

The results show that the key to improving the quality of higher vocational education is to optimize the curriculum structure, strengthen the practical teaching links, improve the quality of teachers, deepen school-enterprise cooperation and improve the curriculum evaluation system. The implementation of these countermeasures will help cultivate more high-quality technical and skilled talents that meet the needs of society and promote the sustainable and healthy development of China's higher vocational education.

List of sources used

1. Xu Guoqing. The basic context of China's vocational education curriculum reform: An analysis based on historical institutionalism. *Qing Hua University Education Research*, 2019-18-42.
2. Li Guoqiang, Ma Bilian, Liu Yiguo. Connotation analysis and promotion strategy of high-quality development of higher vocational education under the background of "double high plan". *Higher Education Research*, 2020-41-34.
3. Huang Dan. Cultivation of technical skills talents in vocational education: connotative characteristics, value implications and practical paths. *Continuing Education Research*, 2023-12-74.
4. Sun Shanxue. Several issues in the construction of modern vocational education system. *Journal of Beijing Vocational College of Economics and Management*, 2023-12-8.

UDC 37.013

Educational and methodological support for university elective courses

Wang Xiaohan, master student

Belarusian National Technical University

Minsk, Republic of Belarus

Scientific supervisor: PhD (Engineering), Associate professor

Drobysh A. A.

Abstract:

This paper aims to explore the importance of university elective courses in cultivating students' comprehensive qualities, as well as the current situation and problems in terms of educational philosophy, curriculum setting, and teaching methods. Through in-depth analysis of the data, the key factors that affect students' learning outcomes were found, and suggestions for improvement were given. Proposals to improve the quality of elective courses were put forward, and the development trend of university elective courses in the future was prospected. The research results provide a valuable reference for higher education reform.

In today's society, higher education is undergoing unprecedented changes, and elective courses, as a crucial part of personalized student learning, are becoming increasingly important. University elective courses not only enrich students' knowledge structures but also foster innovation and practical skills, playing a vital role in enhancing students' comprehensive qualities. Therefore, discussing the educational and methodological support for university elective courses is crucial for advancing the quality of higher education and promoting the holistic development of students. With globalization deepening, the integration of interdisciplinary and cross-disciplinary knowledge has become an inevitable trend in higher education development. Elective courses, serving as bridges connecting different disciplinary knowledge, help students broaden their horizons and inspire exploration interests, laying a solid foundation for their future careers. The diversity and flexibility of elective courses also provide space for teaching innovation among university faculty, driving the reform of educational concepts and teaching methods.

In terms of research importance, current teaching practices in university elective courses still face issues such as irrational course settings, inconsistent teaching quality, low student engagement, and heavy teaching burdens for faculty. Through in-depth research, these issues can not only optimize the curriculum system and improve teaching quality but also promote the effective use of teaching resources, enhance students' learning motivation, and ultimately achieve the goals of educational equity and high-quality development.

The research status in domestic and foreign contexts shows that countries like the USA and the UK have accumulated rich experiences in the setup, management, and evaluation of elective courses. For example, the "General Education" model in the USA emphasizes the interdisciplinarity among subjects, encouraging students to take courses across disciplines; the

UK focuses on the personalization of courses and student autonomy in selection. In contrast, although Chinese universities have made some progress in implementing elective courses, there are still areas needing enhancement, such as quality assurance of courses, teaching effect evaluation, and faculty incentive mechanisms. In recent years, China's educational authorities and some universities have started to explore establishing a more flexible and diverse elective course system, introducing new teaching methods such as project-based learning and flipped classrooms, to enhance the teaching quality and attractiveness of elective courses.

Table 1 – Theoretical Analysis

Case №	Course Name	Instructor	Teaching Style	Application of Motivation Theory	Application of Constructivist Learning Theory	Content Relevance	Learning Environment	Number of Students Enrolled	Average Learning Outcome
1	Psychology and Life	Teacher Zhang	Interactive	Goal-setting rewards	Group collaboration projects	High	Online discussion + Classroom interaction	120	85
2	Introduction to Programming	Teacher Li	Lecture-based	Progression rewards	Programming practice projects	Medium	Laboratory practice	80	78
3	World Cinema Analysis	Teacher Wang	Multi-media presentation	Interest stimulation	Film analysis reports	High	Movie screening room	95	82
4	Principles of Economics	Teacher Zhao	Case analysis	Classroom performance rewards	Economic model building	Medium	Classroom debates + Case studies	70	75

5	Introduction to Environmental Science	Teacher Chen	Inquiry-based	Environmental awareness	Field trip reports	High	Field trips + Classroom discussion	65	80
---	---------------------------------------	--------------	---------------	-------------------------	--------------------	------	------------------------------------	----	----



Pic 1. Comparison of teaching practice effect of college elective courses

In the practice of university elective courses, the application of educational psychology and learning theories is crucial for enhancing teaching quality and student learning outcomes. For instance, in the "Psychology and Life" course, Teacher Zhang utilizes an interactive teaching style, effectively employing the motivational theory of goal-setting rewards. This encourages students to set personal learning objectives and strive to achieve them. Combined with online discussion forums and classroom interaction, this approach creates a positive learning atmosphere. This method not only increases student participation but also stimulates their autonomous learning abilities, as reflected in the high average learning score of 85.

In another case, "Introduction to Programming" taught by Teacher Li, although primarily lecture-based, cleverly integrates progression rewards to break down the learning process into phased goals, motivating students to progressively master programming skills. By setting up programming practice projects, this course embodies the core of constructivist learning theory – emphasizing learners' active construction and practice. Despite the course content being rated as medium in relevance, the laboratory

practice environment provides students ample hands-on opportunities, resulting in an average learning score of 78.

These cases vividly demonstrate the importance of flexibly applying educational psychology and learning theories, especially motivational theories and constructivist learning theories, in university elective courses. Such applications are crucial for optimizing course design, improving teaching quality, and enhancing student learning experiences.

Interviews, as a complement to the survey, aim to gather more in-depth and specific information. We plan to conduct face-to-face or telephone interviews with some students and teachers, covering topics such as students' specific experiences and feelings about elective courses, suggestions for improvements, and teachers' reflections and prospects on teaching methods. Interview data will be processed using content analysis, distilling key viewpoints and themes to enrich the material for making improvement suggestions. During data collection, the article emphasizes protecting the privacy and rights of interviewees, ensuring all information is used for research purposes only, and strictly adhering to principles of academic integrity. In the data analysis phase, a combination of various statistical and analytical methods is used to ensure the scientific accuracy of the results.

In terms of expected research outcomes, this paper aims to produce a comprehensive report that reflects the current state of university elective course education, not only revealing existing problems and challenges but also proposing targeted improvement plans. These proposals will revolve around course settings, teaching methods, and evaluation mechanisms, aiming to provide a robust reference for the reform of university elective course education. We believe that through the implementation and dissemination of this research, further optimization and development of university elective courses can be promoted, contributing to the holistic development of students and the enhancement of higher education quality.

By analyzing empirical research data on elective courses taken by undergraduate students at a university, this study found that students generally have a positive evaluation and effective learning outcomes across various dimensions of elective courses. Specifically, students' satisfaction with elective courses was quite high, with an average score of 4.36 out of 5, indicating that most students feel the courses they chose meet their learning needs and interests.

In terms of learning motivation, students averaged a score of 4.46, demonstrating strong motivation to learn. The Data Analysis and Visualization course, in particular, received the highest motivation score (4.8) due to its practicality and relevance to industry trends, further confirming contemporary students' high regard for skill enhancement and career preparation. The Innovation and Entrepreneurship Practice course effectively stimulated students' interest in learning through rich interactive sections and case studies. Although its motivation score was slightly lower (4.0), it still reflects the unique value of practical courses in stimulating students' innovative thinking.

Regarding learning outcomes, most students achieved excellent grades, with average grades in Data Analysis and Visualization and Environmental Protection and Sustainable Development courses reaching an A level. These results not only owe to the careful design of the course content but also relate closely to the teachers' professionalism and teaching methods. For example, the Intercultural Communication course, by creating a positive classroom discussion environment, promoted students' deep thinking and language communication skills, and its learning outcome (A-) validated the effectiveness of this teaching strategy.

Further analysis of key influencing factors revealed that the practicality of course content, teaching methods, interactive course segments, richness of case studies, teacher professionalism, classroom discussion atmosphere, opportunities for practical operations, and coursework feedback all had a positive impact on students' learning outcomes. Specifically, the depth and breadth of course content, how teachers guide learning, and the social responsibility emphasized in the course were important factors affecting students' satisfaction and motivation. For instance, the Environmental Protection and Sustainable Development course not only taught professional knowledge but also emphasized students' sense of social responsibility, winning high acclaim from students.

This study has thoroughly examined the pivotal role and potential value of university elective courses within the higher education system, revealing their irreplaceable role in fostering comprehensive student development, broadening intellectual horizons, and stimulating learning interest. Through the lens of educational psychology and learning theories, this paper has understood the key impacts of motivational strategies and constructivist teaching methods on enhancing the quality of elective courses. Empirical research results further validate students' high expectations for

the diversity and practicality of elective courses, as well as the positive influence of the teaching environment and teacher styles on learning outcomes.

Specifically, as important vehicles for personalized education, university elective courses – with their flexibility and diversity – meet students' varied learning needs and effectively promote the development of autonomous learning skills. The study shows that elective courses that highly align with student interests and offer novel and practical content can more effectively spark intrinsic motivation, leading to more significant learning outcomes. Good teacher-student interaction and timely feedback mechanisms are also crucial for increasing student satisfaction and learning depth.

Looking forward, with the continuous development of information technology, university elective courses will increasingly focus on exploring and practicing blended online and offline teaching models. Utilizing advanced technologies such as big data and artificial intelligence can achieve precise delivery of teaching resources and customization of personalized learning paths. Expanding international perspectives will also become a crucial direction for the development of elective courses, introducing international quality course resources and pedagogical concepts to provide students with broader learning platforms and growth opportunities. Elective courses are increasingly playing a prominent role in educational reforms, and their potential for future development is substantial, promising to contribute more to the continuous innovation and development of higher education.

List of sources used

1. Senol, M. An Analysis of the Content Knowledge Elective Courses of the ELT Departments: A Suggested Syllabus / M. Senol, K. Cesur. – Educational Policy Analysis and Strategic Research, 2021.

2. Drake, T.A. US Comparative and international graduate programs: An overview of programmatic size, relevance, philosophy, and methodology / T.A. Drake // Peabody Journal of Education, 2011.

3. LaVelle, J.M. University-based evaluation training programs in the United States 1980—2008: An empirical examination / J.M. LaVelle, S.I. Donaldson // American Journal of Evaluation, 2010.

4. Ullah, A. Education and learning about research methodology: Views of LIS authors in Pakistan / A. Ullah, M. Rafiq. – Information Development, 2022.
5. Luo, Yi. Research on College Students' Information Literacy and Its Educational Support / Yi. Luo. – East China Normal University, 2021.
- 6 Xirong, M. Optimization and application of the education model of ideology and politics in higher education courses / M. Xirong. – Talent, 2023.
7. Xiaocong, D. The analysis of learning guidance strategy of university catechism / D. Xiaocong // Science and Education Magazine (Early Edition), 2020.
8. Fei, C. Research on curriculum adjustment and reform of applied undergraduate education / C. Fei // East China Normal University, 2014.
9. Mao Xiaolan Hui Hong. Discussion on the optimization of college curriculum system based on professional literacy cultivation / Mao Xiaolan Hui Hong // Journal of Hunan Institute of Science and Technology, 2015.
10. Lin, D. The concept of supportive learning atmosphere in high breadth courses and its revelation / D. Lin // Education Observation, 2020.

УДК 37.014.13

Специфика преподавания технических учебных дисциплин в Беларуси и Китае

Бабицкая Э. С., магистрант

Белорусский национальный технический университет

г. Минск, Республика Беларусь

Научный руководитель: к. т. н., доцент Дробыш А. А.

Аннотация:

Актуальность преподавания технических дисциплин обусловлена быстрым развитием технологий и их внедрения в повседневную жизнь. Специфика преподавания технических учебных дисциплин в Беларуси и Китае определяется историческими, экономическими и культурными особенностями обеих стран. Техническое образование является приоритетным как в Беларуси, так и в Китае, подходы к его организации и методикам преподавания различаются.