

# Research on the Fusion Course System Based on Improving Employability Under the Background of Application-Orientated Undergraduate

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**Abstract:** Facing the development of “Internet +” and the demand of diversified talents in the market, excellent talents with computer operation ability are increasingly needed by all trades and professions. This “ability” added to professional skills will enhance the employment competitiveness to a great extent. Therefore, the traditional employment mode and talent training mode need to be transformed by various integrated means to adapt to the change in employment status. By analyzing the current situation and employment of agricultural application-oriented universities, the fusion course is put forward in this paper, taking the construction of the Office Automation course, a platform course of Heilongjiang Bayi Agricultural University, as an example.

**Keywords:** Fusion course; Applied undergraduate; Chaoxing platform; Office Automation

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## 1. Introduction

The technological revolution of big data and information has been promoting the rapid development of the new industrial mode. The “Internet +” mode of the industry and market is emerging at a historic moment. Facing the development of “Internet +” and the demand of diversified talents in the market, excellent talents with computer operation ability are increasingly needed by all trades and professions <sup>[1-4]</sup>. This “ability” added to professional skills will enhance the employment competitiveness to a great extent <sup>[5-7]</sup>. Therefore, the traditional employment mode and talent training mode need to be changed by various integrated means to adapt to the change in employment status <sup>[8]</sup>.

Applied universities are an important strategic plan for the country to serve the regional economy <sup>[9-11]</sup>. As an important part of undergraduate education, teaching should comply with the trend of educational development, integrate modern information technology with the real economy, and promote the development of local economy and social progress <sup>[12-14]</sup>. Based on the analysis of the transformation and employment of agricultural applied undergraduate universities, this paper puts forward the fusion course strategy to improve employability under the background of application-oriented undergraduate.

## **2. Existing problems in the transformation of agricultural application-orientated undergraduate universities**

The requirement of talents is the core issue when agricultural products and other related industries are faced with transformation and upgrading <sup>[15]</sup>. Serving local economic and social development is the main path for the transformation of agricultural application-oriented undergraduate universities <sup>[16]</sup>. It is mainly reflected in the following aspects: first, the practical ability and innovative ability of students who study in agricultural colleges should be cultivated; second, the employability and entrepreneurship of students should be improved; third, the seamless connection between graduates and the society should be realized, so as to achieve the goal of precision employment. However, some colleges and universities are not able to grasp the pivotal aspects of transformation, accurately locate the direction of running their schools, and optimize the school-running characteristics.

Therefore, the practice of agricultural universities in the process of transformation should be further clarified. The objectives and specifications of talent training need to be defined. The fundamental problems in the transformation, such as “who to train,” “how to train people,” and “for whom to train,” need to be well understood. Through in-depth investigation on the development trend and talent demand of regional agriculture and related industries, as well as the demand for various jobs, the importance of employability can be ranked <sup>[17]</sup>. According to this ranking, the core competence of college students is cultivated and highlighted, the specialty of market integration can be established dynamically, and the courses for jobs needed by the industry are set up reasonably. By doing so, the complementary degree between the actual ability and employability of students will improve, and the application and practical ability in application-oriented universities will be effectively enhanced. Application-oriented universities will be able to cultivate technical talents who are suitable for the needs of local economic and social innovation and development.

## **3. Analysis of employment status in agricultural universities**

Cultivating excellent talents for national agricultural and rural modernization is an important task that agricultural universities must undertake. There are new opportunities and challenges for the construction of “new agricultural science” from the implementation and development of the national poverty alleviation strategy, rural revitalization strategy, and regional development strategy <sup>[18]</sup>. In the national “double first-class” employment survey by agricultural and forestry universities, it is found that majors with better employment include manufacturing, civil engineering, agriculture, forestry, animal husbandry, fishery, information transmission, software, and information technology. The correlation is about 70% between the employment of students and the major itself. The proportion of students who choose to work in frontline industries related to agriculture, forestry, animal husbandry, and fishery is less than 20%. There are many reasons for this, of which the main reason is the diversified and multidisciplinary development goals in these agricultural and forestry universities.

Taking Heilongjiang Bayi Agricultural University as an example, the employment status of application-orientated agricultural universities was analyzed. There were 4,290 graduates in 2020, inclusive of 3,906 undergraduates, accounting for 91.05% of the total number of graduates. Among them, male students accounted for 48.72%, while female students accounted for 51.28%. They were distributed in 47 majors, such as veterinary medicine, economic management, and mechanical engineering. The average employment rate of the whole school had reached 80%, in which the employment rate of landscape gardening, civil engineering, and animal science and technology was over 90%. According to the employment profession, “agriculture, forestry, animal husbandry, and fishery” accounted for 27.07%, “manufacturing” accounted for 13.77%, and “information transmission, software, and information technology services” accounted for 10.01%. The overall employment trend was consistent with that of national agricultural and forestry universities, and the professional relevance was more than 65%, 5%

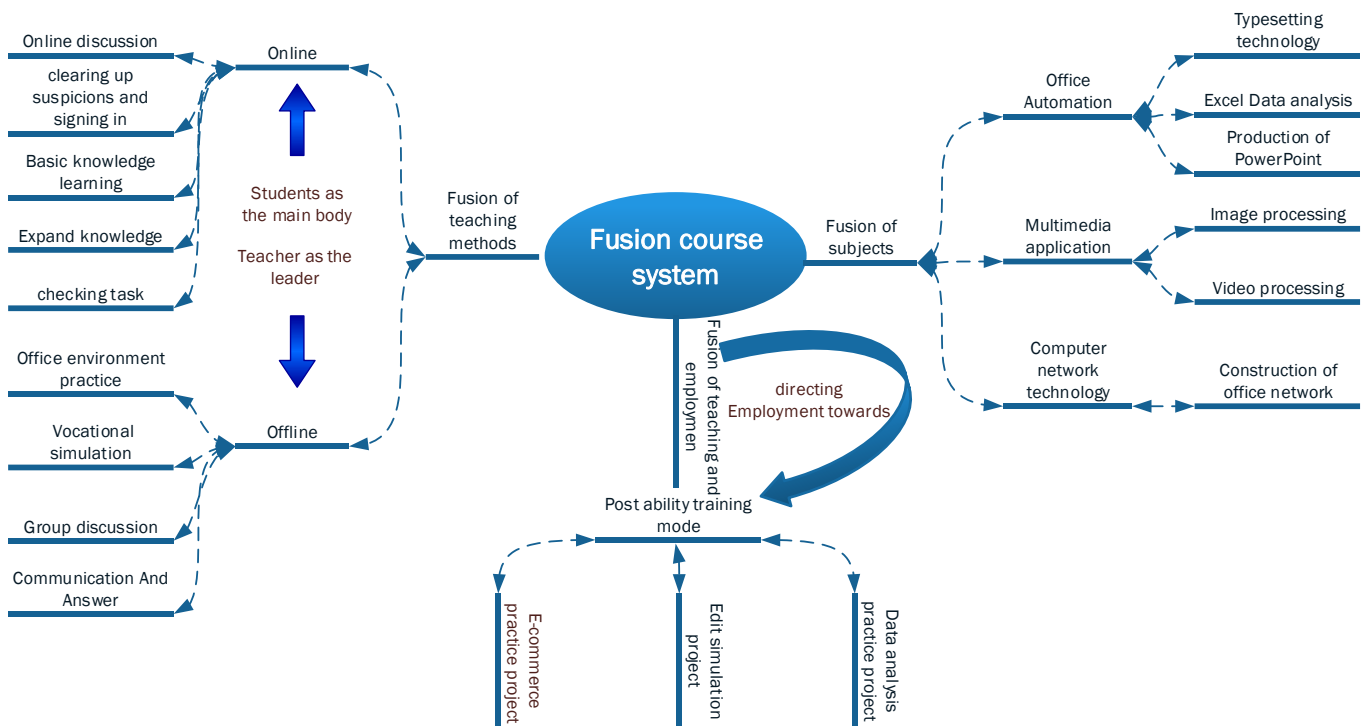
slightly higher than the overall level of the country. The reason is that Bayi Agricultural University is located in Heilongjiang Province, which is a large agricultural province. The employment proportion of “agriculture, forestry, animal husbandry, and fishery” is relatively high. In the process of transforming the university into an application-orientated university, the relationship between professional training and local agricultural needs is reinforced step by step, gradually playing its due role in regional agriculture economy [19].

#### **4. Fusion course strategy based on improving employability**

##### **4.1. Fusion course mode**

The concept of fusion can be divided into the three modes. The first is the fusion of different but related courses. The second is the fusion of online and offline teaching methods [20]. The third is the fusion of teaching and employment based on cases.

In general, there are many basic computer courses for non-computer majors, such as Office Automation, Multimedia Application, and Computer Network Technology. In the previous curriculum construction system, these courses are independent courses, and students are allowed to freely attend these courses; in addition, the class hours are short. Hence, the purpose of improving employment competitiveness cannot be achieved. The fusion course strategy is a necessary method to solve this problem. First, taking Office Automation as the core course, an integrated online teaching platform is established. Second, based on Chaoxing platform and the employment needs of different majors, the course is set as a hybrid online and offline mode. The course would be diversifying, and it would change the characteristics of previous courses. Finally, using data analysis to understand the demand for improving employment competitiveness, it would be possible to enhance the influence of the course on the employment of application-oriented undergraduate students. In the process of teaching, the role of teachers has changed, and students have taken on the main role. “Students as the main body, employment as the guidance, and teachers as the leading figure” is the setting principle of the course. Traditional teaching and network teaching based on Chaoxing platform are perfectly combined. By analyzing the big data of “major employment,” the teaching is designed, covering preparation before class, knowledge transfer during class, as well as consolidation and improvement after class. In addition, the teaching process is interspersed with quiz, discussion, questionnaire surveys, and other links of teacher-student interaction and student-student interaction. By stimulating the enthusiasm of students for autonomous learning, students’ interest in learning is stimulated, and communication is enhanced between students and teachers. **Figure 1** shows the fusion construction of the Office Automation course.



**Figure 1.** Fusion construction of the Office Automation course

#### 4.2. Effective fusion of courses

The goal of cultivating skills that a single course can achieve cannot meet the employment needs of students. Optimizing and reorganizing the constituent elements of the course is one of the ways to solve the problem. In the process of teaching reform, a fusion course system is built by taking the Office Automation course as the core element and the Multimedia and Network Technology course as the auxiliary element. Based on the teaching subjects at varying levels of different majors, the proportion of core element courses and auxiliary element courses is adjusted in the system. Then, the “specialty-employment” fusion course system is formed. By analyzing the online and offline teaching effects and the employment data in different professional directions, a multi-technology application course fusion teaching system for non-computer majors is established to adapt to the transformation of agricultural universities. The teaching documents, methods, case resources, assessment, and evaluation system suitable for fusion teaching are established.

#### 4.3. Fusion of teaching methods

The fused teaching method is a way to carry out teaching on the basis of traditional mixed teaching. Blended learning is considered as “a learning method to transfer appropriate abilities to appropriate learners at an appropriate time by applying appropriate learning technologies and appropriate learning styles, so as to achieve the most optimized learning effect.” Under the fused teaching method, the concept of “student-centered” in blended teaching is gradually deepened [21]. One of the main tasks in the construction of the Office Automation fusion course system is to build an online and offline hybrid teaching platform based on Chaoxing learning platform. The contents of multiple courses are integrated on the platform, such as Office Automation, Multimedia Application, and Computer Network Technology. The contents can be extended beyond the classroom using the platform, thus making up for the limitations in the scale and level of classroom teaching. Afterschool communication channels between teachers and students is also established on the platform. All these are bound to promote autonomous and personalized learning among students. The improvement of the overall effect of the course is due to the high combination and complementarity of online and offline courses. **Figure 2** shows the Office Automation fusion course

platform (<https://mooc1-1.chaoxing.com/course/223143157.html>).

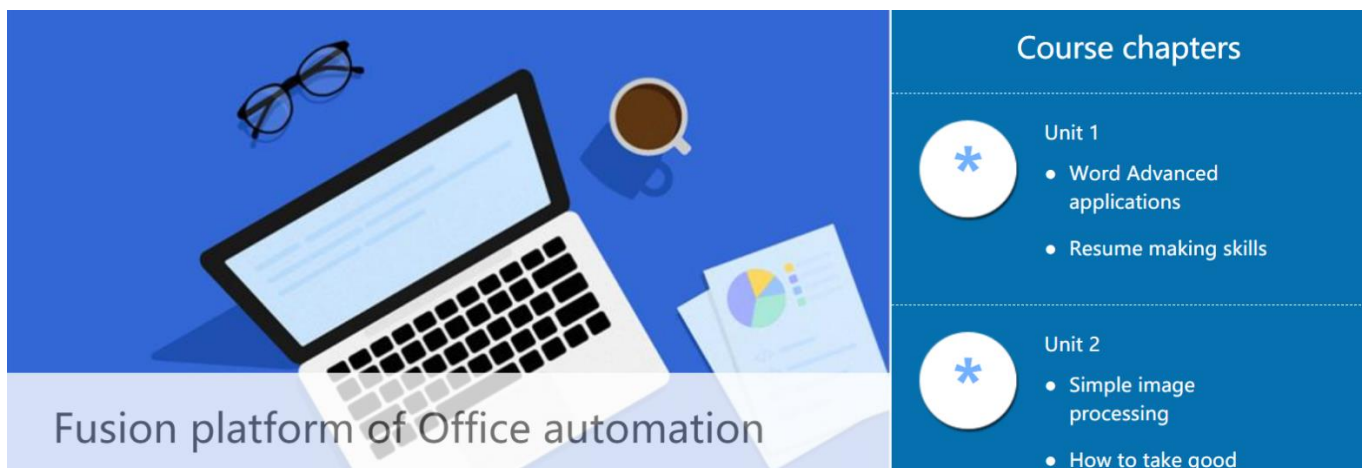


Figure 2. Office Automation fusion course platform

#### 4.4. Fusion of teaching and employment

Referring to the standards of occupational qualifications and requirements of real posts, a multi-course fusion scheme is designed under the guidance of industry experts. The employment needs and teaching characteristics of different majors are considered in the scheme. Considering the actual situation of students in agricultural colleges, a multi-disciplinary “specialty-employment” course module system is constructed. Through case teaching, the effective integration of teaching and promoting employment is realized. The courses in the fusion reform are all highly practical courses. The selection and compilation of teaching cases is very important for classroom demonstration and experiment. Good, interesting, and classic cases may play direct roles in promoting teaching. With appropriate cases, the guidance of teachers can be combined with the problems raised from students’ independent exploration. In the construction of the fusion course with Office Automation as the core, project-based training is implemented and driven by tasks. Resume-making and interview guidance, journal editing, e-commerce and data analyzing, as well as the construction of office network are used as core cases in teaching. Through these cases, the knowledge points of the course can be fully integrated with employment, and the practical operation ability of students will improve through the understanding of these knowledge points, along with the competitiveness in employment.

#### 5. Conclusion

Under the background of “new agricultural science,” by analyzing the current state and employment of agricultural application-oriented universities, the fusion course mode has been put forward in this paper. Taking the construction of Office Automation, a platform course of Heilongjiang Bayi Agricultural University, as an example, this paper studies the fusion course of agricultural application-orientated undergraduate and analyzes the teaching reform process of the fusion model of “students as the main body, employment as the guidance, and teachers as the leading figure.” Using the fusion teaching mode, students’ interest in the course can be better stimulated, and their practical ability and depth of theoretical learning can also be improved in a more effective manner.

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## **Disclosure statement**

The authors declare no conflict of interest.

## **Author contributions**

T.M. and L.L. conceived the idea of the study; Y.Y., A.L., and D.Y. performed the experiments. L.L. analyzed the data, and X.W. wrote the paper.

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