

An Analysis of Academic Credit System in German Higher Education and Its Enlightenment to Credit System Construction in China

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Abstract

Germany, signatory to the Bologna process, has been in pursuit of an efficient academic credit system in higher education institutions based on the “European Credit Transfer System” since the 1990s. This paper analyzes the achievements and problems in the implementation of the academic credit system in Germany and the insights it offers for China in the reform of academic credit system.

Key words: Academic credit system; German higher education reform; The Bologna process

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INTRODUCTION

The definition of credit system in *Dictionary of Education* is that “It’s a teaching management system used in colleges and universities. It evaluates the academic achievement of a student based on the credits that the student attains and carries out relevant administrative work.” (Gu, 1991, p.20) Since 1978, colleges and universities in China have started to adopt the combination of scholastic year system and the credit system and implemented a student status management method that cultivates students in a planned way and calculates academic results according to credits (Wang, 1988, p.393). Although the scholastic year and credit system have regulated the credits for each

course and the study duration, it is still based on plans and natural classes. It is not flexible enough. Therefore, it still belongs to the scholastic year system in nature. It is not as flexible, autonomic, adaptive, instructive, and extensive as the credit system. As the reform of higher education goes on in China, the comprehensive implementation of pure academic system has become an inevitable trend.

As a European powerful country in education, Germany signed the *Sorbonne Declaration* in 1988 and participated in the reform of European higher education. Later, Germany carried out a series of reforms in the educational system after signing *Bologna Declaration* in 1999. One of these important reforms is to establish a unified credit system. Because of the uniqueness of German educational system, there are many special experiences during the establishment and implementation of the credit system, from which we can learn and build the credit system in China.

1. THE DEVELOPMENT OF GERMAN CREDIT SYSTEM

On June 18, 1999, ministers of higher education from 29 European countries cosigned *Bologna Declaration* and put forward the goal of building the European Higher Education Area by 2020. It established a common framework for the higher education system within Europe and decided to build a two-stage structure of higher education within the framework, including undergraduate and postgraduate (Cao, 2008). A unified credit system is one of the important goals of *Bologna Declaration*. In 1989, Europe introduced European Credit Transfer system (ECTS), admitting students’ credits obtained by studying abroad during the ERASMUS Program. It is also the only successful credit system in Europe.

The *Bologna Declaration* has a profound influence on the reform and development of German colleges and universities. In modern history, Germany once adopted

a special master-doctor degree system, without bachelor degree. However, this system is incompatible with higher education systems in Britain, America and other countries, hindering the international exchange of German higher education. Besides, traditional German higher education system features in strict standards on study and the high rate of elimination. As a result, students had to study for a long period in order to get the degree. Too many students detained in schools, which increased the burden of management. Although traditional German academic degrees were high-quality, its incompatibility with international practice had a strong impact on the international competitiveness of German colleges and universities. With the internationalization of higher education and European integration, Germany realized that it was time to reform the educational system of higher education so that the problem of mutual recognition of

diploma with other countries can be solved, and hence the attractiveness of Germany in world educational system can be enhanced. Therefore, Germany not only introduced the bachelor-master academic degree system from Britain and America, but also promoted the establishment of ECTS.

On the 4th amendment of *Bundeshochschulrahmengesetz* (HRG) enacted in 1988, it was put forward that German states should establish the credit system in colleges and universities gradually (Gehring, 2002, p.9). On March 5, 1999, *Kultusministerkonferenz* (KMK) decided that colleges and universities that renewed bachelor/master courses should modularize the courses and establish a credit system. In June 2000, *Hochschulrektorenkonferenz* (HRK) suggested building a German credit system based on ECTS and regulated the transfer standard between original grades and ECTS grades. (See Table 1)

Table 1
German Credits Transfer Standard

ECTS grade	German grade	ECTS level	German level
A	1.0-1.5	Distinctive	Distinctive
B	1.6-2.0	Excellent	Excellent
C	2.1-3.0	Good	Good
D	3.1-3.5	Satisfied	Satisfied
E	3.6-4.0	Pass	Pass
FX/F	4.1-5.0	Failed	Failed

It provides a basic principle for the course modularization and credits in each state to ensure a unified development method. Before long the credit system was promoted. In academic year 2000-2001, 185 German colleges and universities introduced ECTS to 1340 majors.

By far, all of German colleges and universities have introduced the credit system. Under the ECTS system, some schools use LP (the abbreviation of Leistungspunkte) as the credit unit. Some call it "SP" (the abbreviation of Studienpunkte), "Kreditpunkte" or "credits". Compared with other European Union members, Germany has a higher demand on students' study tasks. German colleges and universities require that students should study 40 hours per week for 45 weeks, which amounts to 1800 hours per year, i.e. 900 hours per semester. Then, there are thirty credits for each semester. Each credit stands for 30-hour study.¹ The design of courses should decide on course duration following this basic principle. For example, a five-credit modular means that every student should spend 150 hours on study on average, including preparation, lectures, homework and preparation for exams. Students can get a bachelor degree after getting 180 to 240 credits within six semesters to eight semesters. If students further their study and get 120

credits within two to four semesters, they can get a master degree.

2. THE POSITIVE INFLUENCE OF GERMAN CREDIT SYSTEM IN COLLEGES AND UNIVERSITIES

According to the statistics of HRK in November 2016, the number of majors in German colleges and universities that offered bachelor degrees and master degrees accounted for 88.2% in the winter semester of academic year 2014/2015. The number increased to 91.1% in the winter semester of academic year 2016/2017.² A unified credit system is implemented in these majors. Germany intended to improve the competitiveness of higher education by promoting the credit system. Its achievements can be seen in the following aspects.

First, the credit system has largely simplified the transfer process of academic records, which can streamline the management process in colleges and universities and increase the mobility of students. The mutual recognition system of credits is not only good

¹ Hochschulrektorenkonferenz, Projekt Nexus. (2017, February 23). Module, ECTS-Punkte und Workload. Retrieved from <http://www.hrk-nexus.de/themen/studienqualitaet/ects-und-kreditpunkte/module-ects-punkte-und-workload/>

² Hochschulrektorenkonferenz. Statistische Daten zu Studienangeboten an Hochschulen in Deutschland. (2017, February 23). Studiengänge, Studierende, Absolventinnen und Absolventen Wintersemester 2016/2017. Retreived from https://www.hrk.de/fileadmin/redaktion/hrk/02-Dokumente/02-03-Studium/02-03-01-Studium-Studienreform/HRK_Statistik_WiSe_2016_17.pdf.7

to exchange initiatives between European universities like “Socrates Program” and “Erasmus Program”, but also makes it easier for students to finish the application process of studying aboard. Students no longer need to worry about wasting time because the credits they obtained in their own countries and other countries can both be recognized, motivating students to participate in exchange programs. According to the statistics of HRK, about two thirds of German college students once studied at least for a semester in foreign countries in the forms like exchange study program, internship and attending language courses. About 70% of students believed their overseas study experiences were rewarding.³

Second, the credit system helps students to shorten their study period and reduces the drop-out rate. According to the statistics of Federal Statistical Office of Germany, when the Bologna process started in 2000, the number of newly enrolled students was 315,000. In 2015, the number increased by 61.5% and reached 507,000. The gross enrollment ratio also increased from 33.3% in 2000 to 58.2% in 2015.⁴ One of the reasons for the growth is that the reform of educational system and the implementation of the credit system have largely shortened the time for students to obtain a degree. What's more, the drop-out rate of German college students has started to decrease. Based on the data of German Higher Education and Scientific Research Center, the drop-out rate of undergraduates has decreased from 30% in 2006 to 28% in 2012.⁵ With the credit system, tests along the whole period of university study take place of the intermediate practical test and the graduation examination that decided the students' future. It eases students' fear towards examinations and changes the tradition that final examinations determine the graduation academic results. Even if students don't pass an examination, they only need to attend the make-up examination, which increases the overall efficiency of study.

Third, modularized course setting and the simple credit transfer process improve the flexibility of curriculum in colleges and universities. On one hand, each course can be transferred within the modular. On the other hand, the

teaching and studying plans can be adjusted more flexibly and swiftly according to the change of demands in the employment market. Besides, it is more convenient for schools and students to constantly monitor the learning outcomes with modularized courses and the credit system. According to the requirement of the credit system, teachers should evaluate the time and energy students spend to obtain the credits. If it does not correspond to the credit, than the number of credit or the content of the course should be adjusted, which ensure the on-going monitoring of teaching quality (Gehring, 2002).

At last, the credit system helps students plan and finishes their study in a better way. Course catalogue is an important component of the credit system, which regulates the composition of a major, the arrangement and planning of university study, the sequence of courses and exam subjects and exam time, which make the whole study process more transparent. Students can make a plan of their study. What's more, because credits are decided by the required time for study, allowing students to choose and arrange their own courses based on their practical situation. In addition, the credit system makes part-time job become possible. Students can choose how many credits they want to can for each semester based on their own schedules.

From above we can see that the credit system in German colleges and universities increase the mobility of students and make the teaching planning, teaching process and teaching management more flexible. It also provides more liberty and choices on study. Students are allowed to build a reasonable knowledge structure and intelligence structure according to individual needs and social demands. It has an important influence in increasing the competitiveness of German higher education. In the academic year 2003, 2004, Gehring, an academic, once carried a questionnaire investigation of about 800 students and faculties at University of Ulm and Fachhochschule Gießen-Friedberg. The result showed that most of the interviewees approved the introduction of the credit system and its positive influence on German higher education (Gehring, 2005, pp.11-12).

3. EXISTING PROBLEMS OF THE CREDIT SYSTEM IN GERMAN COLLEGES AND UNIVERSITIES

Although the credit system has been carried out for over a decade in Germany, there are some problems occurring during the process of implementation and its influence. Some people in education and academic are against the credit system.

Some academics point out that the credit system has been carried out under the background of the integration of European higher education. Therefore, the government adopted a top-down method, i.e. the government requires

³ Hochschulrektorenkonferenz. (2017, February 23). Europäische Studienreform. Gemeinsame Erklärung von Kultusministerkonferenz und Hochschulrektorenkonferenz. Retreived from https://www.hrk.de/fileadmin/redaktion/hrk/02-Dokumente/02-03-Studium/02-03-01-Studium-Studienreform/Bologna_Dokumente/KMK_HRK_Studienreform_GemErlaerung_2015_2016.pdf.

⁴ Statistisches Bundesamt. (2017, May 21). Schnellmeldungsergebnisse der Hochschulstatistik - Vorläufige Ergebnisse - Wintersemester 2016/2017. Retreived from https://www.destatis.de/DE/Publikationen/Thematisch/BildungForschungKultur/Hochschulen/SchnellmeldungWSvorlaeufig5213103178004.pdf?__blob=publicationFile.11

⁵ Bundesministerium für Bildung und Forschung. (2017, May 23). Bericht der Bundesregierung über die Umsetzung des Bologna-Prozesses 2012-2015 in Deutschland. Retreived from https://www.bmbf.de/files/Bericht_der_Bundesregierung_zur_Umsetzung_des_Bologna-Prozesses_2012-2015.pdf.14

colleges and universities to carry out the structural reform in education. What's more, in order to reduce the expenditure, the process was carried out quickly rather than widely discussing the concept and specific measures of the reform. In this case, the standards of the credit system were established randomly, without truly transforming from teacher-oriented to student-oriented in higher education (Hartwig & Gunzer, 2009).

Besides, although credits have become the criteria for whether a student can get the degree, many schools directly refer to the credit hours per semester of a course when calculating credits. In this case, the criteria are not unified. For instance, compared with science students whose time spent in laboratories can be quantified, arts students' time spent on collecting materials in libraries cannot be quantified. If we do not consider how much time a student has to spend on a course comprehensively, it will be contrary to the original intention of the credit system. It is unreasonable if two students cannot get the same amount of credits after spending same time and energy only because they choose different majors.

With the implementation of the credit system, more and more German students tend to choose finishing their study as soon as possible. According to an investigation in 2007, 48% of students hoped to finish their university study in the shortest time. In the traditional system, only 34.4% of students said so. This phenomenon must be related to the promotion of a time-based credit system. The change in drop-out rate also reflects students' eager for quick success. For example, the total drop-out rate has decreased from 2006 to 2012. However, if we take a look at drop-out rates in different types of schools, we can see that the decrease of drop-out rate mainly happens in Fachhochschulen, from 39% to 23%. However, in Universitäten which focuses on the theoretical study, the drop-out rate increased from 25% to 33%. To some extent, it reflects that German students tend to choose practical majors. Therefore, experts worry that the study aiming to get enough credits will result in the fragmentation of the knowledge students gain and then the decreased scientific research capability in Germany. They are also concerned that the shortened credit hours cannot guarantee colleges and universities to cultivate students with profound theoretical knowledge and the quality of German higher education will be compromised (Hartwig & Gunzer, 2009).

Some other academics consider it too technical. They believe that it is too simplified to allocate time in this way, which deviates from the integrity of study and education and mislead students.

4. INSPIRATIONS ON THE ACADEMIC CREDIT SYSTEM IN CHINA

National Medium and Long-Term Plan for Education Reform and Development promulgated by Ministry of

Education of the People's Republic of China in July, 2017 proposes that, if China wants to achieve the goal of building a well-off society in an all-around way, education should be prioritized. We should build a flexible study system to connect formal education and informal education, combine continuous learning and discontinuous learning, and the conversion between formal and informal academic achievements. In the document, it is proposed that a credit accumulation and transfer system should be built in continuing education so that the mutual recognition and connection between different types of academic achievements can be achieved.⁶ Therefore, China should learn from the best of German credit system in colleges and universities based on national conditions.

Since the credit system is flexible, autonomic and adaptive, colleges and universities in China should learn from the ECTS and set a quantitative general credit index system to improve the competitiveness of China's higher education market. However, when we introduce a complete credit system, we should do it in a gradual way and provide appropriate supporting measures to ensure the successful implementation.

The German credit system is carried out under the premise of course modularization. It means that the teaching contents of a major are divided into different modules according to certain system and structure. The teaching contents in the same module are correlated in themes and time. Every module will not last longer than two semesters. Students should pass at least the examination of one subject or get the corresponding academic transcript to obtain the credits of this module (Gehring, 2005). An explicit and open module setting and description can make the calculation and transfer process of the credit system become more systematic. It helps students understand how to calculate and transfer credits and hence simplify the process of credit recognition. We can learn from Germany's experience that it is effective to combine the modularized teaching and the credit system.

The credit transfer system in Germany is a government-led action. Although it was quickly promoted, it has also caused unpredictable troubles during the implementation in colleges and universities. Therefore, when China promotes the credit system, the government should consult the opinions of administrators in colleges and universities, teachers and students, making sure that the credits are decided with unified and objective criteria. In particular, the practice that deciding credits only base on credit hours should be avoided.

Now that the credit system has a higher demand on the autonomy of students, it should be fully promoted at

⁶ Ministry of Education of the People's Republic of China. (2015, May 24). National Medium and Long-Term Plan for Education Reform and Development(2010-2020). Retrieved from http://www.moe.edu.cn/publicfiles/business/htmlfiles/moe/moe_838/201008/93704.html

the beginning of the implementation. We should change students' traditional mindset that they only need to follow the teaching plan. What's more, we should also provide necessary instruction to students. The tutorial system has been carried out in some colleges and universities. Professional teachers will instruct students to select courses. It is quite an efficient method.

German credits transfer system covers all forms of higher education, both formal and informal. It is good to promote the development of lifelong learning and hence create a learning society in which every citizen is committed to learning and pursues lifelong learning. It is also an important goal of the educational reform and development in China. Therefore, promoting the credit system in colleges and universities to continue education is the next stage of the credit system development in China.

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