

Research on the Elements Allocation of Education Supply-Side Reform in the Era of “Internet Plus”

Duan Xiaofang

College of Education Science,
Lingnan Normal University
Zhanjiang, Guangdong, China, 524048
Email: dxfnj@126.com

Abstract—In view of the problem of resource allocation and allocation methods that current education needs to solve, it is very urgent to further launch the research on the elements allocation of education supply side reform under the era of “Internet plus”. Take the advantage of the new-type education tool and method of “Internet plus” to optimize the service model of education and provide convenient and accurate learning service for better realizing scientific and personalized learning. This research made the further analysis on the allocation of teachers, students, teaching content, learning resources and environment elements based on the element analysis of education ecosystem and new resource allocation trigger in the continuing education by “Internet plus” so as to provide references for subsequent studies.

Keywords—*Internet plus; education; supply side; elements application*

I. BACKGROUND AND MOTIVATION

Since the 18th CPC National Congress, the core of education development is fairness, moral composition and reform, and the latter two are the essential content of education quality [1]. Education fairness is the basis of social fairness. Public education is one of the important public service functions of the government, and its target is to promote the fairness and emphasize that education result can satisfy the demand of all people on education quality at the same time of guaranteeing every child enjoying the opportunity to accept compulsory education so as to truly promote students’ personalized study [2].

It can be said that to solve current education chronic illness needs to insist on the problem and reason guidance, namely, the problem of balance and fairness, quality and efficiency, education dream and social reality, national demand and individual prospect [1]. Among them, personalized education is the development trend and focus of future education of all countries. On the one hand, personalized education supply has become the new pursuit of improving education quality; on the other hand, it is the new appealing to education quality. At present, the training of students is transforming and upgrading from “pursuing score, unification, hard-working and obedience” to “pursing quality, personality, happiness and respect”, more emphasizing the concept of “students oriented” [3]. In order to promote the high-quality balanced development of China’s education and strengthen the

personalized education public service system that regards learners’ personalized development as the target, it has become the new appealing of education field to construct the socialized education service model and system and mechanism that makes formal learning and informal learning use each other’s advantages and connects schools, enterprises, communities and families [4].

In face of the problems and demands on the demand-side of education, reform is the key. While considering the demand-side oriented with students to make education supply-side reform is the new idea and task in the current education field. The awareness of supply-side reform significance from the national level can be seen from the *Decisions on Several Major Issues of Comprehensively Deepening the Reform by the CPC Central Committee* published in 2013. Subsequently, the *Implementation Opinions on Deepening the Reform of Examination and Enrollment System* publish in September, 2014, by the State Council emphasized the promotion of students’ overall and personalized development, the enhancement of their autonomous selection and the increase of their rights to autonomously choosing examination subjects.

The supply-side reform of education has become a national strategy; while what to change and how to change it has become the key. For example, how does education supply change from group-oriented supply to the accurate, personalized and adaptive supply for individuals in the specific implementation process? How to innovate the education public service supply system with diversified forms to meet the education service demand of learners at different levels has become a basic idea of public education system reform in many countries. At present, “Internet plus” has provided the implementation path and method for the national strategy of serving education supply-side reform [5-6], which will certainly become an important driving force in the supply-side reform field of China’s education in the future.

Under this background, this research will put forward the cross-border integration of “Internet plus” and education field and elements allocation of education supply-side reform. This research will help schools, teachers and education administrative departments clearly understand the elements and resources allocation of education supply-side reform and master the service model and implementation methods so that education policy-makers timely adopt scientific countermeasures and positively adjust to face the coming of

“Internet plus” era and push Chinese education informatization to develop extensively to better and faster realize education modernization.

II. ELEMENTS ALLOCATION OF EDUCATION SUPPLY SIDE REFORM ORIENTED WITH USERS IN THE ERA OF “INTERNET PLUS”

Start from the learning demand in the personalized study to analyze the index system and achieving method of personalized learning and furtherly understand the possibility of elements allocation of education supply side on the supply of personalized learning demand under the era of “Internet plus”. Make a detailed analysis on the allocation of teachers, students, resources and environment and the satisfaction with

demand side of personalized learning from the elements of education ecosystem.

A. Basic elements allocation of education ecosystem

According to different elements, it can be divided into the elements of teachers, students, resources, content and learning environment in the education ecosystem. For now, it is a significant strategy and way to allocate again with elements of education ecosystem so as to construct the new system of education public service oriented with students’ personalized learning. Therefore, this part mainly researches the allocation methods and forms of elements in education ecosystem under the background of “Internet plus” era (see figure 1).

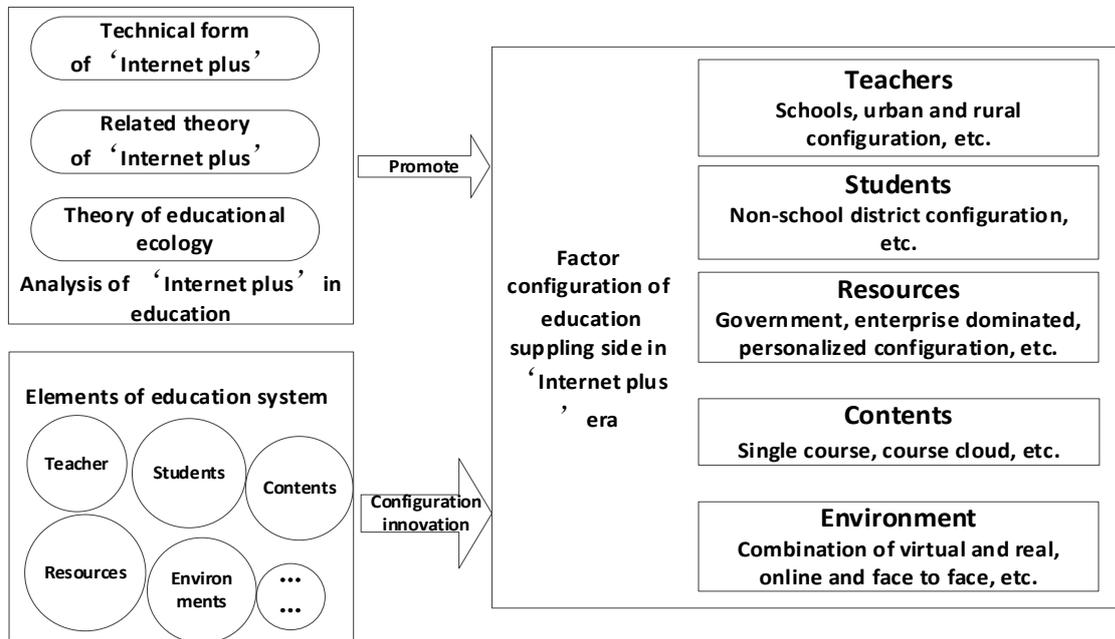


Fig. 1. Element allocation framework

1) *Teachers allocation:* Teacher resource is the most significant in the resource allocation of higher education ecological system, while it breaks through traditional school allocation method under the background of Internet plus. It can be allocated in a wider scope to make more learners benefit from it. Taking the example of large-scale on-line open course, a excellent teacher can allocate based on the course, and a perfect course can have indefinite learners. Therefore, excellent teacher resource can be shared and used in larger scope and greatly improve the utilization efficiency of high-quality resource. What is corresponding with such allocation method is the emergence of a new learning method, such as the flipping classroom, which not only promotes the rational allocation of high-quality teacher resource in wider scope, but optimizes the learning methods and models of higher education learners to some extent. It promotes the reform of teaching procedures and the emerging of learning model mixed with online learning and face-to-face learning. While the core concept of learning environment and reforming higher

education regarding Internet plus as the skill strengthening takes the teacher resource allocation as its focus to promote the recreation of the whole teaching process of higher education ecosystem, innovation of business model and reform of teaching and learning.

2) *Student allocation:* The problem of “difficulty in going to school” is replaced by “difficulty in going to a good school”, so how to reasonably allocate students and promote the fairness and quality of education is still a big problem of education. Change the school-oriented allocation of students, break through the boundary of school walls, promote the unbounded interaction between teachers and students, create more learning organizations and constantly deconstruct the traditional learning ways confined in school and classes. Construct the virtual and real learning integrated with on-line teaching based on Internet and off-line education, in the combination of the opportunities brought by “Internet plus” to resource allocation. Make the accurate supply of course resources and accurate delivery of learning service according

to the big data analysis to realize “data collection in the whole learning process, construction of knowledge and ability structure, diagnosis and improvement of learning problems and discovery and enhancement of subject advantages” to promote students’ autonomous and cooperative learning and reform traditional methods of school districts allocating students.

3) *Teaching content allocation*: The allocation subject of teaching content in the traditional course is mainly the teacher, and what a teacher teaches decides what a student learns. So, the personalization, accurateness and balance cannot be fully expressed. However, under the background of “Internet plus” era, diversified sources of teaching content can satisfy learners’ personalized development requirements. Specifically, accurate delivery service aiming at the content students need promotes the reform of teaching content configuration. Besides, the teaching in the era of “Internet plus” can regard traditional class as its main field, and the situation that the teaching content is allocated by one teacher will be improved. The high-quality courses of teachers can be shared, and excellent teaching content will be allocated in the region or more extensive field. At last, some large-scale online courses built by online education alliance also promote the balanced and personalized allocation of teaching content, accelerate the flowing and sharing of high-quality content and provide new ideas for the allocation of teaching content to some extent.

4) *Teaching environment allocation*: The teaching environment has taken place new change in the “Internet plus” era where learning is no longer constrained to traditional classroom teaching environment, but an interconnected study with virtuality and reality. So, teaching environment should be configured again. Learning is not only the online study in school but the offline study in personal learning space. Learning can be in the formal or informal environment. As for the learning environment, the school will seamlessly meet with students’ service and the mobile terminal will serve as a tool to enrich the knowledge structure. The reconstruction of “teaching and learning” mode as well as the management and evaluation will change the operation process of the whole school. Therefore, a basic public education service supply environment with dynamic correlation, efficient interconnection, mutual supervision and common development, based on mobile Internet and public service platforms, will be constructed among different subjects, levels and fields. The allocation of teaching environment mainly studies how to transform the traditional closed teaching environment into an interconnected environment and make use of the information to jointly create, share and govern the service environment of basic public education and promote the new concept, new service and new mechanism for its governance.

B. Service principal

The research on the service principal of education elements should make the accurate matching with supply side and demand side. Use the method of big data analysis and

examining the whole process of personalized study of demand side to analyze the precise propelling and supply service of teachers, teaching contents, teaching resources and environment matching with the demand side so as to comb the service principal and service model. In the process of further analyzing the personalized education public service system, analyze the service mode based on the mobile Internet and fragmented service model according to the service principal and service environment with different education elements arrangement, for example, based on the service of official accounts and public service platform. Take a further consideration on the service model based on the education public service system, which is based on the different participated principals and interest relators, for instance, enterprises, union participation, the participation of government management institution and social groups.

C. Institutional guarantee

Start from the mechanism innovation of unified and coordinated education public service system construction, personalized learning requirements based on the demand side and the study on the elements of education supply side and service mode to make a deeper analysis on the institutional guarantee that promotes the personalized study through elements allocation, for instance, the approval system, access system, assessment system and quality guarantee system. In addition, analyze the mechanism and service innovation step by step from the level of national strategy, regional development, school, family and community.

III. SUMMARY AND PROSPECT

In summary, the reform of education model has been irresistible under the new environment, new forms and new demands of the “Internet plus” era [7]. It has become the topic that is considered in the education field that how to keep up with the pace of social development, adapt to the development requirements of education informatization [8], and improve the level of its own informatization construction. The integration development of “Internet plus” education has been inevitable. Technologies, such as cloud computing, big data, mobile Internet, Internet of things, have made infinite possibilities [9]. On the one hand, the related results of this research will improve the quality, efficiency and innovation of education supply side under the “Internet plus” era, in order to make it closer to students’ consuming demands and habits. Such method can both satisfy the requirement of students’ personal development and future society. On the other hand, it will rich the related researches of educational supply structure to provide a supply side structure with abundant and diversified educational resource, educational environment and educational service model for students. It will substitute and break the original supply structure with single training model, unified course resources and stiff examination assessment, and it will provide reference for the original one.

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