

New College Entrance Examination Reform in the Zhejiang Province of China

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This paper reviews the situation, challenge, and consequence of the new college entrance examination (NEMT) reform in the Zhejiang Province of China. By analyzing the issues arising from the new NEMT reform, the researchers analyze the effectiveness of the new college entrance examination reform in Zhejiang Province. Three main issues could be found in the new college entrance examination reform, which are difficult in class arrangements, increasing costs, and confusion for students in choosing future careers. The researchers compare the influence of these issues from the new college entrance examination reform with that of the labor markets. This review also indicates that the influence of the labor market exceeds that of issues from NEMT reform. Then the way career planning education under the new college entrance reform is discussed.

Keywords: the new NEMT reform, career planning education, labor market

Introduction

NEMT is a high-risk reform that involves many stakeholders and participants and poses safety risks, which is therefore of great concern to all sectors of society and the general public. This review paper is to investigate two research questions: (1) how issues arising from the new college entrance examination reform inform the students' quality of the different majors in Zhejiang Province; (2) how career planning education goes under the new college entrance examination reform. This paper will review the issues arising from the new college entrance examination reform and compare the influence of these issues with that of the labor market in detail in the main body part. This is followed by a discussion of how career education planning goes under the new college entrance examination.

Issues Arising From the New NEMT Reform

The Tendency to Select Courses

First of all, students and parents tend to choose subjects for profit, leading to a shortage or surplus of subject

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teachers. Generally, students and parents prefer to choose subjects that are relatively easy to get high marks in, such as physics and chemistry, while some relatively difficult subjects go untouched.

A typical example is a decline in the number of students choosing physics in Zhejiang Province. If this choice of subjects is not guided, on the one hand, it will bring fatal consequences to the development of some basic subjects and affect the whole industrial structure and industrial development of the country; on the other hand, it also brings difficulties to the allocation of teachers in schools, with a shortage of teachers for some easy subjects and a surplus of teachers for the more difficult ones, as in the case of some schools in Zhejiang Province, where there is an anomaly of physics teachers switching to be lab technicians or technical teachers.

Secondly, the unpredictable tidal wave of course selection improves the difficulty for schools to make precise arrangements for the deployment of teachers in schools.

Due to the lack of career planning education, students choose their courses blindly. Without knowing their strengths and the situation in their neighbouring schools, and because of the herd mentality, once many people choose a subject, everyone follows this tendency. If a subject scores badly in the NEMT one year, there will be very few candidates for that subject in the following years, thus making the subject less popular from high to low. This kind of selection is similar to a tidal wave, which can fluctuate but cannot be predicted in advance by the school. Most schools have not yet developed a distinctive and diverse curriculum. Also, optimizing teacher deployment has become an insurmountable problem shortly.

The Increased Cost of Classroom Learning

The new NEMT allows for 35 combinations of subjects under the full “7 Choices of 3”, which refers to every student selecting three out of seven subjects (Yu, 2018). It makes it very difficult for schools to develop and implement classroom learning (Shentu, 2016).

Firstly, the current level of hardware in schools cannot meet the design of the new NEMT system. Some experts have made a rough estimate that in the case of optional classes, teachers will have to be increased by 30% and classrooms by 10% (Wang, Zheng, & Wu, 2020). The current construction standards of general high schools are traditional and not built according to the standards of the NEMT reform. There are also no mandatory regulations on the hardware of school construction during the promotion of the NEMT. Although schools make full use of laboratories, libraries, canteens, or other unused classrooms, they are still unable to meet the subject classrooms required by students due to the optional examinations. Therefore, in addition to the issue of teachers, the hardware configuration has become a bottleneck that needs to be broken through to adapt to the new NEMT.

Secondly, the massive selection of classes on campus has increased the difficulties of school management. The urgent problem to be solved in the new college entrance examination is to unblock the school teaching management mechanism and reduce management costs. According to a survey by scholars, over 40% of high schools in the eastern and western regions of China believe that the teaching organization and management mechanism are not smooth after the NEMT; also, over 50% of high schools in the central region of China choose to have an impoverished teaching organization and management mechanism (Su & Liu, 2021).

In terms of students, firstly, the NEMT increases the cost of interaction, as students in teaching classes come from multiple classes. They are unfamiliar with each other and need to interact again. Secondly, it increases the cost of efficiency, as teaching classes make students run around on the road, and once they are not adequately

prepared, missing study materials will affect the quality of learning. Finally, it increases the cost of examinations, as academic examinations and optional examinations are scattered over three years of study in high school, and all three years are hectic with examinations that affect their future.

In terms of teachers, on the one hand, it makes classroom management more difficult, as students come from several classes and teachers and students do not know each other. Hence, they need to spend more time managing the classroom. On the other hand, it increases the pressure on teachers, whose classes are paced according to the schedule of academic and optional examinations. In this way, teachers are very free when they are free and desperately try to catch up when they are tight. For example, sometimes the class time is very full. Sometimes there is a lack of materials. And the teachers' schedule is not reasonable.

The Influence of Rough Planning to Students

Strengthening career planning education for students helps them choose the right direction for their development, which was supposed to be one of the highlights of the new college entrance examination. But from the implementation, it has turned out to be a weak link. Overall, the quality of career planning education is not high. In other words, career planning education is unsatisfactory.

Firstly, it is not well-targeted and the courses offered are in vain. Schools, teachers, parents, and students have little awareness of planning. Especially for students who have been used to being arranged by parents and teachers since they were young, nowadays parents still make the decisions for these students. Under this circumstance, the team is not well equipped. There are no specialized teachers, and most schools are replaced by mental health education teachers, without knowing that these teachers are unable to take on this. Finally, education is simplistic, as many schools teach career planning education as a subject and focus on how to choose a subject, but curriculum content is very simple, treating education as a specific task. Career planning education does not help students in practice, and in a sense is still increasing the academic burden of students.

Secondly, career planning education lacks an educational personality. Unlike subject teaching, career planning education has unique educational characteristics, but this is not the case. First of all, the positioning is not precise. Some schools treat career planning education as moral education work, using the traditional moral education ideas to carry out, so that it tends to moralize, ignoring the educational methods and principles of career planning education itself. Then in terms of that the education lacks rhythm, most schools focus career planning education in the senior year, offering relevant courses, while the sophomore and senior year are slapdash.

Lastly, the educational features are not clear for students. Career planning education is not a paper-based education, but it is a silent education in activities, with courses, experiences, choices, and displays.

The Influence of the Value Orientation on Students' Quality From Different Majors

The Impacts of Labor Market

Labor market has more impacts than the new college entrance examination on students' quality of different majors. It is noted that the principle of "one main body and four aspects" is the value orientation, in which "one main body" refers to focus on students, and it further expands the space of students' independent choice (Bian, Jiang, & Lei, 2017). That means the coexistence of "evaluation selection" and "evaluation selection" has gradually formed with the transformation of higher education from "seller's market" to "buyer's market" to a certain extent.

However, this degree of expansion of rights cannot alleviate the impact of talent demand in the labor market on students' major choices. For example, it is pointed out that the decline in the quality of engineering majors is large, because the construction of engineering majors in colleges and universities cannot keep up with the needs of economic and social development (Hao & Zhang, 2021). This is probably true, because the ability of scientific and technological innovation in the era of a knowledge economy is the core category of international competition. It is important for China to realize its economic transformation and international status, which needs the breakthrough in basic research and engineering application research and mastering the core technology needed for industrial upgrading. Therefore, it is more likely that there is a high internship and academic demand for these related majors which may form a gap in the knowledge and experience of recent graduates that reduces their willingness to choose these related majors. Moreover, in the context of the new college entrance examination reform expanding students' choice of majors, the polarization of student quality among different majors is more prominent. For instance, the high need for talents in society and high expected economic income are more likely to appeal to students to choose related majors such as economics and computer science (Lu & Li, 2017). Therefore, it can be found that students actually would still choose some majors with good job prospects and high financial income even though there is a wider choice space.

In accordance with the Table 1, the new college entrance examination reform has had a heterogeneous impact on the quality of student intake across majors.

Table 1

The Influence of the New College Entrance Examination Reform on the Quality of Students of All Majors (Hao & Zhang, 2021)

Student quality improved				
Coefficient	(1) Economics	(2) Law	(3) Computer	(4) Medicine
NEMT reform & major	-5,568.230*** (1,119.066)	-2,064.777* (1,209.263)	-5,789.920*** (1,579.609)	-6,853.896*** (2,278.703)
Student quality declined				
Coefficient	(5) Communication engineering	(6) Civil engineering	(7) Material engineering	(8) Electrical engineering
NEMT reform & major	3,572.403*** (1,072.647)	4,665.933*** (1,361.461)	3,272.704** (1,633.862)	5,438.410*** (1,941.556)
Coefficient	(9) Energy engineering	(10) Mechanical engineering	-	
NEMT reform & major	3,847.640** (1,926.636)	4,223.318* (2,241.765)		
Student quality remained stable				
Coefficient	(11) Humanities	(12) Business administration	(13) Language	(14) Other social majors
NEMT reform & major	-1,488.02 (2,473.138)	-1,281.741 (1,042.463)	1,272.132 (994.234)	-1,393.991 (2,327.499)
Coefficient	(15) Science	(16) Control engineering	(17) Traffic engineering	(18) Environmental engineering
NEMT reform & major	1,412.324 (1,039.982)	2,898.651 (1,945.398)	701.184 (2,851.390)	1,725.119 (1,334.178)
Coefficient	(19) Bioengineering			
NEMT reform & major	31.975 (1,822.859)			

Firstly, the number of students enrolled in economics, law, computer science, and medicine majors increased after the reform. Specifically, the largest increase in the number of students enrolled was in medicine, with 6,853 students, in recent years, with the expansion of social demand for high-quality medical talents and guided by macro policies. For example, with the construction of a better China, universities have generally implemented reforms in the training system for medical talents, improving the quality of training in terms of academic structure, curriculum construction, clinical practice, and employment quality, which have all enhanced the attractiveness of medical majors to students and effectively improved the quality of student sources for medical majors (Wang, 2017). The number of students enrolled in economics and computer science majors also increased by 5,568 and 5,789 respectively. This shows that, in the context of the new college entrance examination reform to meet students' professional preferences, the demand for talents in the labor market has become an important factor in students' choice of majors, resulting in a rise of 5,568 and 5,789 in the number of students for economics and computer science majors respectively. This has led to an increase in the number of students accepted for majors such as economics and computing.

Secondly, communication engineering, civil engineering, materials engineering, electrical engineering, energy engineering, and mechanical engineering have all declined to some extent. Specifically, electrical engineering had the most significant drop of 5,438 places. Civil engineering and mechanical engineering both fell by more than 4,000 places, to 4,665 and 4,223 respectively. Energy engineering, communication engineering, and materials engineering also saw declines of over 3,000 students, which are 3,847, 3,572, and 3,272 students respectively. It is evident that with the breakdown of admissions units from institutions to majors in the new NEMT reform, the quality of students in engineering majors has experienced negative fluctuations overall in a wrong way. The empirical study on the employment situation of graduates from universities nationwide in 2019 found that in the water and environment industry, manufacturing industry, mining industry, electricity, gas, and water supply industry, and construction industry, where engineering majors are employed, there is a significant gap in the starting salary of university graduates compared with the computer industry and finance industry, and the employment situation and salary returns have, to a certain extent, affected students' choice to study engineering majors. To a certain extent, the employment situation and salary returns affect students' willingness to choose engineering as their majors (Yue, Xia, & Qiu, 2020).

Thirdly, the quality of student intake for humanities, business administration, languages, other social sciences, science, control engineering, environmental engineering, biological engineering, and transportation engineering remained stable, with no significant fluctuations in admission ranking as a result of the new NEMT reform.

Student Major Selection

There is one aspect in the principle "one main body and four aspects," which means expanding the space of subject choice (Hao & Zhang, 2021). However, this has not effectively improved the quality of students in related majors. On the one hand, the degree of difficulty of the subject does not decrease because of the expansion of the space of the choice of the subject. On the contrary, it is more difficult for students to get high scores in such subjects due to the decrease in the number of candidates. After that, students might be afraid to choose such subjects for fear that their scores will be affected. On the other hand, many students follow the teacher's advice and choose the mode of two liberal arts and one science, but this does not meet the requirements of science and engineering majors; the quality of students for science and engineering majors is therefore reduced to a certain extent.

How is Students' Career Planning Education Under the New College Entrance Examination Reform

High school career planning education will become a new norm in current high schools, which is significant for students' future employment and career development. Due to the lack of selective education, the absence of academic guidance and career planning guidance in our basic education, as well as the lack of attention to students' sense of meaning and subjectivity in high school education, has resulted in students' weak career awareness, insufficient decision-making ability, and poor career planning ability.

A survey of students in 240 high schools in Zhejiang Province found that high school students are irrational in their choice of college entrance examination subjects, showing a certain degree of blindness and arbitrariness, and a lack of career planning awareness and decision-making ability. With the development of the times, contemporary high school students reflect the awareness of making their own decisions in the decision-making process, but the lack of decision-making ability is another important issue that must be addressed in career education. This reflects the separation between the thoughts and actions of high school students, the failure to fully consider and effectively use "external factors" and "long-term goals" (Fan & Qiao, 2017).

The survey on the current situation of career planning education courses in high school in the context of the new college entrance examination reform mainly analyzed students' knowledge of their interests, strengths, and specialties, and their recognition of education through data charts corresponding to high school students' self-perceptions and educational perceptions, respectively. How to adopt appropriate coping strategies and implement student learning to choose and plan? No doubt the school's wisdom will be tested. The promotion of the new college entrance examination reform fully reflects the concept of selective education. Then there are problems to face including how to design a suitable direction for each student's learning development based on the original school management, and how to respect students' individuality and choice, encourage the development of students' interests and specialties, and fully highlight the educational concept of teaching students according to their abilities to achieve diversified and individualized training for students. In addition to the conflict of teaching philosophy, the new college entrance examination reform will certainly bring new changes to the way of school management. There are issues that schools should pay urgent attention to: how to train the backbone career planning teachers, how to improve the teachers' career planning teaching quality, to guide students to do a good career planning from multiple perspectives and prepare for further education and the future, etc. (Wang & Lei, 2018).

Regarding the study of the curriculum objectives of career planning education courses in high school, the analysis of the data from teachers and students separately showed that teachers and students differed in their recognition of the achievement of the curriculum objectives, which in turn resulted in different perceptions of the objectives of career planning education courses. Both teachers and students regard that it helps them plan their future careers and lives the most (Zhang, 2018).

The new college entrance examination reform not only poses new challenges to schools but also requires teachers to carefully consider how to balance the teaching time of career planning education in the whole teaching, how to effectively guide students, and how to play its leading role in teaching, based on how to improve students' academic performance and stimulate students' interest in their career planning. In addition, a systematic career curriculum also requires a professional team of teachers, and in most schools, teachers may still have many deficiencies in career guidance and need to learn and improve. All of these pose new demands and challenges for schools and teachers (Wang & Lei, 2018).

Therefore, we should give the reshaping of the model and implementation guarantee of career planning education in high school of the new college entrance examination reform. Based on the basic spirit of the new college entrance examination reform, the original education style should be changed and reshaped in terms of career education goals, contents, ways, and evaluation. Firstly, it is necessary to make students understand their interests, abilities, and aspirations. This is the initial and the most important step in career planning education. Secondly, students should be made clear about their professional direction. It is important to make students and their parents understand the basic knowledge about their majors, guide them to understand college and their majors accurately, and establish a correct concept of college. Third, students should be made clear about their career orientation. Students should be made aware of the theoretical knowledge about their careers, and they should be good at building platforms, allocating resources reasonably, and offering courses on career practice activities to transform their career experiences and experiences (Li & Ding, 2018). Suggestions for the current implementation path of career planning education in high schools implement “one body and two wings”. The so-called “one body and two wings” means the implementation system of career planning education with the implementation of the curriculum of each discipline as the main body and the career-oriented curriculum and career development guidance system as the two wings.

However, how to highlight the value of career planning education in the actual teaching, especially how to integrate it, is still in the exploration stage, and there is no mature operation paradigm to follow.

The first wing is a special career-oriented course. The goal of the course is to guide students to learn to know themselves, evaluate themselves, recognize the characteristics of social and career changes, master the methods of understanding and collecting information related to modern careers and other related information development and other related information, help them experience real career life, explore the appropriate career direction for themselves, and prepare for future professional knowledge and skills learning and career development.

The second wing is a career development guidance system involving all teachers. It is hoped that by establishing this system, we can provide targeted guidance for different students' special situations and realize individualized career planning education for students. Career development guidance for students needs to respect the possibility of their diverse future development from the perspective of promoting their lifelong development (Liu, 2015).

In the new era, career planning education is facing students with a new attitude, which puts new requirements on its implementation guarantee. We should establish an open career planning education system, build rich career planning education curriculum resources, strengthen the construction of career planning education teams in high schools, and optimize the management of career planning education in general high schools, providing systematic, comprehensive, and professional guarantees.

Conclusion

In this review, the researchers analyze the issues arising from the new college entrance examination and compare the influence of that the new NEMT reform on the labor market. Then it is followed by a discussion of the way career planning education goes under the new college entrance examination reform. After reviewing these three sections in the main body part, the researchers found that this reform has had a profound impact on the recruitment and quality of students in colleges and majors. It has encouraged universities to optimize the setting of majors and the construction of academic disciplines, as well as the reform of high school curriculum and teaching, resulting in positive changes in the ecology of high school education and the reform of the entire

talent training system. However, the systemic and synergistic nature of the reform, conditions, and capacity building need to be further strengthened. On the one hand, we should have firm confidence and insist on the reform without wavering; on the other hand, we should be based on the actual situation at this stage, better handle the relationship between scientific and fair talent selection, ideal goals, and realistic conditions, and better overcome the hindrance of factors such as utilitarian test-taking inertia, to progress gradually and steadily. In short, all of these provide education both an opportunity and a challenge.

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