Research on Effect and Model of University Funding and Education from Perspective of Innovation and Entrepreneurship Education

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Abstract: In context of information age, colleges and universities should follow the trend of times, and make full use of big data information technology to expand methods and approaches for college student funding work so that personalization of funding can be achieved to promote dual support for students in both physical and spiritual terms. Moreover, cultivating people with high quality and profound knowledge can be achieved in universities through precision funding, comprehensive funding, and innovative funding. Therefore, based on current status of college student funding, significance and innovative strategies of college student funding in context of big data is explored in this paper, which is a topic that must be taken seriously in new era.

1 Introduction

Nowadays, with the development of cloud data, the Internet, the Internet of Things and other technologies, informatization of colleges and universities has moved from "digital" to "smart". What's more, "Smart Campus" is no longer slogan, but project construction that is implemented in practice. Development of various related information technologies has allowed "smart campus" to record a large amount of student behavior data so that data and technical support can be provided for researching student behavior. Therefore, in order to understand research situation of precision system establishment for poor students funding in Chinese universities and effectiveness of precision funding, based on big data technology, relevant data from full-text database of Chinese journals, college student card data and scholarship data are adopted in this paper to study current society situation and effects of precision funding from both theoretical and practical levels, macro and micro perspective[1-2].

2 Research Status

CNKI is treated as data source, and theme is "precise funding from colleges and universities". Besides it, literature source category is all journals. Time span is set from 2015 to 2018, and a total of 274 papers are obtained at length. Since the number of papers published in research field can reflect research situation in certain period of time in this field, the number of published literature from 2015 to 2018 is counted to understand overall research situation of precision funding for poor students in colleges and universities in recent years[3], which is shown in Figure 1.

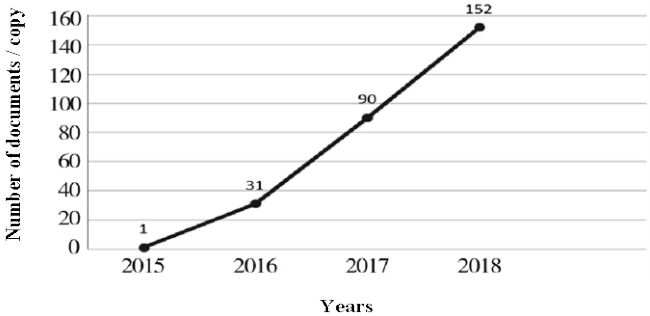

Figure 1 Annual Distribution of Precision-funded Research Papers in Universities

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It can be concluded from Figure 1 that the total number of documents is small, and precision funding for colleges and universities has not yet become a hot spot in society. In 2015, General Secretary Xi Jinping proposed that poverty alleviation and development is “precise and accurate, and success or failure lies in precision”. Then a series of policies were issued, and “Targeted poverty alleviation” has become social keyword whose attention has also increased significantly. Besides it, related research has developed rapidly as well. Moreover, related research institutions are analyzed to understand situation of research community, which is found that the majority of research institutions are major universities represented by Chang'an University, and there is only a social institution called Logistics General Service Company of Nanjing Forestry University. Therefore, it can be seen that research on precision funding of colleges and universities still stays at the stage of relevant research in colleges and universities themselves, where participation of social forces is less. As main force of country's future construction, colleges and universities should receive more attention and care from social forces [4-5].

3 Effectiveness of Current University Funding

3.1 Funding Effectiveness on Student Life

Based on technical environment provided by big data and data content provided by "smart campus", college is used as research sample in this paper where 16,404 students are obtained as raw data. In order to make research object more accurate, all data of professional training students and students on technology academy to college level are eliminated to finally obtain a total of 15,764 undergraduate students where based on list of poor students in the fall of 2018, the number of poor students is 6060, which accounts for 38.44% a large proportion of total number. What’s more, all-in-one card consumption data records student's consumption information, by analyzing which approximate living standard of student can be obtained, and the best reflection of living standards is dining in cafeteria. In addition, taking card consumption data from September to November 2018 as a sample, more than 920,000 pieces of original data are obtained. Moreover, after data was cleaned, and interference information such as consumption data of faculty and staff are removed, more than 700,000 pieces of student consumption information are finally gained. Then students are divided into poor students and non-poor students based on identification of poor students in the fall of 2018. Excel software is used to add up total number of meals in each month from September to November, which is then divided by the number of months participating in calculation, and result equals average number of meals and average meal amount per month. What’s more, data processing is carried out from these three perspectives, and statistical graph is made as well, which is shown in Figure 2. Additionally, aided and non-founded students' meals are compared after classification so that funding effect of poor students can be obtained[6-7].

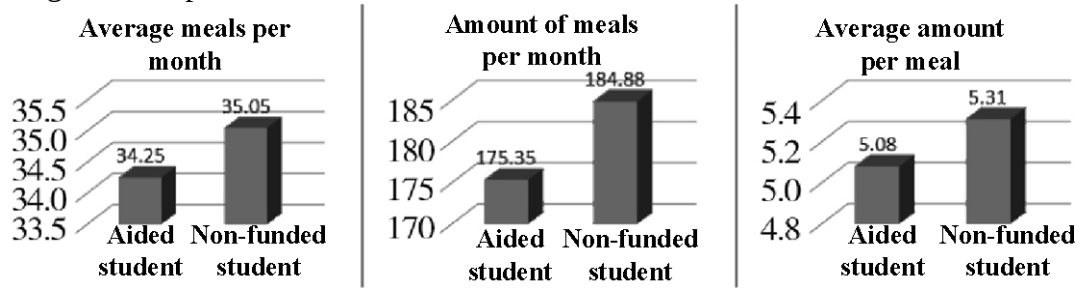

Figure 2 Consumption of Student Cafeteria

From Figure 2, it can be found that in terms of average monthly meals, aided students are 2.3% lower than that of non-poor students with a small difference. However, in terms of average monthly consumption and average meals per meal, non-poor students are higher than that of poor students. Especially average meal amount on per meal is more obvious, and consumption of poor students is 4.5% smaller than that of non-poor students. After observing above data, following conclusions can be drawn. Although average monthly meal amount of poor students is lower than that of non-poor

students, there are some reasons which can explain it. What's more, although average meal amount of poor students is lower than that of non-poor students, there is small gap between the two, which can be seen that although funding has not completely improved diet of poor students, there is no doubt that it has played certain role in improving lives of poor students whose most basic life has been guaranteed. Therefore, effect of financial assistance can be seen [8].

3.2 Effectiveness of Student Education

With advancement of times, single supportive funding for improving difficult living conditions in the past is no longer suitable for current social situation. "It is better to teach people how to fish than giving fish". Moreover, every college poor student represents the future of a poor family, and precision education is extension and expansion of precision poverty alleviation in the field of education for poor students. "Assistance on intelligence comes earlier than assistance on poverty, and assistance on poverty is with assistance on intelligence". Besides it, intellectual poverty alleviation is a specific method of precision education, and academic performance of poor students is the most direct manifestation of education effects. Taking college undergraduate students as example, a series of analysis of scholarships is conducted. Additionally, college bursaries are counted to calculate percentage of financial aid from each level to total number of poor students, which is shown in Table 1.

Table 1 Proportion of Poor Students in Financial Aid

Bursary Level	First Bursary	Second Bursary	Third Bursary
Number of poor students / person	943	1234	1228
Proportion of poor students /%	15.56	20.36	20.26

Total number of bursaries in 2018 is 3,405, and funding status is shown in Table 1. The number of first, second, and third level bursaries accounts for 15.56%, 20.36%, and 20.26% in total number of poor students, from which it can be seen that regardless of excellent or not, distribution of national bursaries has enabled most poor students to receive corresponding funding. Moreover, statistics on college scholarships obtained in 2018 is made to find the proportion of poor students in scholarships of different levels. Results are shown in Table 2.

Table 2 Proportion of Poor Students with Scholarships

Scholarshiplevel	National scholarship	Special scholarship	First scholarship	Second scholarship	Third scholarship
Number of poor students / person	18	14	104	291	476
Proportion of poor students /%	72.00	20.90	17.36	17.64	24.77

The total number of scholarship recipients in 2018 is 4,239 accounting for 26.89% of total number of schools, of which 886 are poor students accounting for 20.9% of the total number of scholarships. Besides it, scholarships include special scholarships, first-class scholarships, second-class scholarships, and third-class scholarships, where poor students account for 20.90% of special scholarships, 17.36% of first-class scholarships, 17.64% of second-class scholarships, and proportion of third-class scholarship winners is 24.77% of total students.

According to Table 2, it can be found that the number of poor students accounts for certain proportion of scholarships at all levels, especially at the first-class and third-class scholarships. What's more, a total of 25 national scholarships are issued in 2018, and 18 are poor students, which accounts for 72% of the total number of national scholarships. Therefore, according to data, it can be concluded that state's bursary policy for colleges and universities has played an important role for poor students in colleges and universities, and bursary has wider coverage than scholarships, which has enabled most poor students to receive certain funding and has provided a certain amount of support for daily learning and living of poor students. Meanwhile, assistance scholarships have

positive impact on survival of poor people, which motivates poor students to learn more and make their grades outstanding so that educational effects can be achieved.

4 Innovative Models of College Funding and Education in the Context of Innovative Education

According to progress of China's college student funding work, some universities have great shortcomings in funding system improvement and data as well as information mechanisms establishment. Therefore, specific model of university student funding work innovation in the context of big data is proposed now to improve efficiency of university student funding work and promote fairness and effectiveness in funding work.

4.1 Innovating Form of University Student Funding

Traditional university funding model does not distinguish differences among students such as needs, nationalities as well as majors, and one-size-fits-all funding allocation form is adopted, which can’t meet inner needs of students with financial difficulties in families. However, under background of big data, colleges and universities innovate form of college student funding, which can realize intelligence and individualization of resource allocation methods, and make the most of limited funding resources. First, based on basic needs of students and combined quantitative index system of factors leading to family poverty, colleges and universities should classify financial difficulties degree of students to provide financial assistance according to different economic situations of applicants. Besides it, different forms of funding will be offered according to different needs of students. Then, needs of students can be horizontally considered from different regions, nationalities, and professions so that different groups of students can be comprehensively understood. On the basis of it, considering actual needs of students who have different interests and specialties, departments of universities can provide suitable work-study and practical positions for students with different majors, ethnicities, and genders to achieve personalized funding for students and promote their comprehensive development.

4.2 Establishing Dynamic Tracking Mechanism for College Funding and Feedback System for Effectiveness of College Funding

For students who have received funding, whether there is extravagance and waste in later life and whether they are working hard for professional studies are one of the indicators to judge the quality of funding work. Since in real life, due to personnel and technical constraints, it is difficult to track and manage aided students, colleges and universities should adopt big data technology to build tracking model for aided students so that consumption situation and learning status of aided students can be supervised and tracked, which provides reference for adjustment of funding strategies in colleges and universities. Meanwhile, real-time adjustments can be made for students who do not meet funding requirements. Specifically, colleges and universities can develop smart campus systems into which campus cards and mobile phone cards are integrated with the help of the Internet and cloud computing technologies. Moreover, this system can be used to inspect life and learning trajectories of aided students in school supermarket, restaurant, and book borrowing room so that consumption information and learning status of aided students will be collected to evaluate recent consumption and learning status of aided students, which provides data reference for next phase of college funding work.

4.3 Building College Funding Management Information System with Big Data

In context of big data, if accuracy of college student funding needs to be improved, funding management system that meets characteristics of big data operations must be built. Nowadays, many colleges and universities have established information management systems at scientific research, financial, and logistic levels to collect data and information so that foundation of big data operations can be ensured. However, data system software used in these fields has different manifestations. Since when multiple data sources are linked, it is difficult to achieve effective

information collection, and effective operation of big data places high demands on software tools. Therefore, based on basic needs of big data technology, colleges and universities must comprehensively consider actual needs of college student funding work so that digital funding information management system can be established on the basis of system upgrade and information system improvement.

4.4 Achieving Integration of Material and Spiritual Funding

Central work of colleges and universities is to educate people, and work of student funding for colleges and universities exists only as a means to support the central work. If university funding education system wants to play its due value, it will be quite necessary to realize mutual assistance both in material and spiritual aspects. Moreover, spiritual assistance should come first when fund assistance needs to be offered. Therefore, colleges and universities must not ignore psychological counseling and ideological education when material assistance is offered to students. Besides it, college counselors, class committees, psychological counseling centers, funding management centers and other departments should strengthen cooperation to help students establish qualities such as self-esteem, self-confidence, and gratitude.

5 Conclusion

Essence of big data is digitization of people's free activities, which provides new dimension for understanding laws of people's actual activities. Moreover, development and utilization of big data is source of important value. With the help of smart campus in big data environment, funding effect on living standards of poor students can be obtained through analyzing consumption situation of poor and non-poor students. What’s more, data shows that effect of basic security support is better, while data on scholarships for poor students reflects academic situation and education effect of scholarship, where overall effect is basically satisfactory. However, there are still deficiencies in some places. For example, funding intensity still needs to be improved, which will be achieved in the near future as is hoped.

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