

# Research on the Development of Education and Teaching Reform in Higher Agricultural and Forestry Universities in China

## -- Based on the Analysis of the Winning Results of the 7th and 8th National Teaching Achievement Award in Chinese Higher Education

Xiaoshuang Wang<sup>1, a</sup>, Rui Wu<sup>1, b</sup>

<sup>1</sup>China Heilongjiang Bayi Agricultural University, Daqing Heilongjiang 163319, China;

<sup>2</sup>China Heilongjiang Bayi Agricultural University, Daqing Heilongjiang 163319, China.

<sup>a</sup>byndjyk2006@163.com, <sup>b</sup>fuhewu@126.com

### Abstract

Taking the 7<sup>th</sup> (the year of 2014) and 8<sup>th</sup> (the year of 2018) National Higher Education Achievement Awards in agriculture and forestry universities as the research object, the essay analyzes from the multiple dimensions of the number of awards, the proportion of awards, the awarding universities, the achievement disciplines, the theme of achievements, and the completion unit. From the development trend of higher education, the essay explores the development trend of agricultural and forestry education and teaching reform such as deepening the talent training model, increasing the reform of the curriculum system, emphasizing on the Cultivation of the Ability of Innovation, enhancing the cooperative education of agricultural science and education, and strengthening the ideological and political construction of the curriculum.

### Keywords

Higher Education, National Teaching Achievement Award, Agricultural and Forestry Universities, Teaching Reform.

## 1. INTRODUCTION

The National Teaching Achievement Award for Higher Education is the highest award in the field of higher education teaching in China and represents the highest level of higher education teaching in China. Analyzing and researching the award-winning achievements of higher agricultural and forestry colleges is of great significance for exploring the future development trend of higher agricultural education and teaching reform in China.

## 2. ANALYSIS ON THE AWARDS OF THE 7TH TO 8TH NATIONAL TEACHING ACHIEVEMENT AWARDS IN AGRICULTURAL AND FORESTRY COLLEGES

### 2.1. The amount of Award-winning

In the year of 2018, colleges and universities of agriculture and forestry received a total of 23 awards for the eighth National Teaching Achievement Award, including 2 first prizes and 21 second prizes. The total number of awards is the same as that of the seventh session in 2014, but the number of first prizes has doubled.

### 2.2. The Proportion of Award-winning

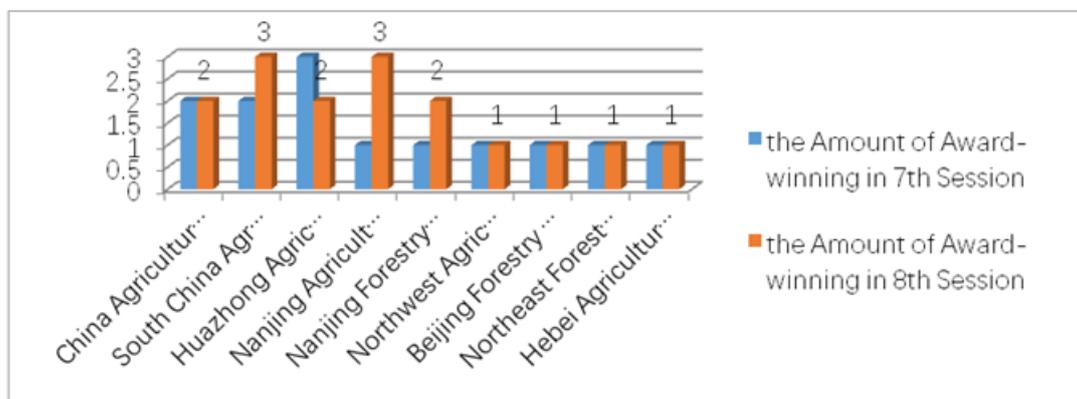
In the eighth session, there are 64 candidate projects in higher agricultural and forestry universities, and the proportion of awards for achievements is about 35.94%, which is 20.16 percentage points lower than the 56.10% awards of the seventh session, but higher than the national 34.85% award ratio. In the two sessions, the agricultural and forestry colleges and universities are higher than the national award ratio. The specific data is shown in Table 1.

**Table 1.** The Proportion of Award-winning in the 7th and 8th Sessions

Year (Session)	Scope	The amount of Award-winning (Project)	The candidate projects (Project)	The award-winning proportion (Percentage %)
2014 (the seventh session)	Agricultural and Forestry universities	23	41	56.10
	Universities in China	452	946	47.78
2018 (the eighth session)	Agricultural and Forestry universities	23	64	35.94
	Universities in China	452	1297	34.85

### 2.3. Award-winning Universities

A total of 15 higher agricultural and forestry colleges won awards in the eighth selection, which is a decrease of 11.76% compared with the 17 in the seventh. There are 9 award-winning agricultural and forestry colleges, including China Agricultural University, South China Agricultural University, Huazhong Agricultural University, Nanjing Agricultural University, Nanjing Forestry University, Northwest Agriculture and Forestry University, Beijing Forestry University, Northeast Forestry University and Hebei Agricultural University. The comparison of the number of awards from 9 universities is shown in Figure 1. As shown in the figure, 9 universities in the eighth session won 16 awards, higher than the 13 awards in the seventh session. The awards are relatively concentrated, which also shows that the development of agricultural and forestry universities is uneven.



**Figure 1.** Comparison of the Number of Awards from Nine Agricultural and Forestry Universities in the 7th and 8th sessions

## 2.4. The Subjects of the Achievements

Based on the classification of disciplines in the undergraduate professional catalog of ordinary colleges and universities, the subjects of the eighth session of the awards of higher agricultural and forestry universities are agronomy, engineering, others and management; the subjects of the seventh session of the awards of higher agricultural and forestry universities are agronomy, engineering, others and science. The specific distribution is shown in Table 2. As shown in the table, the awards of the two selected agricultural disciplines accounted for more than 65%, ranking first in the award-winning disciplines with overwhelming advantages, with obvious characteristics.

**Table 2.** The Subject Distribution of Award-winning Outcomes at the 7th and 8th Sessions

Year \ Subjects		Science	Engineering	Agronomy	Management	Others	Total
The seventh session in 2014	The special prize (Project)	0	0	0	0	0	0
	The first prize (Project)	0	0	1	0	0	1
	The second prize (Project)	1	4	14	0	3	22
	Total (Project)	1	4	15	0	3	23
	Percentage (%)	4.35	17.39	65.22	0	13.04	100
The eighth session in 2018	The special prize (Project)	0	0	0	0	0	0
	The first prize (Project)	0	1	1	0	0	2
	The second prize (Project)	0	3	15	1	2	21
	Total (Project)	0	4	16	1	2	23
	Percentage (%)	0	17.39	69.57	4.35	8.69	100

Note: In the statistics of the table, the same achievements of multi-school cooperation are counted according to the top-ranking universities in the completion unit, and counts are not repeated.

## 2.5. The Themes of Award-winning

The themes of the seventh to eighth award-winning achievements of agricultural and forestry universities can be roughly divided into: talent training model reform, curriculum and textbook construction, practical teaching, teaching model reform, innovation and entrepreneurship education, student ability training, and major construction. The specific distribution is shown in Figure 2 and Figure 3. As shown in Figure 2 and Figure 3, the theme of the award-winning achievements is relatively concentrated. The results of the reform of the talent training model in the two sessions have exceeded 50%, and the proportion of the eighth session has increased by 13% compared with the seventh session, which reflects the fundamental position of talent training in the current reform of higher education.

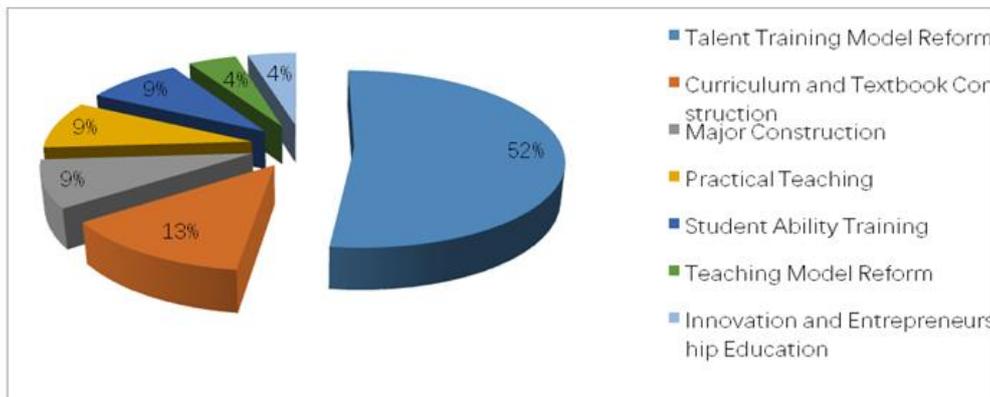


Figure 2. The Theme Distribution Chart of the 7th Session

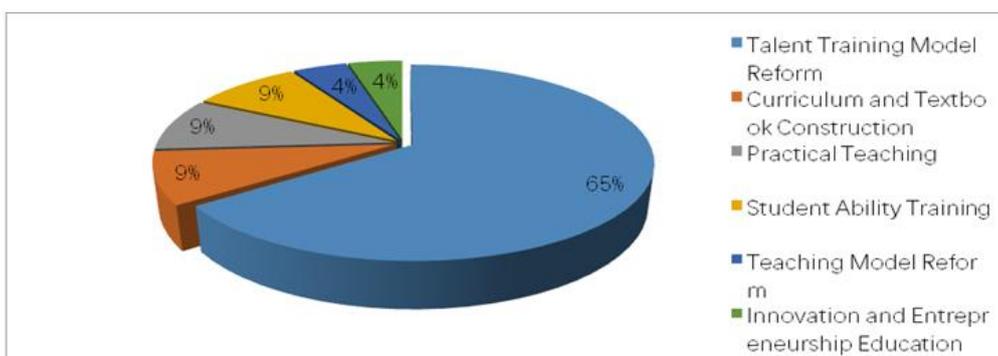


Figure 3. The Theme Distribution Chart of the 8th Session

**2.6. The Units of Achievement Completion**

Among the eighth session award-winning achievements of agricultural and forestry universities, 19 achievements were independently completed, accounting for 82.61% of the total achievements, which was the same as the seventh session; the inter-school joint achievements accounted for 4.35% of the total achievements, which was higher Reduced by 50%; the results achieved jointly by universities and other institutions accounted for 13.04% of the total results, an increase of 50% over the seventh session. The specific data is shown in Figure 4. This shows that the cooperation between agricultural and forestry universities and scientific research institutes, educational administrative institutions and enterprises is getting closer and closer.

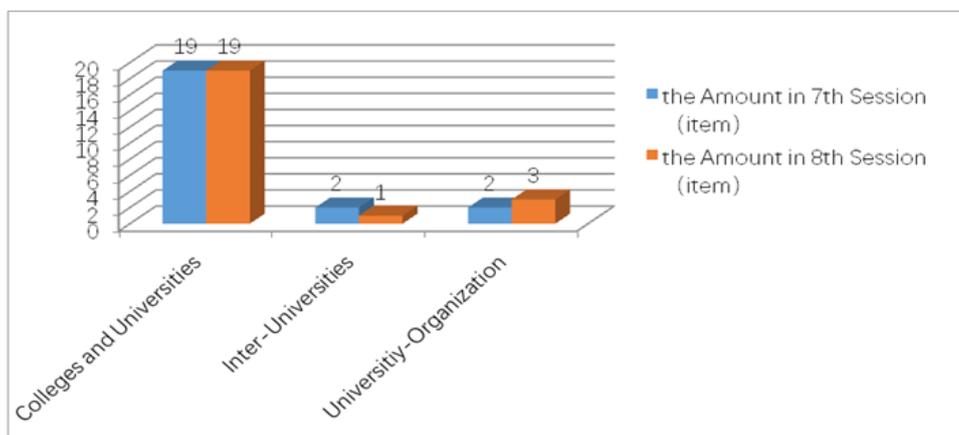


Figure 4. Comparisons of Completed Units at the 7th and 8th Sessions

### **3. THE DEVELOPMENT TREND OF EDUCATION AND TEACHING REFORM IN HIGHER AGRICULTURAL AND FORESTRY UNIVERSITIES.**

Through the analysis of the award results of the 7th to 8th National Teaching Achievement Awards for Higher Education in agricultural and forestry universities, and the current situation of higher education in China, the reform of education and teaching in higher agricultural and forestry universities will proceed from the following aspects.

#### **3.1. Deepening the Talent Training Model**

Under the background of implementing rural revitalization strategy and the construction of "new agricultural science", we should deepen the reform of talent training model and system innovation. In-depth implementation of "Outstanding Agriculture and Forestry Talent Education and Training Plan 2.0", we ought to highlight the "student-oriented, students' development-centered" education philosophy. According to the characteristics of different professions, a diversified talent training model of industry-education integration, science-education collaboration, industry-university-research collaboration education, and multi-disciplinary cross-integration is formed to cultivate high-level talents that meet the future development needs of agriculture, rural areas, and farmers.

#### **3.2. Increasing the Reform of Curriculum System**

Strengthen cross-disciplinary integration, combine new knowledge of cross-disciplines, new achievements of scientific research, and new technologies that drive development, constantly update the teaching content, create "golden courses", and find out the construction direction of the "five golden courses". Using new teaching methods such as flipped classrooms, cloud classes, rain classes, etc., a batch of online, offline, online and offline mixed, virtual simulation experimental teaching courses for agriculture and forestry were established, and the MOOC alliance for agricultural and forestry universities was established to improve the level of course construction.

#### **3.3. Emphasizing on the Cultivation of the Ability of Innovation**

Taking the service of the country's rural revitalization strategy as a starting point, we should give play to the practice and education of higher agricultural and forestry colleges. Fully tap the internal and external resources of the school, innovate the practice carrier, assist the construction of the experimental training platform for colleges and universities, and improve the mechanism of college practice and education. Integrate educational science and technology resources, condense the direction of scientific and technological innovation, lead students to participate in agricultural and rural scientific and technological tasks and theoretical application research, build a collaborative innovation, source innovation and achievement transformation platform, promote the promotion and transformation of achievements, and continuously improve students' practice and innovation capabilities.

#### **3.4. Enhancing the Cooperative Education of Agriculture, Science and Education**

The university should accelerate the establishment of strategic cooperation between agricultural universities and the Academy of Agricultural (Forest) Sciences to further consolidate and broaden the field of cooperation in education and scientific research. As the same time, we should establish a community of agricultural colleges and universities, and promote various forms of consultation and cooperation mechanisms such as student exchange, mutual recognition of credits, and interconnection of educational resources. We ought to strengthen the coordinated education of enterprises, schools and schools, give full play to the respective advantages of agriculture-related industries and universities, formulate talent

training programs, develop courses, build a demonstration base for integration of industry and education and a training base for scientific and educational cooperation.

### 3.5. Strengthening the Construction of Ideological and Political Curriculum

Adhere to the fundamental task of standing up morals, the university should cultivate students' "Understand agriculture, Love rural area and Love farmer" and "Love agriculture, Understand technology and ,Manage business" ideas, put ideological and political education through the entire process of talent training, and exert the educational function of curriculum ideology and ideology courses. Classroom teaching clarifies the ideological and political objectives of each course, excavates ideological and political elements, and creates a model ideological and political model classroom. We ought to actively explore new methods to strengthen curriculum ideological and political and professional ideological and political construction, combine moral education practice with classroom teaching, and create a new pattern of "ideological and political courses + curriculum ideological and political education" and peer education.

## 4. CONCLUSION

In short, through the multi-dimensional analysis of the awards of the two National Teaching Achievement Awards, combined with the current situation of higher education in China's "new agricultural science" construction, the higher agricultural and forestry colleges and universities must focus on the cultivation of outstanding agricultural and forestry talents. Build a high-level agricultural and forestry personnel training system, focus on cultivating students' sense of responsibility and mission to know farmers, love agriculture, and serve the "three rural issues", and strive to improve students' practical ability and innovation level.

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Author brief introduction: Wang Xiaoshuang (1981- ), female, Han, Daqing, Master Degree, Assistant Research fellow, higher Education Research and Teaching quality Assessment Center, Heilongjiang Bayi Agricultural University, Heilongjiang Province. Research direction: higher education research.

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