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# Exploration and Practice of Talent Training for the Specialized Associate-Bachelor's Integration program in Application-Oriented Universities

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**Abstract:** Focusing on the talent training model of Specialized Associate-Bachelor's Integration in Application-Oriented Universities, this study deeply analyzes its developmental background, current status, and existing problems. Five key dimensions of the reform are explored, such as the construction of the institutional charter, the reconstruction of the curriculum system, and the improvement of the evaluation mechanism, in order to build a scientific and efficient talent training model. Through systematic investigation and analysis of reform outcomes in practical cases, significant improvements in talent training quality have been identified.The research objective is to provide practical references for similar institutions, thereby promoting comprehensive improvement in the talent training quality of the Specialized Associate-to-Bachelor's Integration program.

**Keywords:** application-oriented universities; specialized associate-bachelor's integration; talent training mode

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## 1. Introduction

In recent years, with the transformation and upgrading of China's economic structure and continuous optimization of industrial layout, society's demand for application-oriented talent has become increasingly urgent. In the traditional higher education system, diploma education focuses on vocational skill training while undergraduate education emphasizes systematic knowledge and theoretical depth, resulting in relatively independent systems that lack coherence and targeted cultivation. Application-Oriented universities fill the talent development gap between conventional academic bachelor's programs and vocational diplomas, aiming to cultivate high-quality, practically skilled, and innovative professionals to achieve precise alignment between talent development and social needs[1].

As a pilot province for "linking diplomas with bachelor's programs and integrating vocational and general education," Guangdong's local government has long been proactively exploring collaborative talent training models between higher vocational colleges and universities, organizing pilot projects for joint education. Since its transformation into an Application-Oriented university pilot institution in 2016, Lingnan Normal University has actively explored new segmented and integrated talent development pathways through collaboration with vocational colleges. Taking the Computer Science and Technology program as an example, it has partnered with Guangzhou Modern Information Engineering College's Computer Application Technology program to establish a Specialized Associate-Bachelor's Integration experiment class

using a 3+2 articulated model, commencing its first enrollment in 2020.

This cooperative model embodies concrete practice in implementing the Specialized Associate-Bachelor's Integration talent training philosophy. Analyzing its achievements and challenges provides valuable insights for optimizing the talent training mode, identifying key links and weaknesses in the process, overcoming existing barriers, and advancing comprehensive quality improvement in application-oriented universities.

## 2. Problems in the 3+2 Specialized Associate-Bachelor's Integration Program

As an innovative talent training mode, the 3+2 segmented integration program provides students with a coherent and systematic learning pathway from higher vocational education to undergraduate studies. This aligns with individual development needs and cultivates high-quality, practically skilled professionals for society. However, practical implementation of this model has exposed numerous urgent issues. These problems not only restrict the quality of talent training but also hinder further development and refinement of the integrated cultivation system. Specifically, the main challenges are reflected in the following aspects.

### 2.1. Divergence in Objectives Leads to Discrepancies in Top-Level Design

There are significant differences in objectives between higher vocational colleges and undergraduate colleges[2]. Higher vocational colleges prioritize cultivating students' professional skills, focusing on practical skills training to enable them to quickly adapt to frontline job requirements. For example, associate degree programs in computer science emphasize training students in programming fundamentals and software application operations. In contrast, undergraduate institutions emphasize systematic knowledge and theoretical depth, with their curriculum systems leaning toward theoretical exploration and interdisciplinary knowledge integration. This approach aims to develop students' theoretical research capabilities and comprehensive competence, laying a foundation for their long-term development.

These objective differences result in a lack of coherence and coordination in the top-level design of the 3+2 Specialized Associate-Bachelor's Integration program. Key links in talent training, such as the formulation of talent training programs and curriculum system design, exhibit mismatched rhythms between the two education stages. This inconsistency ultimately undermines the overall effectiveness of the integrated cultivation model.

### 2.2. Weak Connectivity Between Institutions Leads to Discontinuity Issues

The cooperation between higher vocational colleges and undergraduate institutions suffers from weak connectivity, resulting in discontinuity issues[3]. For example, in terms of curriculum content alignment, overlap and disconnection coexist between the associate and undergraduate stages. Some knowledge points are already thoroughly covered at the higher vocational stage but reappear at the undergraduate stage, while critical knowledge points omitted during the vocational phase are abruptly introduced as advanced content at the undergraduate level without foundational support, leaving students struggling to follow.

In terms of faculty collaboration, geographical distance between the two institutions hinders regular exchanges, making in-depth communication and collaborative efforts challenging[4]. This prevents the formation of unified teaching philosophies and methodologies, creating obstacles for students to achieve a smooth academic transition.

### 2.3. Disjointed Evaluation Mechanisms Affect Quality Control

The current 3+2 Specialized Associate-Bachelor's Integration program lacks unified evaluation mechanisms. Higher vocational colleges and undergraduate institutions operate independently, with significant discrepancies in evaluation criteria, methods, and focal points. Higher vocational colleges primarily focus on practical skills and skill assessments, while undergraduate institutions emphasize theoretical knowledge, academic research, and innovation capabilities. This disalignment in evaluation mechanisms makes it challenging for students to define clear learning objectives and hinders

institutions from conducting comprehensive and accurate oversight of talent training quality. Such inconsistencies impede the standardized and regulated development of the integrated cultivation system.

## 2.4. Insufficient Integration of Ideological and Political Education Hinders Holistic Talent Development

In the talent training mode, the integration of ideological and political education (IPE) remains inadequate. On one hand, higher vocational colleges and undergraduate institutions lack effective alignment in IPE content and approaches, failing to establish a unified, integrated IPE system. On the other hand, excessive emphasis on professional skills development has overshadowed the critical role of IPE in shaping students' values, social responsibility, and vocational ethics. This shortfall results in deficiencies in students' moral development, civic awareness, and professional conduct, making it challenging to meet the comprehensive requirements for high-caliber talent in the new era.

## 2.5. The Absence of Educational Resource Sharing Platforms Limits Collaborative Development

Under the 3+2 Specialized Associate-Bachelor's Integration model, higher vocational colleges and undergraduate institutions rely on online resource-sharing platforms to achieve cross-institutional collaboration. However, existing platforms suffer from insufficient systematic integration, manifesting in two key issues:

**(1) Functional Modules Disconnected from Integrated Training Needs**

Platform designs largely follow traditional single-track education systems, lacking dedicated functional modules tailored to the "higher vocational-undergraduate" institutional alignment required for coherent talent training.

**(2) Inadequate Real-Time Collaboration Mechanisms**

Interactive communication modules fail to meet the real-time collaboration needs of cross-institutional faculty and students, resulting in practical challenges such as "easier segmented training but harder integrated advancement" during implementation.

# 3. Reform Measures to Solve Problems

To resolve the aforementioned issues in the 3+2 Specialized Associate-Bachelor's Integration talent training process, a series of reform measures have been implemented with the goal of achieving synergistic educational outcomes and elevating the quality of talent cultivation. These measures focus on institutional framework construction, curriculum system reform, and other dimensions to systematically address existing challenges. The specific reform initiatives are as follows:

## 3.1. Formulating Collaborative Talent Training Policies and Charters

A 3+2 Specialized Associate-Bachelor's integration leadership group, co-led by leaders from higher vocational colleges and undergraduate institutions, has been established to oversee comprehensive planning for talent development. The two institutions jointly drafted and refined a collaborative charter, which has been officially released. This charter provides clear guidelines and standards for cooperation in teaching, research, practical training, and faculty/student exchanges. It clarifies the responsibilities of each institution: Higher vocational colleges focus on foundational skill development and professional basics during the associate stage, while undergraduate institutions advance knowledge deepening, capability expansion, and innovation cultivation at the undergraduate level. The charter also defines rights and obligations in faculty sharing, resource integration, and student management.

A regular coordination meeting system is instituted, convening at least once per semester to address key issues such as curriculum design, teaching quality monitoring, and alignment of educational objectives. To enhance collaboration, a virtual teaching and research office platform has been developed using internet technology, enabling integrated faculty

resources[5]. Teachers engage in monthly online activities (e.g., tackling teaching challenges collectively) to share expertise and resources. Additionally, a faculty exchange program requires at least three personnel exchanges per quarter, with visits lasting no fewer than two days. Exchanges, conducted online or offline, involve lesson observations and participation in teaching research to foster experience sharing.

## 3.2. Revision of talent training Program and Reconstruction of Curriculum System

Based on the collaborative training policies, Higher Vocational Colleges and Undergraduate Institutions jointly designed integrated talent development objectives guided by demand-orientation, student-centered cultivation, and regional economic service principles. The shared goal is to foster comprehensive technical professionals with bachelor's-level competencies, featuring noble professional ethics, solid foundations, excellent practical skills, strong collaboration abilities, and well-rounded development in moral, intellectual, physical, aesthetic, and labor aspects. To achieve this objective and meet graduates' core competency requirements, the curriculum system was restructured following engineering education certification standards, professional norms, and institutional regulations. The reform first eliminated duplicate content and upgraded course quality across both stages. Subsequent curriculum integration emphasized vertical knowledge deepening and horizontal interdisciplinary expansion, adopting a comprehensive modular framework that balances theory and practice while adding industry-aligned courses. The curriculum system of the vocational stage is divided into three categories of public courses, vocational courses and engineering practice courses, with a total of six major course modules. The six modules are public foundation courses, vocational basic courses, job-specific courses, skill training courses, public electives, and career development courses. The undergraduate stage continues career expansion modules, organizing specialized electives into multiple clusters aligned with employment directions, maintaining forward-looking course settings. This redesigned system aims to cultivate humanistic literacy, professional norms, disciplinary knowledge, and practical skills. Complementary updates include modernized teaching concepts, enhanced content relevance, and innovative methodologies.

## 3.3. Improvement of Evaluation Mechanisms

The original course evaluation mechanisms were revised to increase the weight of formative and performance-based assessments, integrating diverse formats such as document writing, paper presentations, practical operations, and course designs to holistically evaluate students' comprehensive competencies[6]. The learning platform was leveraged to enhance process-oriented evaluation through an online-offline integrated approach, enabling real-time tracking of student progress. Teachers regularly assigned learning tasks, requiring students to submit completed work promptly for grading and feedback. Additionally, activities like group discussions and in-class quizzes were organized to monitor knowledge mastery, identify issues, and address challenges swiftly.

Students' technical writing skills were assessed through assignments like experimental reports, technical reports, engineering documents, research surveys, and design reports. The oral defense of course papers focused on evaluating language expression, communication abilities, logical reasoning, and adaptive thinking. Practical exams tested knowledge application and operational proficiency, while the quality of course design projects gauged real-world problem-solving capabilities. A teamwork peer-evaluation mechanism was introduced to measure teamwork awareness, collaboration spirit, and project implementation effectiveness in group-based tasks. These measures not only enhanced the accuracy and fairness of course evaluations but also provided students with expanded opportunities to showcase their abilities and grow.

## 3.4. Integration of Ideological and Political Education into the Training Process

Specialized training sessions on course-based ideological-political education were organized to enhance teachers' awareness and capabilities in this domain. Teachers were tasked with extracting ideological elements from computer science courses and seamlessly integrating them into specialized teaching. For instance, programming courses incorporated themes like craftsmanship spirit and professional ethics, while information security courses emphasized national security

awareness and information ethics.

Through internships, practical training, and innovation-entrepreneurship practices, students were guided to develop proper professional ethics and values. During internships, adherence to organizational regulations was enforced to cultivate professional competence and responsibility awareness. In innovation-entrepreneurship activities, students were encouraged to address social needs, fostering their social responsibility and innovative spirit.

### 3.5. Innovation in Educational Resource Platforms

A resource-sharing mechanism was established to build a co-construction and sharing platform for teaching resources. Higher Vocational Colleges and Undergraduate Institutions jointly developed a course resource repository via the platform, encompassing course syllabi, teaching slides, instructional videos, and question banks, thereby facilitating exchanges and collaboration between faculty members from both sides. Students and teachers could utilize the platform for online learning, interactive exchanges, assignment submission and grading, and exam evaluations, catering to diversified learning and teaching needs.

## 4. Implementation Effectiveness

### 4.1. Improvement in Student Academic Performance and Capabilities

Through the implementation of the aforementioned reform measures, the overall qualification rate for the transition phase of the 3+2 Segmented Program Experimental Class has significantly improved. Among the 43 students enrolled in the 2020 cohort, 35 successfully qualified for the transition to our undergraduate program, achieving a qualification rate of 81.4%. For the 2021 cohort, 31 out of 36 students passed the transition assessment, resulting in a high qualification rate of 86.1%. The improvement in qualification rates indicates that students have acquired a more solid academic foundation during their associate degree studies, laying a strong groundwork for undergraduate-level learning.

In addition to the transition qualification rates, the experimental class has also shown a remarkable increase in the average credit GPA. For the 2020 cohort, the 35 students who successfully transitioned had an average GPA of 3.19 during their associate degree studies, with 62.9% of students achieving a GPA of 3.0 or higher, and the highest GPA reaching 3.94. For the 2021 cohort, the 31 students who advanced to undergraduate studies maintained an average GPA of 3.87, among which 27 students (87.1%) achieved a GPA of 3.0 or higher, and 14 students (45.2%) attained a GPA of 4.0 or above, with the highest reaching 4.5.These figures surpass the performance of the 2020 cohort by a significant margin, reflecting enhanced learning motivation, proactivity, and deeper mastery of professional knowledge among students.

Students from the experimental class have also excelled in various disciplinary competitions. In recent years, they have achieved outstanding results in competitions such as the National College Mathematics Competition, Mathematical Modeling Competitions, Software Programming Contests, and Innovation and Entrepreneurship Competitions, securing 1 national-level award, 5 provincial-level awards, 7 university-level awards, and obtaining 5 software copyright authorizations. Beyond academic competitions, one student from the 2021 cohort was awarded the National Scholarship and honored as an “Outstanding League Member of Guangdong Province”. These achievements demonstrate the student’ innovation capabilities, practical skills, and the effectiveness of holistic education, highlighting the high quality of talent cultivation in this experimental class.

### 4.2. Positive Feedback from Students and Enterprises

Through questionnaires and symposiums, student satisfaction was systematically collected. Survey results indicated that over 97% of students in the experimental class expressed satisfaction with aspects such as teaching quality, course structure, and practical training.Students generally believe that the talent training mode of the experimental class of three-two sections meets their learning needs and career development planning, and improves their learning interest and learning effect. Enterprises employing students during work-placement internships also provided highly positive evaluations,

with an average satisfaction rate exceeding 93%. Businesses acknowledged that students possessed solid professional knowledge and strong practical skills, enabling them to adapt rapidly to workplace environments and job requirements. Additionally, students' teamwork spirit, communication abilities, and innovative capacities were recognized by enterprises, creating favorable conditions for their employment prospects.

## 5. Conclusion

The reform of the talent training mode for Specialized Associate-Bachelor's integration in Application-Oriented universities has achieved significant results. By implementing a series of initiatives—such as formulating collaborative talent training system charters, reconstructing the curriculum framework, refining evaluation mechanisms, integrating moral and political education, and innovating educational resource platforms—the reform has effectively addressed existing challenges. The professional knowledge and practical skills of students have been significantly enhanced, with high levels of student satisfaction and positive feedback from enterprises. However, certain aspects of the reform remain to be refined. In the future, it is critical to strengthen teacher training to advance the transformation of teaching philosophies and enhance teaching capabilities; increase investment in practical teaching resources to optimize resource allocation; and prioritize individualized instruction to address student differences. Through continuous deepening of reforms and exploration of new models tailored to integrated talent cultivation, the program aims to cultivate more outstanding application-oriented professionals for society.

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## Disclosure statement

The author declares no conflict of interest.

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