

Practical Exploration on Continuing Education and Vocational Education Integration Training of Modern Housekeeping Teachers Oriented by OBE and Empowered by Intelligent Technology

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Abstract: Outcome-Based Education (OBE) emphasizes reverse design of teaching activities centered on learning outcomes, which helps solve dilemmas in the current housekeeping teacher training system, break barriers between continuing education and vocational education, and improve the systematicness and coherence of talent training. The rapid development of intelligent technology facilitates resource sharing. Based on OBE-oriented integration training of modern housekeeping teachers in continuing education and vocational education empowered by intelligent technology, this paper expounds from three dimensions: concept integration and mechanism innovation, curriculum reconstruction and resource sharing, team construction and quality assurance, so as to promote the reform of housekeeping teacher training mode and improve training efficiency.

Keywords: Intelligent technology; OBE orientation; Modern housekeeping teachers; Continuing education; Vocational education integration

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1. Introduction

In October 2024, five national ministries, including the National Development and Reform Commission, the Ministry of Education, the Ministry of Finance, the Ministry of Human Resources and Social Security, and the Ministry of Commerce, jointly issued the “Opinions on Deepening the Integration of Industry and Education in the Housekeeping Service Industry”^[1]. The document clearly supports colleges and universities to develop academic continuing education for housekeeping-related majors, promotes the integration of academic and non-academic education, advances credit recognition between non-academic achievements, such as vocational skill level certification and academic education, raises the proportion of credits for skill-

based courses, and pilots a full credit system for talent training. This policy orientation helps break barriers between continuing education and vocational education and provides direction for their integrated training^[2]. Meanwhile, the emergence and application of artificial intelligence have reshaped traditional housekeeping services, and the industry urgently needs intelligent education and training for housekeeping to cultivate new-type housekeeping talents. Against this background, intelligent technology should be fully utilized and guided by the OBE concept to promote the integrated training of housekeeping teachers in continuing education and vocational education, so as to build a new teacher training system and improve the quality of housekeeping teacher training^[3].

2. Concept integration and mechanism innovation: Logical starting point of integrated training

2.1. Internal logic of deep integration of OBE concept and intelligent technology

OBE emphasizes reverse design of teaching activities with learning outcomes as the core, focusing on the objectives and results of talent training—objectives should be directional and results measurable. Applied to housekeeping teacher training, it first defines requirements for housekeeping teachers in the new era (e.g., knowledge structure, professional ethics) to formulate training plans and build a teaching system. Analysis of the development trend of the housekeeping industry shows that intelligent technology application capability has become an important part of the core literacy of housekeeping teachers^[4].

In the new era, school-enterprise cooperation should be strengthened in intelligent manufacturing, housekeeping and other fields, focusing on R&D of smart home appliances, home service robots and other products, and further deepening the application of such technologies in housekeeping through technological upgrading. To keep pace with the times, intelligent technology literacy should be integrated into the objective system of housekeeping teacher training. Intelligent technology serves both as training content and support for integrated training. For example, big data analysis can accurately portray learners' learning trajectories and capability gaps to customize personalized learning paths; AI algorithms enable intelligent evaluation and certification of learning outcomes, providing objective evidence for credit recognition. The deep integration of OBE and intelligent technology forms a two-wheel-driven pattern of objective guidance and technological empowerment, breaking barriers between continuing education and vocational education and providing conceptual guidance and technical support for their integration. In practice, such integration is not a simple technological superposition but a whole-process reconstruction covering objective setting, process implementation and outcome evaluation, designing training activities based on preset outcomes while improving the efficiency and effect of housekeeping teacher training via intelligent technology^[5].

2.2. Two-education integration mechanism supported by the credit bank system

The biggest obstacle to integrated training of continuing education and vocational education is their fragmentation, reflected in difficulties in learning outcome recognition, disconnected learning processes and unavailable resource sharing. To solve this dilemma, the credit bank system should be improved: a standardized, accumulable and convertible credit system breaks barriers and promotes connection and integration^[6].

For housekeeping teacher training, the implementation of the credit bank system needs to focus on the following aspects:

- (1) Standard: Formulate unified credit recognition criteria to clarify the correspondence between skill certificates, training experiences in vocational education and course credits in continuing education.
- (2) Technology: Build a credible credit recording and certification system via intelligent technology to ensure the authenticity and non-tamperability of learning outcomes.
- (3) Management: Establish an inter-institutional and inter-agency coordination mechanism for credit recognition, forming a governance structure of overall planning by the government, collaboration by colleges and participation by the industry ^[7].

In short, driven by the credit bank system, the complementary advantages of vocational education and continuing education meet the professional growth needs of housekeeping teachers. Credits and practical experiences obtained in vocational education lay a foundation for continuing education, avoiding repeated learning and improving the efficiency of housekeeping teacher training ^[8].

3. Curriculum reconstruction and resource sharing: Practical carrier of integrated training

3.1. Construction of a modular curriculum system integrating post, course, competition and certificate

Curriculum is a major carrier of talent training. Integrated training of continuing education and vocational education requires reconstruction of the curriculum system. Current housekeeping teacher training faces urgent problems such as low matching between curriculum content and post requirements and insufficient curriculum connection between continuing education and vocational education, leading to fragmented knowledge structures and unsystematic capability systems of learners ^[9]. To this end, a four-in-one talent training mode of post, course, competition and certificate (integrating education and training) can be adopted for housekeeping talents. Guided by post requirements, centered on curriculum construction, led by skill competitions and tested by certificate certification, this mode closes all links of talent training into a closed loop.

For housekeeping teacher training, this mode can be used to analyze core tasks and capability requirements of housekeeping teachers and develop modular courses. For example, new post capabilities such as household butler and organizing & storage can be decomposed into teaching modules to achieve precise alignment between curriculum content and post requirements ^[10]. In addition, a scientific curriculum connection mechanism should be established for vocational education and continuing education to clarify learning objectives and content boundaries at each stage, eliminating repetition and gaps. Vocational education focuses on basic skills and post-operational capabilities; continuing education emphasizes the transformation of educational concepts, innovation of teaching methods and improvement of management capabilities. The two stages complement each other to form a complete chain for the professional development of housekeeping teachers. Modular design also enhances curriculum flexibility, allowing learners to select modules according to their needs and practice status for personalized growth.

3.2. Co-construction and sharing of teaching scenarios and resources empowered by digital-intelligent technology

The rapid development of intelligent technology breaks educational barriers and creates favorable technical conditions for co-construction and sharing of resources. In the traditional model, continuing education and vocational education run in parallel, making high-quality teaching resources inaccessible and learning

experience discontinuous. Therefore, digital training for housekeeping should be actively promoted; local governments and industry associations should jointly formulate unified online training standard interfaces to facilitate data interconnection and resource opening. This provides technical support for two-education integration.

In practice, virtual simulation technology opens new possibilities for housekeeping teacher training. For example, colleges and enterprises can jointly develop a housekeeping VR training system, build a housekeeping VR resource library, and carry out standardized teaching of British butler services. Such virtual training resources can be widely used in technical skill training for vocational education students and professional development for continuing education teachers, promoting cross-stage resource sharing.

Applying AI to learning analysis accurately identifies learners' knowledge and capability weaknesses, recommending personalized learning resources and paths to facilitate personalized learning. Modern housekeeping teacher training covers nutrition catering, intelligent equipment operation and other fields. Intelligent technology locates learners' skill gaps (e.g., home service robot debugging) by analyzing virtual training data and pushes targeted training tasks. Meanwhile, intelligent technology supports online-offline blended teaching, facilitating lifelong learning for in-service teachers by making full use of fragmented time and solving the conflict between work and study. In short, empowered by digital-intelligent technology, vocational education and continuing education are integrated into the lifelong learning system of housekeeping teachers, enabling cross-stage sharing of high-quality teaching resources and enriching learning choices.

4. Team construction and quality assurance: Key support for integrated training

4.1. Collaborative training mechanism for double-qualified teachers

Integrated training of housekeeping teachers relies on a double-qualified teacher team. Modern housekeeping teachers are special: they must master teaching rules of vocational education and continuing education and be proficient in professional skills such as home nutrition catering and smart home appliance operation. At present, the construction of double-qualified teachers for housekeeping majors is unsatisfactory due to single source (mostly fresh graduates without practical experience) and insufficient mastery of new technologies (e.g., intelligent cleaning equipment, home service robots) amid rapid technological iteration. Solutions are as follows:

- (1) Training mechanism: Establish a two-way flow channel for college teachers and enterprise experts. College teachers take temporary posts in housekeeping enterprises to participate in front-line practices such as smart housekeeping management and master intelligent housekeeping service processes. Enterprise experts and technical backbones serve as part-time teachers to teach intelligent equipment operation.
- (2) Intelligent technology application: Build a professional development community for housekeeping teachers via online learning platforms, organize training focusing on intelligent housekeeping technology (e.g., operation and maintenance of home service robots) to meet industry needs. In addition, intelligent technology identifies teachers' knowledge gaps to provide data support for professional development.

4.2. Whole-process intelligent quality monitoring and evaluation system

Quality assurance is a prerequisite for the sustainability of the integrated training model. The quality standard of modern housekeeping teacher training is comprehensive, mainly assessing professional knowledge and

practical skills. Traditional quality assurance relies on final assessment, which fails to intervene in the training process on time or reflect the real situation of learners' intelligent housekeeping skill training. Introducing intelligent technology promotes the reform of this quality model^[11].

The whole-process intelligent quality monitoring system is data-driven:

- (1) Data collection: Automatically record learners' data (e.g., curriculum progress, simulated performance in practical teaching) on online learning platforms to generate portraits of teacher capability development.
- (2) Data analysis: Identify deficiencies in learners' intelligent housekeeping knowledge application and practical guidance skills through algorithms and issue early warnings on time.

The evaluation system should be guided by the OBE concept, with the achievement degree of learning outcomes as the core indicator, covering housekeeping professional knowledge, intelligent technology application capability and other dimensions. Consistency and continuity of evaluation standards between vocational education and continuing education should be ensured to connect learning outcomes. In short, the whole-process intelligent quality monitoring system guarantees the quality of integrated training and drives continuous optimization of the training model.

5. Conclusion

In conclusion, OBE-oriented, intelligent technology-empowered integrated training of modern housekeeping teachers in continuing education and vocational education is a key measure to adapt to the digital transformation of the housekeeping industry and optimize the housekeeping teacher training system. Taking outcomes as the orientation clarifies the goal of housekeeping teacher training; taking intelligent technology as support breaks barriers between vocational education and continuing education; taking the credit bank as institutional support enables recognition and accumulation of learning outcomes; taking modular courses as the carrier builds a new training system; taking digital-intelligent resources as reliance promotes co-construction and sharing of high-quality resources; taking double-qualified teams as the key provides talent support for integrated training; taking intelligent evaluation as a means continuously improves training quality. Constructing such an integrated training mode forms a new professional growth path for housekeeping teachers, promotes the high-quality development of the housekeeping service industry and ensures talent supply. In the future, exploration should continue to strengthen conceptual innovation, implement achievements and contribute to the reform and development of housekeeping education.

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References

- [1] General Office of the State Council, 2019, Opinions on Promoting Quality Improvement and Expansion of the

Housekeeping Service Industry (Guo Ban Fa (2019) No. 30), visited on March 20, 2026, https://www.gov.cn/zhengce/content/2019-06/26/content_5403340.htm.

- [2] Hu Y, Xia T, 2014, Historical Details of the Development of China's Housekeeping Education. *Modern Education Science*, (1): 74–77.
- [3] Li W, Ma X, 2020, Research Status and Development Trend of Housekeeping Education in China. *China Adult Education*, (3): 16–22.
- [4] Wang P, Zhao Y, Xiong X, 2020, Historical Development and Enlightenment of Housekeeping Major in Chinese Universities: Taking Jinling Women's University as an Example. *Cultural Materials*, (35): 141–145.
- [5] Tu Y, 2021, Housekeeping Education and Family Labor Education Should Be Valued. *Social Science Report*, (2): 2021-10-07.
- [6] Gong Z, Cai Q, 2024, Research on the Construction of Industry-Education Integration Community from the Perspective of Symbiosis Theory. *Heilongjiang Higher Education Research*, 42(9): 137–143.
- [7] Ouyang H, Dai C, 2019, Preliminary Study on the Connotation, Classification and Characteristics of Industry-Education Integration Enterprises. *Chinese Vocational and Technical Education*, (24): 5–8.
- [8] Li Q, Zhao F, Zhang Q, et al., 2024, Research on Efficient Heterogeneous Cross-Domain Identity Authentication Scheme in Hybrid Cloud Environment. *Electronic Design Engineering*, 32(23): 186–190.
- [9] Ma Q, 2023, Analysis on the Current Situation and Countermeasures of Labor Education in Primary and Secondary Schools: Taking Xining City, Qinghai Province as an Example. *Qinghai Education*, (12): 46–47.
- [10] Mo R, Zhang J, Ding S, et al., 2022, Annual Report on the Development of China's Housekeeping Service Industry (2022). *Social Sciences Academic Press*, Beijing.
- [11] Zhou S, Ye D, 2022, On the Construction of a Modular Curriculum System for Applied Undergraduate Housekeeping Major. *Journal of Yichun University*, 44(5): 113–117.

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