

# Research on individualized teaching under the background of class teaching system

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**Abstract:** *In the context of large class sizes, an analysis of the existing classroom teaching system, particularly in relation to aptitude-based instruction, reveals several challenges. These include issues in teacher-student communication, limitations in teachers' energy and capacity, as well as obstacles in facilitating effective questioning and engagement. On this basis, it summarizes the reasons for the difficult implementation in accordance with their aptitude from the three aspects of society, school and teacher, and puts forward the improvement strategies from these three aspects: increasing the investment in education; enriching the "teacher side"; home-school reasonable education; hierarchical questioning, stratified design and so on.*

**Keywords:** *teaching students according to their aptitude; countermeasures; class teaching system; large class size*

## 1. Introduction

In the pursuit of quality education today, the all-round development of students is the fundamental purpose of our education, but also the educational concept we pursue. However, under the class teaching system, the teacher-led classroom is excessively depressing children's nature, so how to make students realize their personality and independent development under such a background has become a big problem. In China, teaching students according to their aptitude has a long history. It first dates back to Confucius and has been developed for more than 2,000 years. The idea of teaching students according to their aptitude has been developing and improving continuously in the long history. But in the modern world of today, the development of individualized teaching students has encountered a bottleneck. In the current class teaching system background has not yet formed a complete set of teaching program and can not be well applied to the practical teaching in the continuous development of social information today. The limitations of class teaching system are increasingly prominent: it is difficult to highlight students' subjectivity; Simple knowledge transmission is disconnected from real life; It can not meet the requirements of the information age; The continuous expansion of the class size leads to the personalized development of students is difficult to meet. In this context, the call for the reform of teaching students in accordance with their aptitude is more and more high, and parents and teachers hope that students can get the cultivation and development of personality, creativity and autonomy. But how to effectively teach students according to their aptitude in the context of class teaching system? This is also what we should explore how to effectively promote the development of teaching in accordance with their aptitude under the class teaching system.

## 2. Clarification of the meaning of the class teaching system

In the 16th century, The Czech educator Comenius founded the teaching method of class teaching system<sup>[1]</sup>. The class teaching system is the most common teaching mode adopted at present, which has lasted: it was born with the civilian education of the first industrial Revolution, and promoted by the second industrial Revolution, there was a standardized and systematic reform of class teaching, which adapted to the requirements of productivity for high-quality labor force. This is inseparable from its own superiority. It can give full play to the teaching energy of a teacher, provide education to more students and promote education popularization; it can arrange the curriculum by "class" and provide students with systematic knowledge system; it can provide collective education, allowing students to learn, cooperate, compete, and form collective identity and belonging. It is a very common teaching mode in the modern education system. The main feature of this model is to group students according to

their age or ability (i. e., to form classes), and to teach collectively by one or more teachers in a fixed classroom. In the 21st century, with the development of technology and the change of educational concepts, although the class teaching system is still the mainstream, there are also more new education modes such as mixed learning and online learning, which form a supplement and challenge to the traditional class teaching system. The advantages of the class teaching system include the ability to effectively manage large numbers of students, promote social interaction among peers, and achieve equity in education through a uniform curriculum and standards. However, this model also faces challenges such as difficulties in meeting the individual needs of each student and the potential leading to a lack of innovation and individualized learning. With the continuous development of educational concept, the class teaching system is constantly adjusted and improved.

### **3. In the dilemma of teaching in accordance with their aptitude under the background of class teaching system**

#### ***3.1. The communication between teachers and students is limited, and it is difficult to reflect the main body status of students***

In the face of the large class amount of management, must be strict, to suppress the students from the momentum. But the result of suppressing the students is that the students sit quietly in the classroom, and the classroom becomes the teacher's "speech". This means that the teacher dominates the classroom, the teacher becomes the master of the teaching process, and the students are just passively accepting it. In addition to the large class size affecting the communication between teachers and students, the space arrangement of the class also has a great impact. The author observed the different classrooms of this school, with an area of about 45 square meters. According to the standard of 45 students, each student can have plenty of space, but the current school class size is far beyond this standard, resulting in the classrooms are crowded, and even the teachers can not walk from the first row to the last row. Furthermore, when teachers enter the classroom and are confronted with bustling and noisy students, it can psychologically induce irritability in them. This state of mind is not conducive to the normal progression of teaching activities. In such a teaching environment, the two-way communication activities between teachers and students are seriously blocked, and it is difficult to really give the classroom to the students, which aggravates the teacher-led classroom, and changes back to the teacher's "one speech classroom".

#### ***3.2. Work pressure is great, and teachers' energy is seriously insufficient***

First, it is reflected in the homework correction. Each class has more than 50 students, and each teacher has to lead multiple classes. This leads to each teacher to face hundreds of homework, but this is only a correction, but also to the students' homework analysis, homework two correction, help students to check the gaps. Under such a high load of work pressure, it is almost impossible to understand the differences of each student in detail and have appropriate personalized teaching response, which is almost impossible to do. Second, it is reflected in the class management. Class size is too large, and classroom management also increases. Due to the large number of students, coupled with the poor self-control ability of primary school students, organizing teaching has become one of the most troublesome problems for teachers, it is difficult for teachers to take into account all the students, teachers organize teaching time-consuming and laborious. Third, tedious non-teaching affairs. Teachers should not only face teaching affairs, but also face non-teaching affairs. To deal with the inspection of superior leaders, a variety of evaluation, a variety of competitions, this is undoubtedly worse for teachers, so that the already poor energy is not enough.

#### ***3.3. The class size is too large, and the way to ask questions is unreasonable***

"Who raises his hand to ask who" and "who is more active in asking who" is the common way to ask questions. This way of asking questions will only make the positive students more active and the silent students more silent, leading to the polarization of the students in the class, of course, this is good for those positive students. Teachers give appropriate reinforcement to their positive answers, so that they can express themselves more fully and work harder to learn. But for that part of the silent students is a bad thing, will form an attitude in their hearts, "I do not answer, there will always be some answers", "the class has me without me, I just sit quietly". In the long run, students' sense of self-identity decreases, they lose the confidence to do things, and they are unwilling to learn, more

unwilling to answer questions, and fall into a vicious circle.

#### **4. Analysis of the causes of individualized teaching under class teaching system**

The emergence of any problem is not a simple factor cause, but a qualitative change caused by various factors to a certain extent. Therefore, we should view the analysis of the problem from a comprehensive perspective. And the analysis of teaching students in accordance with their aptitude under the background of class teaching in Haikou city can be comprehensively considered from the three dimensions of society, school and teachers.

##### **4.1. Social factors**

###### **4.1.1. With the acceleration of urbanization, the demand for foreign enrollment has increased sharply**

With the acceleration of urbanization, the number of migrant workers is increasing, and supporting services such as expansion and construction of schools can not keep up, "large class size" comes into being. On the one hand, there is an increasing demand for enrollment, but on the other hand, the number and scale of schools are still as before, and their construction speed is far slower than urban construction. At the same time, the government's investment in school hardware and software facilities does not match the actual demand of schools, and school construction lags behind the growth of demand, leading to crowded schools, the imbalance of teachers and students and other problems. Finally, we have to compromise to the large class size. In order to make the children able to go to school, we can only expand the class size temporarily to alleviate the difficulty of going to school.

###### **4.1.2. Unbalanced development of education and insufficient supply of high-quality educational resources**

Every parent wants their children to have a better future, and the best choice for their children to have a better future lies in education. Quality education shows the distribution of inverted pyramid from every township, county, prefecture-level city and provincial capital city. The higher the city level, the higher the corresponding education quality, and the more funding the government gets, which leads to the current crazy "wind of school choice". In order to get their children to receive better education, they send their children to better schools in the county and city, which makes the local already nervous degree even more overwhelmed. But parents don't care what the class size is, as long as they can enter the school and enjoy the quality of the school, they don't care. So in the end, the school had to temporarily assign this part of the students to the designated classes, so the class size was rapidly expanded. However, at the same time, school choice also leads to the failure of "education overload" due to the sudden increase of high-quality education in the number of students, which leads to the decline of education quality, thus forming a vicious circle.

##### **4.2. School factors**

###### **4.2.1. The teacher evaluation mechanism is not perfect**

The reform of quality education and quality-oriented education has been carried out for many years, and the corresponding evaluation mechanism of students has changed to a certain extent, but the evaluation mechanism of teachers has failed to keep up with the pace of the reform. It is still closely related to students' performance, and there are problems such as single evaluation basis and insufficient evaluation subject. If the education evaluation only considers the quality of students' performance, regardless of the individualized development of students' physical and mental development, is such education really a good education? Such a teacher must be a good teacher. Based on such an evaluation mechanism, teachers focus on the improvement of students' performance while ignoring the personalized development of students' body and mind. How can such an evaluation mechanism breed teachers who teach students in accordance with their aptitude, and how can they have a positive attitude to explore teaching students in accordance with their aptitude? Therefore, the current evaluation mechanism has not adapted to the current situation of education, and should be reformed with the reform of quality-oriented education.

###### **4.2.2. The teacher training mechanism is not perfect**

In several schools where the author practiced, I actively participated in the teaching seminars

organized by the school, but the seminars mostly discussed the teaching process, teaching results, teaching problems of a certain subject, and rarely involved the issues of how to teach students in accordance with their aptitude under the current class teaching system. Schools have such a problem, but because it is difficult to achieve it. As a result, teachers face the current class size to teach students in accordance with their aptitude, can only step by step as far as possible to complete the teaching progress task. In addition, teaching students in accordance with their aptitude is not a simple problem, not which a teacher can solve it alone. Schools should provide teachers with corresponding professional training, and have special teachers responsible for research, so as to better face the class teaching and teach students in accordance with their aptitude.

#### **4.2.3. Separation between school leaders and teachers**

School administrators and teaching staff play different roles in the school and shoulder different responsibilities. A good school can not be opened without the connection between the two, but the connection between the two is not very smooth. Administrative staff only focus on administration, and teaching staff only focus on teaching. It is difficult to pass the current situation of front-line teaching on the school management, and it is difficult for the management opinions of the school management to implement in the front-line teaching. On the one hand, front-line teachers cannot convey the dilemma of teaching students in accordance with their aptitude. On the other hand, some teachers still adhere to their own educational concepts, making it difficult to implement teaching students in accordance with their aptitude.

### **4.3. Teacher factors1**

#### **4.3.1. Backward teaching concept**

The reform of quality education has begun for a long time, but many teachers still believe in the "score-only theory". Under the guidance of quality education reform, teachers should have their own new views of teachers and students. Every student is an independent and unique individual, and has its own great potential. Teachers should actively and patiently guide them, to deeply understand the students, and tap their potential potential. In the schools of my internship, most students still take scores as the only or main standard to measure teaching results. This one-sided view of students largely hinders the development of teaching students in accordance with their aptitude, and teachers must set up advanced teaching concepts. In the actual teaching practice, the teaching principle of teaching students in accordance with their aptitude has become the theoretical basis for the top students, the theoretical basis for establishing key schools in primary and secondary schools, and the theoretical basis for starting the so-called top-notch talent training plan as soon as possible. Therefore, we must change the teachers' ideas.<sup>[2]</sup>

#### **4.3.2. No "diversified" teaching ability**

Teaching students in accordance with their aptitude requires that students with different characteristics should have appropriate methods to teach, which requires teachers to have diversified teaching ability, and teachers' own teaching ability has high requirements. In the course of the internship, the author once checked the resumes of the teachers, and found that there are still many junior college teachers, and the corresponding pedagogy and scientific research qualities are not competent to teach students in accordance with their aptitude. Diversified teaching ability is not only about teaching ability, but also includes scientific research, organization, interpersonal communication and so on. Only by doing these things well can teaching students in accordance with their aptitude be possible.

#### **4.3.3. Teachers' lack of teaching energy**

Teachers should not only pay attention to their own teaching, but also be busy with all kinds of non-teaching affairs. For example, various inspections, meetings, and evaluations. Each teacher also has his own family, and family affairs occupy a large part of teachers' energy. In addition, with the popularity of the Internet, the establishment and management of various parent wechat groups, even if teachers leave the school after work, they still have to devote their energy to manage students. With so many affairs shared evenly, teachers can leave very little energy for education, how to talk about teaching students in accordance with their aptitude.

## **5. Problem solutions and countermeasures**

### **5.1. The government side**

Solving the large shift problem is a common challenge for many governments around the world. The government can take a variety of measures in this regard to ensure that the quality of education is not affected by the class. 1. Increase the education budget. The government could increase its investment in the education sector, specifically to build more school facilities, increase the number of classrooms, and improve the recruitment and training of teachers. This investment includes not only the construction of hardware facilities, but also the investment in teacher compensation and training to attract and retain excellent educational talent. 2. Determine the upper limit of the class size through legislation to ensure that the number of students in each class does not exceed a certain number. This helps to improve the quality of teaching and ensure that every student receives enough attention. By implementing the class size ceiling, schools can manage resources more effectively and provide more individualized teaching support for students. 3. The government needs to continuously monitor the class size and regularly evaluate the effects of relevant policies. This helps to identify problems and adjust strategies. In short, solving the problem of large shift size requires the comprehensive intervention and continuous efforts of the government.<sup>[3]</sup> This includes increasing educational investment, improving teacher recruitment and training, implementing class size caps, promoting innovative teaching models, enhancing community engagement, and continuous monitoring and evaluation. Through these comprehensive measures, the quality of education can be effectively improved to ensure that every student can grow up in a good learning environment.

### **5.2. School aspects**

Enrich the "teacher end", reduce the teacher work pressure. The current class teaching is the head teacher system, a head teacher is responsible for a class (or two), and it is generally the main subject teacher of the class. The head teacher should understand the situation of each student, be responsible for their homework correction, responsible for their grades guidance, responsible for the mediation of conflicts and disputes and so on. In summary, from the moment students enter the school to their departure, the supervising teachers devote considerable attention to their well-being. However, this dedication often leads to a drain on the teachers' energy, restricting them primarily to basic teaching tasks and ensuring students' fundamental safety. Consequently, this limitation hampers their ability to address more individualized aspects such as nurturing students' aptitudes and providing personalized guidance. Therefore, we should enrich the teaching side. Of course, it is unrealistic to hire more teachers in the case of limited school funds, so it requires us to improve the existing conditions. We can go to negotiate with normal colleges and universities, to coordinate the various grade internship, internship tasks, whether we can establish a long-term assistance teaching mechanism with primary schools. Coordinate the internships across each grade level, ensuring a seamless connection in internship timing and related work activities. Central to this coordination should be the primary school instructors, who will form the cornerstone of a team-teaching approach. In this structure, one team will be assigned responsibility for each class. Before and after teams one after another, class information sharing, help teachers understand students, teach students in accordance with their aptitude, solve the problem of teachers lack of energy.

### **5.3. Suggestions to teachers**

#### **5.3.1. Habit formation, independent learning**

Habit, will let you take for granted, have good habits, do not urge, students will naturally know what time to do what, do not worry about too much. Students can autonomous learning, can give the teacher an orderly classroom, it saves the teacher on the discipline of strict constraints to students, can let students "open his mouth", the teacher talk into the communication between teachers and students, thus to return the classroom to students, let students have full participation, so as to promote teachers according to their aptitude. "Furthermore, in habit formation, it is crucial to capitalize on the critical period in the first and second grades, employing diverse methods for guidance. These methods include emotional edification, practical exercises, moral character evaluation, and role model demonstrations, among others. The most effective approach at this stage is arguably through exemplary demonstration. This is because students in the first grade are akin to blank slates, with teachers acting as the pens that inscribe upon these slates. Consequently, the actions and words of the teachers leave indelible

impressions in the students' minds."

### **5.3.2. Layered questions and layered design**

The modern theory of mastering learning, the theory of recent development area and the theory of teaching form optimization all provide the theoretical basis for hierarchical teaching.<sup>[4]</sup> The class is too large to allow everyone to answer questions, so the questions are divided into three levels (high, middle, low)."The questions are divided into three levels, so as to understand the mastery of students at different levels of knowledge, and the low section of students repeatedly ask questions, reasonable positive strengthening, establish confidence. In addition, low-end students can master, then the middle and high students can certainly master, and such a good teaching teachers to "cover the bottom", so that every student can learn something. In teaching design, we are also faced with the situation that we can not take care of low-end students. Therefore, we should adopt stratified teaching design to design the bottom line, understand the overall learning situation of the class through the design, and then design the teaching design for the middle and high sections. Stratified questioning, stratified teaching design, to maximize the care to all students, is also the essential implementation of teaching students in accordance with their aptitude.

## **6. Conclusions**

Based on the "teaching students in accordance with their aptitude", this paper conducts a questionnaire and interview survey on the current situation of individualized teaching students under the current class teaching system, and finds that teachers have problems in the communication between teachers and students, teachers' energy, questioning methods, teaching design and other aspects. On this basis, the paper summarizes the reasons for the difficulty of teaching in accordance with their aptitude, and proposes the improvement strategies: increasing the education investment; increasing the school introduction; enriching the "teacher side"; home-school reasonable aid; layered questioning, layered design, etc.

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