

Research on Improvement of Graduates' Information Literacy of "Mass Entrepreneurship and Innovation" Under the Era of "Internet plus SmartShe"

Taking the Poor Female College Students of Hunan Judicial Police Vocational College as an Example*

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Abstract—Under the concept of "targeted measures in poverty alleviation", this paper focuses on poor female students in Hunan Judicial Police Vocational College (hereinafter referred to as poor female students). They are special vulnerable groups in employment among graduates. Long-term poverty makes their information literacy generally low, which restricts their ability to use information technology. Job-hunting and entrepreneurship subsidy funds (provincial or college level) are conducive to the realization of "mass entrepreneurship and innovation" dream of police college students. Through the macro-analysis of the employment and entrepreneurship situation of poor girls, the author puts forward that the goal of improving poor girls' information literacy of "mass entrepreneurship and innovation" is to make good use of information technology resources and promote gender equality. This path is chosen based on some national policies, such as poverty alleviation, aid policy for students and self-employment boom. By narrowing the gender gap, the Internet promotes the formation of new era women's values for poor girls. Focusing on the decision to accelerate the development of modern vocational education, this paper is divided into five steps to establish the basic theoretical framework of information literacy.

Keywords—*information literacy; mass entrepreneurship and innovation; poor female college students in higher vocational colleges; poverty alleviation through education*

I. INTRODUCTION

At present, the development of a new generation of information network technology and the acceleration of information construction in various fields of economy and society are the key deployments of the national strategic innovation driving strategy and the 13th Five-Year Plan for economic and social development. There will be a large number of talents with high educational background and high

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information literacy to be needed. Poor female students are a part of the information society in the future. Information literacy can be said to be an important role of the basic network literacy of poor female students and an indispensable condition for their professional ability development. How to train the information literacy of impoverished female students is a problem that should be paid attention to in schools, society and family education at all levels in modern society.

II. A REVIEW OF DOMESTIC AND FOREIGN STUDIES

A. Current Foreign Research Situation

The concept of information literacy was first proposed by American scholars in the 1970s. A definition quoted extensively comes from the American Library Association: "It refers to the comprehensive ability that individuals can recognize when they need information, and can retrieve, evaluate and effectively utilize information." Foreign research on information literacy training mainly focuses on the research and formulation of information literacy training standards. The Information Literacy Model (1998) was created by British and University Library Association. In addition, five indicators of information literacy were developed by the American colleges and Library Research Association (2000). The United States and Japan are also the countries that implemented the training of innovative talents earlier. In 2001, the United States Educational Technology CEO Forum put forward that information literacy has become one of the essential qualities for high-end talents to enter the information society. Japan proposed that the goal of education reform is to train Japanese for the 21st century, in which the ability of information innovation is an important part of the training of innovative talents. Women's Poverty (2017) focuses on the growing social problems in Japan, such as women's poverty.

B. Current Domestic Research Situation

1) *Female college students of poverty in higher vocational colleges*: In CNKI, when taking the title "Poverty-stricken Female College Students in Higher Vocational Colleges" as

the topic for literature retrieval, only four journal articles can be found, including Song Yidong [1] (2007), Hu Yingdi [2] (2010), Chen Yue [3] (2014), which talked about "psychological poverty alleviation" from the perspective of mental health. If searching the title of "Theme, Poverty-stricken Female College Students in Higher Vocational Colleges", there are only 5 periodical literatures, and some of results are duplicated with that of "Poverty-stricken Female College Students in Higher Vocational Colleges". Only Lu Peng [4] (2014) *The Dilemma and Countermeasure of Employment of Poor Female College Students in Higher Vocational Colleges* and Meng Zhen [5] (2014) *An Analysis of Employment Assistance Mechanism for Poor Students in Higher Vocational Colleges* are concerned with the employment problem of poor college students in theory.

2) *Research on information ecology*: Jiang Luquan does a systematical study for information ecology in his book *Information Ecology and Sustainable Development of Society* (2003). Zou Hun's "Philosophy of Information-Theory, System and Method" (2005) refers to the viewpoints of "Information Evolution Theory", "Information Value Theory" and "Information Measurement Method". Nowadays, Lou Cequn's "Research on Theory and Application of Information Ecosystem" (2014) is a domestic masterpiece devoted to information ecology; and Jing Jipeng's "Theory and Application of Information Ecology" (2018) integrates the research achievements in the field of information ecology in recent years. However, it is still not enough to explore the practice of educational reform by using relevant theories.

3) *Research on the cultivation of information literacy*: Li Zhiye (2007) sums up a more perfect way to cultivate college students' information literacy, which is "three-level, four-year consistency system". "Information Literacy Theory" created by Qin Dianqi (2012) constructs a novel, interactive and developing theoretical system of information literacy under the guidance of scientific development concept. *Progress in Research and Practice of Information Literacy* (2014), a magazine of Library and Information Service includes papers such as *Research on Cooperative Information Literacy Education Activity System under the Framework of Activity Theory*. Chen Quan's "Information Literacy and Information Retrieval" (2017) introduces the development trend and characteristics of the information society, and the evaluation criteria of information literacy at home and abroad. Chen Xiaohong's "Information Literacy Education Theory and Practice in the Big Data Era" (2017) reviews the process of information literacy education, including the development stage of information literacy education, the evolution of teaching mode and education system, and combs the teaching theory that influences the development of information literacy education in the Big Data Era. Some domestic undergraduate colleges and universities have offered information basic courses such as "document retrieval" separately, but few higher vocational colleges have offered such courses. [6]

In summary, although the above studies have their own foundations in the fields of information ecology, information literacy training and poverty-stricken female college students' training in higher vocational colleges, how to do targeted poverty alleviation and improve the information literacy of "mass entrepreneurship and innovation" through education in the construction of personalized innovative talents with characteristics of higher vocational colleges and the training mode of key support talents, there is still a lot of room for further study in the aspects of content, mode and way of information literacy training.

III. ANALYSIS OF CURRENT SITUATION

The core of development-oriented poverty reduction is to help the labor force of the special poverty group to obtain employment. Targeted educational poverty alleviation for impoverished female students is part of the strategic goal of poverty alleviation on schedule. In the following, we make an analysis from the number of graduates, gender discrimination, and setting of innovation and entrepreneurship education courses.

A. The Yearly Rising Scale of College Graduates

In 2016, the number of college graduates in China reached 7.65 million. [7] According to the document No. 20 of Ministry of Human Resources and Social Security [2017], the total number of college graduates in China reached a record high of 7.95 million in 2017, making it more difficult for them to find jobs. We should launch special activities to help college graduates find jobs to improve their skills and enhance their ability to develop their careers. [8] The document No. 16 of the Ministry of Human Resources and Social Security [2018] indicated that the number of college graduates in China reached 8.2 million, and task of employment promotion was arduous. We should "promote cross-regional sharing of employment information by means of "Internet plus" technology". [9]

Taking the data provided by the enrollment and employment office of our college as an example, in accordance with the spirit of document No. 60 issued by Hunan Provincial Department of Human Resources and Social Security [2015], impoverished female students of police college can receive the provincial one-time employment subsidy, "job-hunting and entrepreneurship subsidies", of 800 yuan per person after application and approval. 22 graduates of 2017 and 34 graduates of 2018 received the subsidies. A total of 44800 yuan of provincial subsidies were distributed. 41 graduates of 2017 in our college received a college-level subsidy of 500 yuan per person, and 20,500 yuan of college-level subsidies had been issued. The application for college-level subsidy for graduates of 2018 has been carried out, but has not yet entered the examination and approval stage.

B. Gender Discrimination Still Exists in Job Hunting

There are many reasons for the employment difficulties of impoverished female students, such as society, school, family and students themselves, but the problems of gender discrimination cannot be avoided. This article specifically

refers that management positions of male criminal prison are open to men only. Meanwhile, employers in the society worry that women are physically and physically inferior to men, thus delaying work. Before recruiting, correcting and hiring female employees, they put some forward some restrictions on female employees, such as not allowing pregnancy within a few years of employment and other a series of unreasonable requirements. As a result, many female college students often meet with refusals in the process of job-hunting. [10] Liu Qing said that technology has lowered the threshold for entrepreneurship. To leave the new generation with more independent thinking in large organizations in the future, women need to be empathetic, take a holistic view, be flexible, and be able to compromise. [11]

In the short term, this kind of gender discrimination accords with the employment mode and interest pursuit of most enterprises, but in the long term, gender discrimination reflects these enterprises' management philosophy of the lack of long-term vision and one-sided pursuit of economic interests. [4] China's Law on the Protection of Rights and Interests of Women has clearly mentioned that working women have equal opportunities in choosing and obtaining employment. However, in reality, the state has not issued any punitive measures for discriminating against women in employment, making "protecting women's legitimate rights and interests in employment" a mere formality. Invisibly, it has aggravated their employment pressure and made them feel self-abased in choosing a job.

C. The Depth and Breadth of Innovation and Entrepreneurship Education Courses Are Limited

From 2016, all universities were required to set up courses on innovation and entrepreneurship education. [7] All localities should adapt to the diversified and individualized employment needs of college graduates, strengthen the connection between supply and demand in the job market and provide accurate assistance, and help graduates to rationally choose jobs, actively find jobs, and cherish posts and devote wholeheartedly to work. [9]

At present, 93% of the universities directly under the Ministry of Education have set up entrepreneurship courses, and 92% of them have established student entrepreneurship clubs. Report on the Employment and Entrepreneurship Development of College Students in China (2015–2016) pointed out that the net employment rate of college graduates in 2016 reached 90.58%, and the entrepreneurship rate was 2.93%, and the net signing rate was 68.64%. The number of people who choose the "information transmission, computer service and software industry", "financial industry" and "education industry" ranks top three. [12]

Based on the author's investigation, there are various reasons for the lack of information literacy of impoverished female college students in the police college. Higher vocational colleges fail to fully consider the characteristics of digitalized and networked information environment and the needs of practical information retrieval, especially in combination with the family environment and psychological characteristics of impoverished female students, and to provide

accurate employment guidance and assistance of basic theory and practical skills of information literacy. For example, there are some limitations in the depth and breadth of the "mass entrepreneurship and innovation" curriculum in our college:

- Educational funds are limited. The college attaches great importance to information literacy education, but is unable to do what it hopes to do. Software and hardware cannot be updated in time.
- The college equates the teaching of information technology course with that of computer course, and believes that the cultivation of information literacy is only the task of the basic course of computer application.
- Innovation and entrepreneurship teachers are in short supply. Teachers in the college have a low level of information technology application, and lack practical experience in information technology such as opening online stores and reinstalling the system. Channels for external experts are limited.
- The scale of cooperation between colleges, bureaus and enterprises is small. "All localities should seize the opportunity to upgrade the version of entrepreneurship and innovation, and pool quality resources to support college graduates' entrepreneurship and innovation. We should strengthen the training of ability and quality, extend entrepreneurship training to campus, rely on various training institutions, enterprise training centers and other platforms, and innovatively develop a number of high-quality, distinctive, targeted training courses, to better meet the needs of graduates in different stages, fields and types of business." [9] However, there is a big gap between the actual situation and the above requirements.

D. Impoverished Female Students Have Less Access to the Internet

Most of the impoverished female students come from poor families and have little access to the most advanced electronic products, resulting in a series of contradictions, such as:

- The contradiction between the lack of Internet thinking, weak awareness of intellectual property rights, vague concept of abiding by Internet behavior ethics and information security laws and regulations, and the inadequate knowledge reserve for self-employment.
- The contradiction between the lack of awareness of using information tools including smartphones to acquire and process information, and actively learning new technologies.
- The contradiction between the ability to identify, process, and creatively use Internet information and the weak operational ability.

IV. THE PATH SELECTION OF THE POOR FEMALE STUDENTS IN THE POLICE COLLEGES TO IMPROVE THE ENTREPRENEURSHIP AND INNOVATION INFORMATION LITERACY

The Internet has narrowed the gender gap, and women and men have become equal subjects in Internet entrepreneurship, and the Internet has given them relatively equal status. Based on the poverty alleviation policy and the environment of encouraging the self-employment and the starting of undertakings in hometowns, and focusing on the modern vocational education, build a basic theoretical framework of information literacy. And help them to carry out the "entrepreneurship and innovation" through the efficient application of modern information technology starting from the retrieval and utilization methods of network information resources.

A. *Poverty Alleviation and Entrepreneurship and Innovation Policies Are Just Like the Spring Breeze*

The state has issued a series of accurate poverty alleviation policies and student aid policies that are specifically targeted at helping poor families and the households receiving subsistence allowances. Provide students in junior colleges or higher colleges and universities from poor families with interest-free loans during their school period, and provide national motivational scholarships for college students and financial aid for students from poor families in institutions of higher learning. The implementation of the policy of establishing files and cards for the poor households has fundamentally solved the problem of economic difficulties of families.

In accordance with the requirements of the State Council's "Opinions on Strengthening the Implementation of Innovation-Driven Development Strategy and Further Promote the In-depth Development of Mass Entrepreneurship and Innovation" and the "Implementation Opinions on Deepening the Reform of Innovation and Entrepreneurship Education in Colleges and Universities" issued by the General Office of the State Council, effectively build a platform for college students' innovation and entrepreneurship, discover, cultivate and select innovation and entrepreneurship talents, and promote the implementation of the strategy of using innovation to lead the openness and rise. And encourage self-employment, starting undertakings in hometowns, etc., such as the example of Yunyun Tang in Dong'an [13] and other successful cases.

B. *Steps to Improve the Information Literacy of Poor Female Students*

There are both opportunities and challenges in the innovation and entrepreneurship work under the "Internet+ her times". Entrepreneurial motives based on hobbies are stronger, and opportunistic entrepreneurship has turned to the entrepreneurship with intensive cultivation and comprehensive strength, which can test the information quality in entrepreneurship of poor female students.

The relevant theories of information literacy involve many fields including information ecology, education, sociology, communication, etc. The theoretical research span is large, and it is necessary to consider the main factors such as information

ecological balance, information construction, information subject's demand and behavior. And it is necessary to set up the goal of information literacy training for high-level innovative talents from the information knowledge reserve, information capacity training, information ethics establishment, etc. Based on a large number of user needs surveys, the aim is to improve the effectiveness of information literacy teaching in higher vocational schools. The steps to improve the information literacy of poor female students are as follows:

In the first step, issue the "College Student Innovation and Entrepreneurship Research Questionnaire" to conduct the research, and complete the statistical tables on innovation and entrepreneurship of poor girls according to the seven types of funding targets. On the basis of obtaining first-hand research data, through the analysis of big data, grasp the current situation and shortcomings of information literacy training of the innovation and entrepreneurship talents, and discuss and analyze the causes of these problems.

In the second step, introduce a new vision of information literacy based on the Higher Education Information Literacy Framework to improve the information literacy of poor female students. Introduce the relevant knowledge, skills and behavioral abilities of information literacy, and combine with the education practices of information literacy in colleges and universities which provides rich cases and includes contents in many aspects such as searching information, exploring unknowns, using information, and creating information, making poor female students master relevant theoretical knowledge and practical skills.

In the third step, based on the active and indeterminate characteristics presented by the work and life information ecosystem, propose information literacy education experience method, problem method, case method, game method, flipped classroom, MOOC, etc. to improve the information literacy ability and effects of college students. Fully play students' learning potential, truly give students the discourse power in the classes, and cultivate students' ability to learn actively and independently. [14]

The fourth step, according to the "Decisions on Accelerating the Development of Modern Vocational Education" issued by the State Council in 2014 which expounds the concepts, contents, objectives, characteristics and development status of information literacy and information literacy education, the content of the information literacy education courses of the police colleges should highlight the characteristics of higher vocational education, and the information literacy content should include information and society, information and multimedia, digital media information foundation, digital OA application, graphic image processing system application, digital audio and video system application, Flash and H5 production, Internet and information services, website construction and information release, network information security, computer virus and prevention, information retrieval and utilization, etc.

In the fifth step, credits are given to poor female students according to their emotions, attitudes or evaluation dimensions towards information literacy learning. At the same time, collect, give back, and sort out multiple suggestions. And carry

out more extensive cooperation with off-campus experts, teachers and enterprises.

V. CONCLUSION

On the road to poverty alleviation, "nobody could be left behind", and there is great responsibility. The information world is changing rapidly, information literacy and related concepts and ideas are constantly changing and renewing. What we can do is only to take the bull by the horns. The employment of poor female students is related to economic development and improvement of people's livelihood, and is related to social stability. Internet technology reduces the cost of access to information, knowledge, education and resources, giving poor female students the opportunity to cross the barriers of traditional economic systems. This makes them not only have the opportunity to realize their own value, but also have the opportunity to change the lives of their families and the whole associations. The goal is to promote poor female students to improve their information literacy, thereby reducing their employment pressure which is higher than that of other college students.

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