Credit: Self-Growth, Dreaming of the Future
—Exploration and Practice of Zhejiang Lifelong Education Credit Bank

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Abstract
Credit bank is an educational system and learning management system based on the concept of lifelong education and modern information technology environment. Its core value lies in promoting the construction of the lifelong education system and forming a learning society with nationwide learning and lifelong learning. It is to realize all levels of education vertical contact, horizontal communication “overpass”. This paper introduces the origin and characteristics of the development of credit bank, and probes into the construction of lifelong education credit bank in Zhejiang Province.

Subject Areas
Credit, Credit Bank, Practice

Keywords
Business and Economics Education, Education

1. The Origin and Characteristics of the Development of Credit Banks

1) The origin and development of credit banks
Credit is a unit of measurement that measures the quantity, value and level of learners’ learning achievements [1]. It was originally intended for a specialized course. In the 1990s, in order to ease the pressure of enrollment and employment and promote the transfer between two-year community colleges and four-year community colleges, the United States took the lead in proposing the concept of credit transfer [2]. On the eve of the 1990s, in order to promote the integration of European higher education and the construction of EU higher education parks, Europe began to transfer university credits among 31 European
countries [3]. Subsequently, Canada, Australia, South Korea and other countries have also launched a variety of credit bank construction, to meet the needs of the development of education. In China, in the first decade of this century, in order to coordinate with the reform of vocational education, the ministry of education promulgated several opinions on the gradual implementation of the credit system in vocational schools. We will promote mutual recognition of credits among regions, schools and majors in vocational education, and explore the establishment of a credit accumulation and transformation information system (credit bank) for vocational schools. In 2010, the general office of the state council issued a notice in the national education system reform pilot program (no. 48 2010) and the national medium and long-term education reform and development plan (2010-2020) in the outline: establishing communication mechanism among general education, vocational education and continuing education in the region; establishing lifelong learning network and service platform. We will make overall plans to develop social educational resources, establish a credit accumulation and transfer system for continuing education, and realize mutual recognition and connection of different types of learning outcomes.

Especially in recent years, the country put forward the construction of lifelong learning “overpass” by 2020, the connection and communication of all kinds of education at all levels, to realize all kinds of learning outcomes, explore and realize the interconnection of various channels of learning, learning methods and learning process, and to build a “bridge” talents growth, especially in personal electronics to build a lifetime of learning and a variety of types and levels of education. Archives facilitate social learners to store personal information, learning experience, learning results and conversion records, and can be used by employers and educational institutions with authorization. At the same time, it proposes to identify learning outcomes such as credit, a certificate, to speed up the work and life experience and skills of learners in formal and informal education, promote communication between university and industry, enterprise and employers, promote the learning outcomes of mutual recognition agreement or union, and apply for related qualification, degree certificate and graduation ceremony of the learner, provide evidence for certificates, qualification certificates, and so on. On January 24, 2019, the state council published the national vocational education reform and the implementation of the plan, improved the decision-making and deployment of specific actions on vocational education in the new period, put forward twenty seven regional policy initiatives, set out a blueprint for the development of vocational education in the new period. Among them, it clearly put forward “to start the pilot work certificate system of 1 + X”, “realize the recognition, accumulation and transformation of learning outcomes”, “speed up the construction of the national vocational education credit bank”, “conform to the situation of national qualifications framework.

Credit bank system construction to promote the integration of general education, vocational education and adult continuing education, including school
education and school education, formal education and informal education into a comprehensive system of education, to promote education fair, and systematically for the United Nations educational, scientific and cultural organization suggest that the development of national education and lifelong education, and promote the formation and development of a learning society. Develop, build eventually “flyover” type lifelong education.

2) Characteristics of Credit Bank System

Credit Bank (Credit Bank System, CBS) is to simulate the functions and characteristics, draw lessons from the Bank, to divide credits into units, according to a common reference standards, supported by information platform, through specialized certification services for learners of all kinds of learning outcomes in unified authentication and accounting, which makes learners in the each stage through various channels to obtain credits accumulation or conversion [4]. This is a new type of education and teaching management system that is gradually adopted and increasingly mature in the world. Its main characteristics are as follows:

1) Take learners’ lifelong learning as the main purpose. Based on the concept of lifelong education, credit bank provides services for the lifelong learning of every learner. It breaks the characteristics of the traditional education in the past, but stores the lifelong records of a person’s educational experience and learning achievements in different periods, and withdraw them at any time when needed, as a strong proof of personal knowledge and ability. Credit bank system supports individual, discontinuous, flexible and diverse learning methods, which is a system innovation truly reflecting the people-oriented concept of lifelong education.

2) Credit certification, accumulation and conversion are the main functions. the most significant function of establishing the “credit bank” system is to implement credit certification, accumulation and transformation, it not only make the learners formal (gauge) learning outcomes in the education institutions to recognition, but also can make learners in work and life some informal learning outcomes to admit, and the record of formal schooling education, skills training and other forms of education, realize the mutual recognition of different kinds of learning outcomes and cohesion, and thus can greatly inspire the enthusiasm of learners to continue learning, lifelong learning and initiative [5].

3) Take qualification framework and standard certification system as the operational core. the qualifications framework and learning outcomes certification standard drawn up by hierarchical classification, establishing the system that reflects on the learning outcomes between of communication, cohesion, transformation, which make the academic courses, professional courses and training courses shall have equal status, and improve the quality and efficiency of the whole society education training, promote academic education teaching reform, establish high quality resources sharing mechanism, to promote education fair, and promote the establishment of the learning society of the life-long education
and universal learning [6].

2. Exploration on the Construction of Credit Bank for Lifelong Education in Zhejiang Province

1) Preliminary planning

In January 2015, the Education Department of Zhejiang Province issued a letter establishing the Zhejiang Province lifelong Education Credit Bank, the management center of which is located in Zhejiang Radio and Television University. In September 2016, the “13th Five-Year Development Plan for Zhejiang Education Informationization” was used as a sub-plan of the “13th Five-Year Plan for the Development of Education in Zhejiang Province”. The most attractive plan in the planning was “credit bank”. “Proposing and establishing a lifelong education learning achievement registration and credit mutual recognition mechanism, and gradually establishing a system of curriculum certificate, qualification certificate, academic certificate, and so on. To construct a complete learning achievement certification framework and a unified learning achievement certification system, to achieve the service function of credit bank, which can be stored, queried and converted.

The credit bank management center has designed the overall plan, construction plan, construction goal and organizational structure of the credit bank of our province by investigating the construction experience of credit banks at home and abroad. It has drawn up the overall working ideas of “building a good foundation, implementing two major drivers, and doing three major supports.”

Building a good foundation: based on the service-learning society, we will build a good information platform for the province’s integrated credit bank and a lifelong learning archive for all members of society.

Two major drivers are implemented: Firstly, data-driven, for the basic data standards of credit banks, data storage, data exchange and sharing, data analysis and application, and so on, to establish a set of scientific mechanisms and methods to promote the realization of the province’s lifelong learning big data sharing and sharing. The second is service-driven, relying on the basic data of credit bank, learner account opening, learning achievement identification and storage, credit recognition and conversion, results archive management and certification and other service functions, and establish a perfect credit silver work standard and business standards, and promote the certification accumulation and conversion of various learning outcomes in the province.

Doing a good job in three major support: Firstly, the service system will be built with provincial centers, cooperative universities, alliances, municipal branches, county (city, district) sub-centers, and township (street, community) acceptance points as the main structure of the provincial credit banking service system, including community education, elderly education, academic education and other schools and service institutions, and conducts learning achievement certification and credit management for all members of society. The second is
the standard norm, based on the demand data of scientific authority, gradually establish a communication system between academic qualifications and professional qualifications, establish a set of technical standards and business norms, and promote the mutual recognition of learning outcomes at all levels. The third is policy guarantee, the establishment of the Zhejiang Credit Bank Management Committee, the Expert Committee and other organizations, the establishment of the credit bank charter, the establishment of the province’s credit union mutual recognition alliance, the establishment of a learning achievement certification system for the whole society, and the establishment of curriculum certificates, qualification certificate, diploma certificate, degree certificate and other systems of communication, to achieve the internal education of academic education, education and non-academic education.

2) Construction and practices

After three years of hard work, Zhejiang Lifelong Education Credit Bank has achieved phased results in information systems, service systems, memory of learning results, and docking of various data platforms. The basic systems of credit banks in our province have been initially established, and the credit bank information system with a portal (credit bank portal) and two centers (online service center, online management center) as the main structure has been successfully put into operation. It has laid a good foundation for the learner to open a file and deposit the learning results; The construction of a local service system for credit banks has been advanced, and 11 municipal credit bank branches and 97 County (city, district) credit bank sub-centers have been established throughout the province, achieving 100% coverage of municipal sub-divisions and county-level sub-centers through service systems. Explore and gradually establish the operating mode of credit bank branches and sub-centers, the accumulation system of non-academic learning achievements and the incentive mechanism for lifelong learning; Through the core business such as opening accounts, learning achievements, accumulation and conversion, and learning achievements certification, it serves the modernization of education in Zhejiang, and plays an active role in the construction of a lifelong education system and a learning-oriented society. By December 2018, the number of open account learners has reached 6.5 million, and nearly 26 million learning results have been deposited in academic education, vocational training, education for the elderly, and community education.

1) Developing the storage of learning achievements in non-academic education and promoting the standardization of social training projects.

In 2017, The Department of Education of Zhejiang Province issued the “Notice on the Implementation of the Education Performance Assessment of the Province in 2017 (No. 41 of the Zhejiang Education Office [2017])” and “Notice on the Organization of Social Training Results of Adult Schools in Zhejiang Province into Credit Bank Work Training (Zhejiang Education Office Letter [2017] 211)” In other documents. Adult schools are required to deposit the re-
results of social training into credit banks, and to strictly follow the requirements for storing the results of credit banks, improving learners’ information, setting up and developing training programs according to social needs, improving curriculum design, and enriching training content, improving the relevance and effectiveness of the training, and striving to create a unique, high-level and influential brand training program. Adult schools carry out not only the “dual certificate system” education results to upgrade academic education, but also non-formal education and learning results through job training, vocational qualification training and other means, cultural life education, and off-campus education. These training and learning results cover training for the needs of enterprise employees, safe production, management, etc. to meet the requirements of enterprise industrial upgrading and technological progress; Training for farmers and fishery producers on practical skills for local employment and transfer of employment, skills for the employment of farmers, professional skills for fishermen and qualifications for crew members; As well as Party members’ education, domestic service, law and fire safety education, health and health education, traditional culture (Sinology) education, literacy education, cultural leisure life skills, municipal (agricultural) quality education, and old age for various types of specific content and targeted groups. Education, skills upgrading of migrant workers, special education, preschool education, parents ‘family education, extracurricular education for young people and other diverse training programs.

At present, the data collection of the adult training learning results of vocational education in Zhejiang Province, and the total number of training projects deposited in credit banks is 31,107 items. These projects are divided into five types: Home Economics training, literacy education, double certificate system education, cultural and leisure education, vocational skills training and so on. According to the number of results obtained from the project type, the most popular category is culture and leisure education, with 43% of the total results, followed by vocational skills training, with 35% of the total results. Incentives to encourage adult schools to be more standardized in social training through credit banks are more conducive to the localization and characteristic development of community education.

2) Launching Credit Mutual Recognition and Conversion of Online Open Courses to Promote the Sharing of Higher Education Resources

According to the “Opinions on Strengthening the Application and Management of Online Open Course Construction in Colleges and Universities (Higher Education No. 3, 2015)”, “Opinions on Promoting Credit Recognition and Conversion in Higher Education (Educational Reform No. 3, 2016)” from Ministry of Education and “Opinions on Promoting the Implementation of Credit Recognition and Conversion of Quality Online Open Courses in Colleges and Universities” from the Zhejiang Provincial Education Department, the Spirit of these files is to establish the electronic archives of online open course learning for higher education students in the whole province, the Provincial online open
course sharing platform and the Zhejiang Lifelong Education Credit Bank platform where universities should introduce students’ course achievement into in time. Achievement certificate of online open course recognized by colleges and universities is the certificate of course credits recognition and conversion. Students should apply for the recognition and conversion of curriculum credits to colleges and universities. Universities should carry out the conversion of curriculum credits according to relevant regulations, and feedback the conversion results to students in time.

As the main function of credit recognition, accumulation and conversion, credit management bank is a learning achievement management center and learning conversion service platform. It studies and develops corresponding docking modules in serving online open courses in Colleges and universities, and establishes curriculum learning archives in the credit bank to provide big data protection and support for the “Internet + teaching” work decision-making and supervision.

3) Promoting the Establishment of Lifelong Learning Archives and the Construction of a Learning Society

Lifelong learning archives are the basis of credit accumulation and conversion. They are usually used to record learners’ basic information, learning experience, achievements and so on [7]. After the learning account in the credit bank established and activated, the learners can store the existing learning results in the credit bank. The storage of learning outcomes refers to the process in which credit banks record all kinds of learning outcomes held by learners according to their original forms. When the learning results stored in the credit bank are included in the list of certified learning results, the learners can accumulate according to the corresponding standards. When the learning results accumulated by the learners meet certain conditions, they can apply for conversion to part of the curriculum credits of academic education, or transfer to the vocational certificate issuing agency as part or all of the conditions for application for certificates.

The establishment of lifelong learning archives, can promote the certification and accumulation of formal and informal learning results, and help to improve the transparency and employment rate of education; can provide more comprehensive and accurate data of academic and non-academic education, and help education management departments to grasp the overall pattern of educational development and make scientific decisions; can provide basic data to tap educational needs which is beneficial for educational service institutions to provide targeted educational services for learners, and to improve the level of running schools and the quality of service.

3. Conclusion and Outlook

“Credit bank” construction is a major project. You first need to formulate corresponding policies and institutions, through policy and system to coordinate
different education institutions, schools, education management departments at various levels and of different types of the complex relationship, standardize the operation mechanism, responsible for the department, the coordination mechanism and charges, such as guiding education agencies at various levels to participate in the construction of “learning society”. Secondly, based on the national qualifications framework development background, you need to establish for the learning outcomes suitable in the area of mutual recognition of conversion of alliance cooperation, eliminate the “barriers” between education agencies at various levels, to achieve interoperability of teaching resources, mutual recognition, mutual recognition of certification, credits, promote the mutual recognition of various kinds of learning outcomes and cohesion, to ensure the effective implementation of the “overpass” lifelong learning. Thirdly, the allocation of special construction funds, credit bank as an education management system, not only needs to build a relatively perfect function of the information network system technology platform, to serve learners, educational institutions and “credit bank” management institutions to achieve business online Service function. It is also necessary to establish various types of expert organizations, consulting service teams and other institutions to ensure the quality of credit bank operations.

Establishing a credit banking system with the storage, identification, accumulation and conversion of learning outcomes as the main content is of great significance and value for promoting education equity, realizing the all-round development of people, and building a learning society and a strong country of human resources.

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**Conflicts of Interest**

The author declares no conflicts of interest regarding the publication of this paper.

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