avoiding misunderstandings and conflicts arising from cultural differences, and facilitating smooth international cooperation.

Specialized Foreign Language Proficiency: The energy and power sector is highly specialized, involving extensive technical terminology and literature. Foreign language talents must master specialized foreign language knowledge in this field, enabling them to accurately comprehend and translate relevant technical documents, research reports, and contract documents. This provides crucial linguistic support for corporate R&D, project collaboration, and international exchange.

International Perspective and Global Awareness: The development of NQPF demands that energy and power enterprises possess a global vision, paying attention to international energy market dynamics and trends, and actively participating in global competition. Foreign language talents need to understand international energy policies, regulations, and market rules, equipped with global awareness and strategic insight to provide decision-making references for the enterprise's international development.

Innovative Capability and Lifelong Learning Aptitude: NQPF develop rapidly, and technological innovation in the energy and power sector is constantly emerging. Foreign language talents need innovative capabilities and a commitment to lifelong learning, enabling them to continuously update their knowledge and skills to meet industry demands. They provide intellectual support for corporate technological innovation and transformation.

3 Current Status and Problems of Foreign Language Curriculum System and Teaching Models in Energy and Power Sector Universities

3.1 Current Status of Curriculum System

Currently, the foreign language curriculum systems in many energy and power sector universities often follow the model of general foreign language programs, lacking deep integration with energy and power disciplines. The curriculum primarily consists of Basic English courses, Specialized English courses, and general electives. Basic English courses focus on imparting foundational language knowledge (e.g., pronunciation, vocabulary, grammar). Specialized English courses, while touching on some energy and power content, lack systematic structure, with teaching content often lacking specificity and practicality. General elective courses tend to be fragmented and fail to meet students' diverse learning needs.

3.2 Current Status of Teaching Models

Regarding teaching models, traditional methods are teacher-centered, emphasizing knowledge transmission while neglecting student agency and practical skill development. Lecture-based teaching predominates, with insufficient application of heuristic, discussion-based, or inquiry-based methods. Simultaneously, teaching methods are relatively monotonous, underutilizing digital resources, which hinders student motivation and engagement.

3.3 Existing Problems

Inaccurate Positioning of Training Objectives: The current training objectives overly emphasize imparting basic language knowledge, neglecting the cultivation of students' cross-cultural communication skills, specialized foreign language abilities, and practical competence. This creates a significant gap with the energy and power industry's demand for new-quality foreign language talents under NQPF.

Unreasonable Curriculum Structure: The curriculum system disproportionately emphasizes Basic English courses, while Specialized English and interdisciplinary courses are insufficient, lacking systematic progression and hierarchy. Course sequencing is also inadequate, hindering the formation of an effective knowledge framework.

Outdated Teaching Content: Content updates are slow, failing to reflect the latest developments and technological achievements in the energy and power industry. This results in a disconnect between acquired knowledge and actual needs.

Monotonous Teaching Methods: Traditional methods struggle to meet diverse student learning needs and are detrimental to fostering innovative thinking and practical skills. Insufficient focus on cultivating self-directed learning and teamwork abilities hinders adaptation to NQPF's talent requirements.

Insufficient Teaching Resources: Foreign language teaching resources are relatively scarce. There is a lack of textbooks, digital resources, and practical training bases that reflect the characteristics of the energy and power sector. Textbook content is outdated, digital resources are not updated promptly, and practical base construction is inadequate, failing to meet teaching and practical needs.

Structural Imbalance in Faculty: Most foreign language teachers in these universities graduated from foreign language programs and lack specialized knowledge and practical experience in energy and power. Furthermore, there is a shortage of "dual-qualified" teachers proficient in both foreign languages and energy/power disciplines, hindering the fulfillment of teaching and talent cultivation needs.

4 Optimization Strategies for Foreign Language Curriculum System in Energy and Power Sector Universities from the NQPF Perspective

4.1 Clarify Training Objectives

Based on the developmental needs of NQPF and the characteristics of the energy and power industry, clearly define the training objectives for foreign language talents. Objectives should emphasize cultivating students' cross-cultural communication skills, specialized foreign language proficiency, international perspective and global awareness, innovative capability, and lifelong learning aptitude. This will enable students to adapt to the internationalization needs of the energy and power industry and become internationally competitive interdisciplinary foreign language talents.

4.2 Optimize Curriculum Structure

Construct a "Foundation + Specialization + Extension" Curriculum System: Increase the proportion of Specialized English courses based on Basic English, building a systematic specialized English curriculum. Simultaneously, offer extension courses like International Energy Policy, International Energy Markets, and Cross-Cultural Communication to broaden students' international perspectives and knowledge base.

Strengthen Course Articulation and Integration: Pay attention to the logical relationships and knowledge connections between courses, avoiding content duplication and disconnection. For example, integrate commonly used vocabulary and expressions from the energy and power field into Basic English courses to lay the groundwork for Specialized English. In Specialized English courses, incorporate real-world work scenarios to cultivate professional foreign language application skills.

Increase Interdisciplinary Courses: Offer interdisciplinary courses that combine energy/power disciplines with foreign languages, such as Energy and Power English Translation, Energy and Power Business English, etc., to cultivate interdisciplinary thinking and comprehensive abilities.

4.3 Update Teaching Content

Timely Update Textbook Content: Select or compile textbooks that reflect the latest developments and cutting-edge technologies in the energy and power industry, ensuring content is current and practical. Incorporate content on cross-cultural communication and fostering international perspectives to enhance students' comprehensive qualities.

Introduce Industry Cases and Projects: Integrate real-world cases and projects from the energy and power industry into teaching content. This allows students to understand actual industry needs and workflows during learning, improving practical skills and problem-solving abilities.

Strengthen Digital Teaching Resource Development: Utilize modern information technologies like the internet and multimedia to build digital teaching resource repositories. Provide students with rich learning resources such as online courses, virtual labs, and foreign language learning software to enhance teaching effectiveness and learning efficiency.

5 Innovation Strategies for Foreign Language Teaching Models in Energy and Power Sector Universities from the NQPF Perspective

5.1 Adopt Diversified Teaching Methods

Project-Based Learning (PBL): Use real projects as vehicles for students to learn and apply foreign language knowledge through project completion, cultivating practical skills and teamwork. Examples include organizing students to undertake translation projects or business negotiations for energy/power initiatives.

Case-Based Teaching: Select and analyze typical cases from the energy and power industry for discussion. Guide students to apply their foreign language knowledge to solve practical problems, enhancing analytical and problem-solving skills.

Inquiry-Based Learning: Encourage students to autonomously explore foreign language knowledge and issues within the energy and power field, fostering innovative thinking and self-directed learning. Teachers can stimulate inquiry interest by posing problem scenarios and guiding research.

5.2 Advance Digital Teaching

Utilize Online Teaching Platforms: Leverage online platforms to conduct blended (online-offline) teaching. Teachers can release resources, assign tasks, and facilitate discussions on the platform; students can learn and interact anytime, anywhere.

Apply VR and AR Technologies: Use Virtual Reality (VR) and Augmented Reality (AR) to create immersive language learning environments. This allows students to improve foreign language listening and speaking skills through simulated experiences, such as role-playing in scenarios like international conferences or business negotiations.

Implement Intelligent Teaching: Utilize artificial intelligence technologies (e.g., intelligent speech recognition, automated grading) to enhance teaching efficiency and feedback timeliness. Employ big data analysis of student learning patterns to inform personalized teaching.

5.3 Strengthen Practical Teaching

Establish On-Campus Practice Bases: Set up on-campus facilities like Energy and Power Foreign Language Simulation Labs and Translation Studios. These provide platforms for students to engage in simulated practices such as translation, business negotiations, and international conference organization, enhancing practical skills and comprehensive qualities.

Enhance University-Industry Collaboration: Establish long-term, stable partnerships with energy and power enterprises to co-build internship bases and R&D centers. Provide students with internship opportunities in real corporate environments to hone their foreign language and practical skills. Enterprises can also participate in developing talent cultivation plans, course development, and teaching evaluations, ensuring seamless alignment between talent cultivation and industry needs.

6 Conclusion

The development of New Quality Productive Forces presents both new opportunities and challenges for foreign language teaching in energy and power sector universities. By optimizing and innovating the foreign language curriculum

system and teaching models—clarifying training objectives, optimizing curriculum structure, updating teaching content, innovating teaching methods, strengthening resource development, and enhancing faculty—these universities can effectively improve the quality of foreign language talent cultivation. This will produce high-quality foreign language talents who meet the developmental needs of NQPF.

In practice, each energy and power sector university should continuously explore and innovate teaching models and methods based on its specific context, promoting the deepening of foreign language teaching reform and contributing significantly to the internationalization of the energy and power industry. Simultaneously, governments, enterprises, and universities should strengthen collaboration to jointly create a higher education ecosystem adapted to NQPF development. This involves facilitating a virtuous cycle of education, science & technology, and talent, providing robust support and guarantees for foreign language teaching reform in these specialized universities.

References

[1] Shen Qi, Li Xiaoyang. Model Construction and Path Optimization for Foreign Language Talent Cultivation from the Perspective of New Quality Productive Forces. Foreign Languages in China, 2025, 22(02):4-11.
[2] Zhang Cheng, Deng Meng. Research on Strategies for Targeted Ideological and Political Education in Universities from the Perspective of New Quality Productive Forces. Shaanxi Education (Higher Education), 2025, (02):19-21.
[3] He Miao, Kang Xin. Digital Development Strategies for University Ideological and Political Education from the Perspective of New Quality Productive Forces. Journal of Huainan Vocational & Technical College, 2025, 25(01):99-102 English Department, North China Electric Power University Supported by “the Fundamental Research Funds for the Central Universities (2025MS193)”