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Application-oriented Preschool Education Major in Universities under the Integrated Education Concept of "Job-Course-Competition-Certificate" Research on Talent Cultivation Pathways

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Abstract: Against the backdrop of high-quality development in higher education, applied universities' early childhood education programs urgently require innovative talent cultivation systems. These systems must be guided by the "Job-Curriculum-Competition-Certification" integrated education philosophy to comprehensively enhance students' practical skills, theoretical knowledge, and overall professional competencies. This study systematically examines the current practical challenges in early childhood education talent development at applied universities. Key issues identified include a significant misalignment between existing curriculum offerings and dynamic job market demands, insufficient integration of pedagogical teaching practices with professional skill competitions, and inadequate alignment between academic course content and rigorous professional certification requirements. To address these critical gaps, this research leverages the comprehensive "Job-Curriculum-Competition-Certification" framework to propose targeted, actionable implementation strategies. Specifically, the paper advocates for developing detailed job competency maps to align educational outcomes with industry expectations, establishing robust competition-integrated teaching platforms to foster practical excellence, and implementing flexible 1+X credit banking systems to encourage continuous skill acquisition. Furthermore, it emphasizes building collaborative education mechanisms involving four key stakeholders: government, industry, universities, and research institutions. By systematically integrating these elements, the proposed approaches aim to provide actionable references and strategic guidelines for significantly improving the quality, relevance, and efficiency of early childhood education talent cultivation, ultimately ensuring graduates are fully equipped to meet the evolving demands of the modern educational sector.

Keywords: applied universities; preschool education; talent cultivation; integrated education; curriculum design; professional certification

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1. Introduction

The preschool education program plays a crucial role in the framework of applied higher education, aiming to develop well-rounded, interdisciplinary early childhood educators equipped with both theoretical knowledge and practical skills. Despite its importance, numerous applied universities encounter significant obstacles in fully implementing the "job-course-competition-certification" integrated education model. These challenges include a lack of alignment between curriculum design and the evolving demands of the early childhood education industry, insufficient incorporation of skills competitions into routine teaching activities, and a disconnect between course content and the requirements of professional certifications. Addressing these issues is essential for enhancing the professional competencies and employability of students. By exploring

effective pathways for talent cultivation within this integrated framework, universities can better prepare students to meet industry standards and contribute to the advancement of high-quality applied higher education [1]. Such efforts are particularly relevant in the context of modern educational reforms aimed at fostering innovation and practical expertise.

2. Integrated Education Concept of "Job-Course-Competition-Certificate"

The "Job-Course-Competition-Certification" integration model represents a transformative approach to cultivating applied talents by establishing a seamless connection between occupational standards, curriculum frameworks, skills competition content, and professional certification requirements [2, 3]. This model is designed to comprehensively enhance students' professional competence and practical application capabilities, ensuring they are well-prepared to meet the demands of modern industries. By emphasizing a holistic and systematic development process, this educational paradigm aligns educational content with prevailing industry trends and the core skill requirements of various professions. The "Job" component serves as the foundational element of the training system, offering clear guidance through detailed analysis of position-specific competencies [1, 4]. The "Course" component focuses on refining curriculum structures and teaching materials to integrate theoretical knowledge with practical skills effectively. The "Competition" element leverages skill contests as a dynamic platform to enhance students' hands-on abilities, fostering their potential for innovation and problem-solving. Finally, the "Certification" phase validates the learning outcomes through professional accreditation, thereby significantly improving students' employability and competitiveness in the job market. Together, these four interconnected elements create a synergistic framework that facilitates a smooth transition from academic learning to professional capability development, ensuring students are equipped with the skills and knowledge required to excel in their chosen fields.

The integration of positions, courses, competitions, and certifications within the educational system demonstrates diverse patterns of convergence in practice [5]. These patterns can be categorized into binary integration, ternary integration, and a comprehensive quadripartite holistic integration. From an implementation perspective, educators may adopt various strategies to achieve this integration. For instance, curriculum development can be prioritized to align academic courses with job requirements, skill competitions, and certification programs. Alternatively, skill competitions can be utilized as a driving force to establish deeper synergies between competition content, academic courses, professional roles, and certification systems. This "position-course-competition-certification" framework transcends the mere aggregation of its individual components. Instead, it represents a cohesive educational logic chain and an innovative ecosystem where each element complements the others functionally. This model not only enhances the quality of education but also fosters innovation in talent cultivation methodologies, addressing the evolving needs of industries in the modern era. By bridging the gap between theoretical knowledge and practical application, this framework equips students with the comprehensive skill sets required to thrive in competitive professional environments, making it a cornerstone of contemporary educational reform.

3. Practical Challenges in Talent Cultivation for Preschool Education Programs in Applied Universities

3.1. Insufficient alignment between curriculum offerings and job requirements

Currently, some applied universities' preschool education programs face notable deficiencies in curriculum design, which hinder their ability to adequately prepare students for the demands of frontline positions in kindergartens and childcare institutions. The course content often leans heavily toward theoretical and academic aspects, creating a disconnect from the practical skills required in the modern preschool education industry.

While students gain foundational knowledge in areas such as preschool education and child development psychology, the curriculum lacks sufficient emphasis on essential job-related skills, including childcare practices, classroom management, home-school communication, game organization, and environment creation. This imbalance results in weak practical training components, often delivered in monotonous formats, making it challenging for students to effectively translate theoretical knowledge into actionable skills upon entering the workforce. Graduates frequently encounter extended adaptation periods, struggle with independent class management, and lack adequate emergency response experience, highlighting a significant gap between their competencies and employer expectations.

The root of this issue lies in the insufficient integration of frontline research into curriculum development processes. Universities often fail to conduct comprehensive analyses of the competency structures and professional requirements for roles such as kindergarten teachers, childcare workers, and family education counselors. Consequently, the curriculum remains entrenched in traditional disciplinary frameworks, with fragmented practical modules and superficial skill training that do not foster systematic or progressive development of practical abilities. Classroom teaching continues to prioritize theoretical assessments over process-based evaluations, limiting students' opportunities for repeated practice and reflective improvement in real-world scenarios. These shortcomings not only constrain graduates' adaptability to job roles but also impact their long-term career sustainability. Addressing these challenges requires a paradigm shift in curriculum design, emphasizing the integration of practical training, progressive skill development, and real-world application to bridge the gap between academic preparation and professional demands [6].

3.2. Insufficient integration between course instruction and skills competitions

In the current talent cultivation system for preschool education majors at applied universities, there is a clear disconnect between curriculum instruction and vocational skills competitions, which undermines the potential for effective synergy between these two critical components. The educational value of utilizing competitions to enhance teaching, learning, and practical application remains largely untapped. Daily coursework predominantly focuses on textbook-based systems and theoretical knowledge, emphasizing systematic completeness and academic rigor. Conversely, preschool education skills competitions prioritize the demonstration of comprehensive practical abilities, adaptability in dynamic scenarios, innovative activity design, and professional competencies. This divergence in objectives, content focus, and skill emphasis creates a gap where curriculum learning fails to adequately support the development of competition-specific skills, while the outcomes of these competitions rarely contribute to meaningful curriculum reforms. Implementation methods further exacerbate this issue, as skills competitions often rely on a "pre-competition intensive training and crash course" approach. This model limits student participation and fails to encompass the entire student body, leaving many students without opportunities to refine their skills or showcase their abilities in competitive environments. Additionally, competition content is seldom integrated into regular classroom teaching through modularized frameworks, which restricts the broader application of these skills in academic settings. From an evaluation perspective, curriculum assessments and competition evaluations differ significantly. Academic assessments emphasize theoretical memorization and written responses, whereas skills competitions focus on situational operations, collaborative teamwork, problem-solving, and innovative expression. The absence of unified evaluation standards and the misalignment of assessment criteria hinder the systematic development of students' comprehensive abilities. This disconnect also results in a lack of alignment between the talent cultivation process and the specific competency requirements of the preschool education industry, ultimately limiting the effectiveness of the overall educational framework.

3.3. Insufficient alignment between course content and vocational certification

The curriculum systems of preschool education programs in certain applied universities demonstrate significant structural misalignments with the requirements of vocational certifications, such as teacher qualification certificates and vocational skill level certifications. This misalignment is a critical barrier to students' professional competency development and their ability to successfully obtain certifications. The current course structures lack systematic teaching modules tailored to the specific needs of kindergarten teacher qualification exams. As a result, the curriculum content does not adequately reflect the priorities of certification assessments [5, 7]. Key exam components, including policy regulations, childcare expertise, activity planning, interview simulations, and professional etiquette, are insufficiently incorporated into regular teaching practices. Consequently, students are often compelled to rely on self-directed study for certification preparation, which lacks the benefit of structured professional guidance and sustained learning strategies. Furthermore, while the curriculum design often adheres to theoretical frameworks and emphasizes the completeness of knowledge systems, vocational certification assessments prioritize practical skills, occupational standards, and real-world application capabilities. This divergence in educational focus creates a substantial gap between classroom learning and the competencies required for certification exams, making it difficult for students to translate academic knowledge into effective test-taking strategies and workplace readiness. Additionally, existing certification training programs frequently adopt fragmented and sporadic approaches. The training content, practice methods, and mock exercises provided often fail to align with the actual requirements of certification exams. This inadequacy leaves students without the necessary tools for efficient preparation and consistent skill development. The lack of integration between curriculum and certification not only hampers the efficiency and quality of certification processes but also weakens the connection between professional education and industry standards. Ultimately, this misalignment undermines students' employability and limits their potential for career advancement in the field of preschool education.

4. Optimization of Talent Cultivation Path for Preschool Education Majors in Applied Universities under the Integrated Education Concept of "Post-Course-Competition-Certificate"

4.1. Benchmarking core competencies of target positions and reconstructing a modular curriculum system

Under the integrated "Job-Course-Competition-Certification" educational framework, job requirements serve as the foundational basis for talent cultivation [8, 9]. Applied universities should align with evolving trends in preschool education by accurately mapping competency profiles and systematically identifying the essential skills and knowledge required for key positions such as kindergarten teachers, childcare providers, and family education counselors. This approach ensures a closer alignment between curriculum content and professional standards, addressing the persistent issue of curriculum-job mismatch. Universities should establish robust industry collaboration mechanisms by forming professional teams composed of preschool education experts, experienced kindergarten teachers, and leaders from childcare facilities. These teams should conduct regular research on major job clusters within early childhood education, defining the critical knowledge structures, practical skills, and professional qualities necessary for each role. Such efforts enable dynamic updates to competency profiles that reflect ongoing industry advancements. Furthermore, existing curriculum systems should be modularized and systematically restructured based on these competency profiles. Following the logical progression from foundational knowledge to core skills and comprehensive competencies, teaching content should be organized into three distinct modules: theoretical foundations, skill training, and practical application. The theoretical module focuses on essential topics such as teacher ethics, child development, and educational guidance. The skill module utilizes digital tools, including virtual simulations

and scenario modeling, to replicate real-world teaching environments, thereby enhancing hands-on training. The practical module leverages off-campus training bases to provide immersive internships, facilitating the effective conversion of theoretical knowledge into job-specific capabilities. Additionally, collaboration between schools and enterprises should be deepened to enhance resource development. Authentic childcare and education cases from kindergartens, along with typical work tasks from childcare institutions, should be integrated into curriculum teaching to improve the practicality and relevance of courses. This comprehensive approach ensures that graduates are equipped with the competencies required to excel in their professional roles within the preschool education sector.

4.2. Establishing Competency-Based Learning Platforms to Promote Project-Based Practical Teaching

Skill competitions play a vital role in assessing and enhancing students' professional practical abilities, forming an integral part of the comprehensive "job-course-competition-certification" education framework. To maximize the educational benefits of competitions in fostering teaching and learning, applied universities must develop structured platforms that seamlessly integrate competition elements into instructional practices. This entails embedding competition content, standards, and scenarios into routine teaching activities to stimulate innovation in practical teaching methodologies and elevate students' overall professional competencies. Universities should first establish enduring mechanisms for competition-integrated education by thoroughly analyzing the assessment criteria and skill demands of various preschool education skill competitions. Common competition themes, such as observing and analyzing child behavior, designing and implementing kindergarten activities, and organizing play-based activities, should be converted into standardized teaching modules. These modules can be incorporated into classroom instruction through workshops, hands-on training sessions, and scenario-based exercises, enabling students to engage with competition requirements, refine their skills, and enhance their competencies during regular learning activities. Furthermore, universities should actively pursue project-based teaching reforms by transforming complete competition workflows into practical, real-world projects. This approach shifts the focus from abstract knowledge acquisition to tangible task completion, guiding students to systematically develop professional skills through project exploration, collaborative teamwork, and outcome presentations. For example, practical tasks can be designed around competition scenarios such as planning kindergarten theme activities, documenting child behavior observations, and creating educational environments. By completing these projects, students can cultivate problem-solving abilities, adaptability in dynamic situations, and innovative practical skills. Additionally, universities should align the evaluation criteria of skills competitions with the course assessment system, integrating students' participation in competitions, achievements, and performance levels into their overall course grades. This alignment fosters a mutually reinforcing relationship between course assessments and competition evaluations, promoting a synergistic development pattern that benefits both teaching and competitive activities.

4.3. Implementing the 1+X Credit Bank System and Refining the Comprehensive Competency Evaluation Mechanism

Under the integrated education framework of "Job-Course-Competition-Certificate," implementing the 1+X Credit Bank system is a pivotal strategy to bridge the gap between curriculum instruction and vocational certifications, addressing the persistent issue of "course-certificate disconnect." Applied universities can utilize credit banks to seamlessly integrate academic degree courses with various vocational competency assessments, such as teacher qualification certifications, early childhood care certifications, and maternal and infant nursing skill certifications. This approach establishes mechanisms for credit accumulation, mutual recognition, and conversion, enabling students to simultaneously

advance their academic learning and vocational qualifications. A bidirectional course-certificate alignment mechanism should be developed to ensure that certification assessment criteria are precisely mapped into actionable teaching modules and competency objectives [10–12]. This alignment allows course content to directly support certification requirements, such as incorporating practical elements like activity design and live teaching demonstrations into the curriculum to enhance alignment with certification standards. Modular course design is another essential component, breaking down certification requirements into independent learning units that students can complete progressively. Upon finishing each unit, students earn credits that contribute toward meeting certification standards. Digital platforms play a critical role in managing credit banks, enabling real-time tracking of various credit types, including course credits, certification credits, competition credits, and practical credits. These platforms facilitate unified management and mutual recognition across different credit categories. Additionally, virtual simulation technologies can be employed to provide scenario-based training, enhancing students' operational proficiency and standardization. This not only improves certification pass rates but also equips students with the vocational adaptability needed to excel in their respective fields. By integrating these elements, the 1+X Credit Bank system fosters a comprehensive and dynamic educational environment that supports both academic and professional development.

4.4. Establishing a quadrilateral collaborative framework and improving the quality assurance system for education

The effective advancement of integrated talent development through the "Job-Course-Competition-Certificate" framework necessitates coordinated efforts from four key stakeholders: government, industry, enterprises, and educational institutions. Applied universities should take the initiative to establish collaborative platforms that effectively integrate resources from all parties, emphasizing critical aspects such as evolving job market demands, curriculum optimization, practical teaching implementation, and educational quality evaluation [13]. This approach fosters a closed-loop management model characterized by "demand-driven initiatives -- talent cultivation -- performance assessment -- iterative improvements," ensuring that educational programs remain closely aligned with developments in the preschool education industry. The core value of this collaborative platform lies in leveraging government policy guidance, industry standard-setting, corporate practical support, and institutional educational leadership. By integrating policy directives, industry norms, job requirements, and teaching processes, it creates a multidimensional, multi-tiered, and comprehensive quality monitoring system. During implementation, universities should conduct regular industry research and enterprise visits to collect real-time data on job competency requirements, skills competition trends, certification changes, and student employment outcomes. This enables thorough analysis and precise diagnosis of talent development effectiveness, resulting in scientifically grounded quality assessment reports. Based on these insights, institutions can dynamically adjust curriculum structures, teaching content, practical components, and evaluation methods to continuously enhance the alignment between talent cultivation and industry demands. Furthermore, universities should actively organize activities such as school-enterprise cooperation symposiums, industry expert guidance meetings, and talent cultivation seminars. These events should involve representatives from relevant government departments, authoritative industry experts, frontline kindergarten teachers, and childcare institution managers to collaboratively revise talent development plans, curriculum frameworks, and practical teaching methodologies. By pooling diverse expertise, the educational quality can be significantly enhanced, ensuring that graduates are well-prepared to meet the evolving demands of the preschool education sector. This comprehensive approach not only strengthens the connection between academic institutions and industry but also fosters sustainable improvements in the overall quality assurance system for education.

5. Conclusion

In conclusion, implementing the integrated "job-course-competition-certification" education model represents a transformative strategy to address the pressing challenges of talent development in preschool education programs at applied universities. This model emphasizes the alignment of academic curricula with the evolving demands of the job market, ensuring that students acquire the practical skills and professional competencies necessary for success in the field. By fostering deeper integration between competitive activities and teaching practices, institutions can create dynamic learning environments that encourage innovation and adaptability. Strengthening the alignment between courses and certification systems further ensures that students are equipped with industry-recognized qualifications, enhancing their employability and professional credibility. Moreover, establishing robust collaborative mechanisms among educators, industry stakeholders, and policymakers is essential for maintaining the relevance and effectiveness of talent cultivation efforts. This holistic approach not only addresses current workforce needs but also lays the foundation for sustainable improvements in educational quality. Future research should explore innovative methodologies to further refine this model, assess its long-term impact on graduate outcomes, and identify best practices for its implementation across diverse educational contexts. Ultimately, this integrated approach holds the potential to produce a new generation of highly skilled early childhood educators who are well-prepared to meet the complex demands of the industry.

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