# Research on Teaching Students in Accordance with Their Aptitude under the Network Learning Environment

**Ruhui Li**

Department of Philosophy, China Jiliang University, Hangzhou, China

**Abstract:** Education and teaching environment now is deeply influenced by the network, and society increasingly needs personalized talents. The feasibility and necessity of teaching methods and objectives according to students' aptitude by studying the characteristics of current network learning environment and teaching methods is analyzed in this paper. A new education and teaching method of combining online teaching and individualized teaching is proposed according to the domestic education and teaching situation.

## 1. Characteristics and Teaching Objectives of Contemporary Online Learning Environment

The teaching in the network environment is relatively flexible and can be carried out without limitation of time and space as long as there are network conditions. Diversified learning methods not only inject vitality into traditional education, but also have important strategic significance to the reform and development of education. As a new type of education method, teaching in network environment is open and timely. The characteristics of the network environment make teaching gradually become learners' active learning, that is, learners decide the learning process and learning methods independently [1-2]. Teachers mainly construct and maintain a good learning situation and provide necessary help and guidance for learners. Online autonomous learning is an important means to liberate and develop learning enthusiasm, and is an important content of innovative education and quality teaching. The autonomy of teaching in the network environment is mainly manifested in the expansion of the teaching implementation environment, the expansion of teaching resources and the flexibility to carry out learning activities.

First of all, the network learning environment can be designed with abundant teaching resources. The network is the product of the development of modern information technology. There are a lot of information resources stored in the network. Since the network emphasizes openness at the beginning of its design, information resources on the network can be consulted, utilized, copied and shared by learners. Secondly, the learning process that online learning can implement is very flexible. In the network environment, the teaching process has changed from traditional knowledge induction and logical deduction teaching methods to creating situations, cooperative learning, autonomous learning and discussion learning. The learning process is very flexible and can be adjusted according to teaching needs. The learning process of unified pace is no longer required. Learners can choose to participate in the appropriate learning process according to their own characteristics. Teaching varies from person to person, and students are taught according to their aptitude. Finally, the learning methods chosen for online learning are diversified, with more evaluation and testing systems. In the network environment, learners are no longer passive recipients of knowledge, but active participants in learning activities by using various learning resources through information technology.

Since the world entered the Internet era in the last century, social development has changed with each passing day. As a reserve force for scientific, technological and economic development, education's development affects and restricts everyone's progress. The network teaching environment enriches the learning methods, perfects the traditional education mode, and provides strength for the reform and development of education. Based on such educational and teaching background, students and educators are eager to enrich students' learning life through the learning

methods provided by the network, make up for the deficiencies of traditional teaching, cultivate personalized talents, and provide practical and effective help for the development of the country and society. Online teaching is more diverse in form and rich in content. At the same time, both educators and students have expectations for it. Network teaching benefits all kinds of groups, but the complex network environment will also breed and expand teaching errors, affecting the quality of teaching. If a good network teaching environment can be reasonably combined with offline teaching in schools, education and teaching can also have newer and better development.

## 2. The Necessity and Feasibility of Teaching Students in Accordance with Their Aptitude

As early as thousands of years ago, Confucius, a great Chinese philosopher and educator, put forward the teaching viewpoint of teaching students according to their aptitude. The Analects of Confucius advanced article: Zilu asked: "Do you act as soon as you hear anything?" The Confucius said, "Father and brother are both here. How can we act as soon as we hear them?"Ranyou asked: "Do you act as soon as you hear anything?" Confucius said: "Act as soon as you hear it." Gong Xihua said, "Zhongyou ask 'Do you act as soon as you hear it?' you said, 'Father and brother are here. How can you act as soon as you hear it?' Ranqiu asked, 'Do you act as soon as you hear it?' you said 'act as soon as you hear it.' I'm a little confused. I dare to ask the teacher." Confucius said, "Ranyou usually do things in retreat, so I encourage him; Zhongyou likes to win, so I want to suppress him." We can realize from Confucius' dialogue that everyone has his own growth environment and personality characteristics. From this, we can know that teaching cannot be generalized. Only by adopting targeted teaching according to the specific conditions of different students can we obtain the effect of getting twice the result with half the effort. This is the principle of teaching students according to their aptitude that Confucius and his disciples followed in the pre-Qin period [3-4]. Although Confucius' disciples have different personalities, endowments and talents, they can get better development and success under Confucius' education and guidance. It provided a solid knowledge base and abundant human resources for social management, economic development, moral progress and cultural popularization at that time. In the West, also in ancient Rome more than 2,000 years ago, Marcus Fabius Quintilanus also raised the issue of teaching students in accordance with their aptitude. Zhu Xi, a well-known educator, once said: "Those famous teachers teach students differently according to different situations of each student. Small materials (poor students) make them have small achievements, big materials (excellent students) make them have great achievements, and do not give up anyone." It can be seen that teaching students in accordance with their aptitude has a universal influence and fundamental effect on educational behavior. Today in the 21st century, the importance of teaching students according to their aptitude has not been weakened.

First of all, it is necessary to teach students according to their aptitude at any stage of teaching. The new educational concept of the times requires educators to pay attention to students' personalized learning and development. The rigid talent training mode has not met the needs of the times.<The Outline of the National Medium-and Long-Term Education Reform and Development Plan (2010-2020) >emphasizes the need to adhere to the people-oriented, establish a diversified talent view, respect students' personalities, and encourage educators to create an environment that supports students' personalized development. Teaching students in accordance with their aptitude is an important path for students to realize personalized development. Teaching students in accordance with their aptitude is an important teaching method and teaching principle that has not been abandoned after continuous exploration and improvement in the field of education and teaching. Educators should understand all aspects of students' situation in teaching, and select learning methods suitable for each student's characteristics according to different students' cognitive level, learning ability and their own quality to carry out targeted teaching, give full play to students' strengths and make up for students' deficiencies.

In the Internet era, students have a wide range of access to information, education and teaching methods are not rigidly adhered to the traditional teaching rigid model, the environment in which students grew up is more open, thinking is relatively more active, rigid and non-targeted learning is

not attractive to students, at the same time, if unified and fixed teaching is still implemented, students' learning results will not be very good, and even restrict students' thinking system and thinking mode, which is not conducive to the all-round development of students. On the contrary, adopting the principle of teaching students according to their aptitude in teaching can stimulate students' interest in learning and build up their confidence in learning, thus promoting the all-round development of students' learning ability, thinking ability and even intelligence. Teaching students according to their aptitude has rich modern connotation and is of great significance to teachers, parents, schools and the realization of educational fairness.

Secondly, teaching students according to their aptitude is feasible in today's society. The progress and development of the times require more and more talents to be the backup force. At the same time, the new era provides a new way of thinking, economic foundation, scientific and technological foundation and teacher foundation for education and teaching. As we all know, the country still attaches great importance to the education of students, and even the degree of attention is still rising year by year. National leaders have attached great importance to investment in education in various meetings, and so has the international community. On the one hand, in actual teaching, schools and teachers should be the first to be faced in teaching students according to their aptitude. In recent years, the state and the government have paid more attention to all kinds of schools. The government has not been stingy in allocating funds for education and teaching, and the treatment of teachers has also improved significantly. Under such conditions, more and more aspiring young people are willing to join the education industry and contribute to the national education. At the same time, the expansion of schools has made teaching in small classes more popular. In the past, especially in non-central cities, there were so many students in one class that teachers could not effectively apply teaching to every student. Now, with the progress of educational resources, schools have the ability to subdivide students, which means that students can enter suitable classes according to their own quality to a certain extent, and the relatively sufficient number of teachers enables teachers to spare no effort to formulate teaching plans according to the specific conditions of students, thus the implementation of the principle of teaching students according to their aptitude is more guaranteed. On the other hand, looking at the current educational and teaching pattern, online teaching is becoming more and more a teaching method for teachers and students. In the era of big data, informatization enables people to choose appropriate teaching methods according to their own situation. For example, whenever we register a new software, the system will let the user make a choice of interests or needs, and then when you open the software, the system will recommend the corresponding content for you according to your interests and needs. Many educational and learning software will also collect your age or educational background under the permission of the user, and accurately recommend the user according to your educational background and learning situation, so that the user can obtain a better user experience. Under such circumstances, web-based learning provides learners with more personalized learning content, which is also an important help for teaching students in accordance with their aptitude in the new educational environment.

## 3. The Combination of Network Teaching and Teaching Students in Accordance with Their Aptitude

The Internet thinking we are required to have in the Internet information age is actually not complicated. To understand its essence, "Internet" means "interaction", "democracy", "connection" and "openness". In short, Internet thinking is to take the characteristics of the Internet as a perspective to examine the networked business ecosystem and even the production and lifestyle of the whole society. Such as convenience, freedom, non-center, stratification, community, personal participation, user experience first, data thinking and other characteristics. These ways of thinking are based on the possibility of connection, connecting each participating user to form a huge network composed of many points, thus creating infinite possibilities for "teaching students according to their aptitude".

Network teaching is not equivalent to completely abandoning the traditional teaching methods,

on the contrary, the two can get a good combination and get a more optimized effect. According to the current education situation in China, it is not possible to abandon offline teaching and school teacher education for the time being. One reason is that the effect of face-to-face teaching is more obvious according to the learning effect and examination results of students. The survey shows that students pay more attention and think more closely in face-to-face teaching. Moreover, due to the interaction between teachers and students, students and teachers are actually less tired than online teaching in such a learning environment [5-6]. Another reason is that the network teaching system is mixed with good and bad, and the network environment is not without shortcomings. In the most important learning stage of students, the vast majority of students are minors, and their ability to screen and discriminate information is not strong, and they are vulnerable to adverse effects. On the contrary, teachers have received professional training, their teaching ability and their own quality are guaranteed to a certain extent, and they can give students the best choice to a great extent, i.e. more accurate knowledge, avoid students from falling into wrong choices, avoid detours in learning, and effectively save time.

Then, how to combine the network teaching with the principle of teaching students in accordance with their aptitude in the new learning environment to cultivate personalized talents? I think we can use the following methods for reference.

### 3.1 Realizing the Sharing of Educational Resources by Means of Network.

Every school and region has famous teachers, and famous teachers often have good knowledge, that is, they have profound research in one or two fields. In less developed cities, there are not many under-the-line lectures by famous teachers, teaching by famous teachers has not been popularized, and educational resources have not been maximized. The biggest learning barrier facing primary and secondary school students in China is various entrance examinations. If the resource sharing website can be well reviewed and approved, students can check for gaps and leaks according to their own learning situation and online teaching. Those who are already skilled do not need to waste time learning, while those who are not can choose to learn. At present, the network platform also has such a learning system, but because it is not standardized, the content has not been approved by teachers and has not circulated among students. The learning content of the educational resource sharing platform is not the quantity, but the quality guarantee. Moreover, if the quality of learning resources corresponds to high learning costs, it will also make it unable to play its value. To establish a quality-guaranteed platform for sharing teaching resources, teachers from all kinds of famous teachers can give lectures. Teachers in schools can recommend and supplement teaching resources for a period of time according to the learning situation of their students, and at the same time supplement other knowledge according to the interests of students. This can not only enable students to learn knowledge more conducive to their own development at the same time, but also reduce the teaching pressure of offline teachers according to their aptitude.

The sharing of university resources is also an important part. In short, the classification of colleges and universities determines the strengths of colleges and universities in the field of knowledge in some aspects, and even differences can be obtained from the names of colleges and universities. For example, the University of Finance and Economics, the University of Mining, the University of Geology, the University of Metrology, the University of Ocean, the University of Languages, the Normal University and so on, but most of the universities are comprehensive universities. In addition to the trump card major, more general majors do not have the best quality teaching resources. If an official resource sharing platform is established, the high-quality development of teaching can be realized. For example, if a student of a university of finance and economics majored in language, he can obtain some high-quality resources from a top language university on this official platform, and can obtain other specialized curriculum resources according to his other interests, thus effectively avoiding the risk of taking wrong knowledge by searching for resources. Of course, the sharing of school resources naturally depends on one's own choices, and it is necessary to retain core resources, otherwise, striving for admission to a top university will lose some of its significance and motivation.

## 3.2 Establish a More Systematic Learning Platform.

There are similarities between the learning platform and the resource sharing platform, but the difference is that the systematic learning platform pays more attention to teaching, detection and classification. The premise of teaching students in accordance with their aptitude is to master the personality of the students being taught, and to judge the personality accurately. However, due to the students' potential learning ability and personality, it is difficult to do it only by the subjective observation and evaluation of the teachers. It requires certain science and technology and the support of educational big data. Through the establishment of activity big data, the behavior of learners is recorded, and individual tendency is identified. The ability to identify individual psychological characteristics is demonstrated by recording learning effects through curriculum big data. Through the growth of big data to record the various manifestations of learners in social interaction and identify individual personality characteristics, in this way, the real situation and hidden personality of students can be fully mined. To establish such a systematic platform, first of all, students' learning situation, comprehensive quality and personality are detected to obtain their current learning status, and hidden learning ability is mined. Then the future development direction of students is deduced, which is equivalent to creating a learning path for students. After the students fully understand their own situation, they can choose the modules and contents of study according to the recommendation or by themselves in this learning platform. Of course, for college students and above, this choice is more prominent based on the principle of respecting students. It is not necessary to choose the teaching content according to the results and social needs. The key is still to respect students' personality development and obtain the comprehensive optimal results of personal wishes and learning effects.

## 3.3 Teachers Integrate Online and Offline Teaching.

With the resource sharing platform and systematic learning platform, it is still necessary to combine with school teaching. School teaching focuses on the teaching of basic subjects and basic knowledge to create a solid learning foundation for students. At the best time of study, teachers in schools still give priority to teaching. At the same time, according to the students' learning situation, good subjects and non-good subjects are classified and taught, which has been implemented in many schools. According to the students' examination results, students' classified teaching will be carried out for each subject. Priority will be given to students with poor foundation to help them stabilize their foundation, while students with good foundation will carry out promotional teaching for such students. Of course, with the help of online teaching, the school can appropriately extend the self-study time, during which the students can learn by themselves through the resource sharing platform and the learning platform to improve the learning of subjects that they are not good at. At the same time, teachers can carry out learning achievement tests on the online platform and adjust offline teaching plans according to the test results. It is also possible to collect the test results, carry out group study on the class students, conduct classified guidance and discussion in the form of typed study groups, and make full use of the principle of teaching students in accordance with their aptitude.

## 4. Conclusion

The traditional idea of teaching students in accordance with their aptitude aims at conducting teaching according to the characteristics of students so as to help them better understand what they have learned and then accept what they have learned. No problem exists concerning this idea, otherwise it will not have been abandoned until now. However, the concrete realization of this principle needs to be combined with modern educational methods in order to give full play to its maximum effect. The aim of teaching students in accordance with their aptitude with modern significance is to provide learners with a resource-rich intelligent learning platform and help learners to realize real-time interaction and communication. The co-construction and sharing of educational energy, open and diversified forms of education, and convenient cooperation and

interaction have laid a solid foundation for the personalized development of students, allowing individualized teaching to move from thought to practice, giving full play to the advantages of online teaching, and promoting the new development of contemporary education and teaching.

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