

# *Stratified Small Class Teaching and Educational Equity*

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**Abstract:** This paper focuses on the relationship between performance-based classroom teaching and educational equity, with experimental data collected primarily through questionnaires, as it has been and continues to be a popular teaching method in China today. Through surveys and summaries, the stratified small class teaching does undermine educational equity, so in future we should avoid harm and be more rigorous in our use of stratified small class teaching.

**Keywords:** stratified small class teaching, equity, education, psychological.

## **1. Introduction**

Throughout the history of education in China, the state and government have improved the quality of education by constantly improving teaching methods, and schools and teachers have actively improved their work and teaching methods, many of which have indeed improved the performance and overall quality of students. In his book *On the Education of Orators*, the Roman educator Quintilian discusses the organization of teaching and learning, putting forward the idea of class teaching, which was the germ of the idea of classroom teaching. Subsequently, as society and the economy continued to develop, the method of dividing classes according to grades gradually became popular, and students in both primary and high schools in China have experienced the teaching method of dividing classes according to grades. The method was first introduced in China in 2000, under the name of "fast and slow classes", and was well received by schools around the country, with some success, but as soon as it was introduced, some educationalists and parents expressed doubts about the method. In 2008, a professor from Beijing Normal University wrote an article titled "An analysis of stratified small class teaching", in which he pointed out the psychological and performance effects of this method on students. There are many other articles of this kind, but, in terms of research methodology, few scholars have conducted questionnaires on a large scale and there is a lack of theoretical support and widespread interest in this opinion. If there is a real problem with this method of teaching, the improvement and enhancement of split-class teaching can help more schools and teachers to find a teaching method that is truly suitable for their students, and can also stop the damage and improve it in time. This article is based on an investigation of the impact of merit-based classroom teaching on students and teachers to explore the relationship between this and educational equity, as well as the fact that the subject of the contemporaneous articles on this topic is basically only students, although in the end the views are basically the same, but teachers should also be the subject of the investigation. This research will not only provide direction for the government,

schools and even the country to explore better teaching and learning models, but also reduce the proliferation of this model in the Chinese education sector, and indeed the world education sector, in order to protect students' right to education and educational equity.

## 2. Literature Review

According to Dingxian, the question she wants to address is how effective is teaching by ability in the United States [1]. It is objective, with not only experimental data but also historical background, but I think some experimental data are one-sided. And this article provides me with some basic research ideas and data, and also expands my research methods. There are many experimental data that can be referred to, and it illustrates the disadvantages of class-based teaching in American education. It is trying to answer the pros and cons of class-based teaching by performance.

American scholar Robert E. Slavin argues that every method of teaching by ability or achievement has shortcomings [2]. And Joplin plan said his refers to regrouping reading lessons according to reading level regardless of the grade level of the students. And non-graded system: this uses a very flexible, cross-age class format.

Author Ding uses data about the median effect of the Joplin and non-graded systems on reading achievement was +0.44 and analyses studies with subgroups of eight classes, including five experimental studies with random sampling, the author finds that each study demonstrated a median experimental left-right superiority effect of +0.34. There is a lack of scientific basis for denying the idea of teaching by ability or merit and for assuming that teaching by merit in one-off classes will in itself improve student performance. It allows me to gain a more objective and in-depth understanding of the problem.

Author Shu wants to address is the disadvantages of the practice of dividing key classes at senior secondary level according to academic performance [3]. However, this paper also has its shortcomings. Some experimental data are one-sided and only consider the students in the class-based teaching, but I think teachers should also be taken into account in the experiment. For example, when teachers teach in class-based teaching, there must be changes in mentality and methods. Does it affect students? These can be used as data for formal experimental results. Author Shu claims that China's education system has a dual-track system and the definition of educational equity by Torsten·Husen and Coleman·James S.

Different theories exist in the literature regarding educational equity, for instance a long-term interview was conducted with three rural students of low class who were admitted to key universities, psychometric data for rural, lower class students within the University [4]. In this paper, several lines of evidence suggest that the classification of priority classes at senior secondary level according to academic performance is detrimental to the educational interests of disadvantaged groups, including students from lower rural classes.

Collectively, the experimental data and historical context in this article outline a critical role for tapping into the relationship of stratified small class and educational equity. Unfortunately, it neglects to explain the role of the teachers in the relationship.

Author Wang mentions that incomplete tiered teaching can also undermine educational equity. For example, some universities have entered campus and still divide students in the same college and same major category according to their GCE results and then carry out tiered teaching, but in recent years these methods of dividing classes have faced huge challenges, while huge changes in the composition of students have led to the fact that GCE results are no longer the only measure [5]. This article provided me with a new way of thinking about whether the use of stratified small class teaching in different contexts can also have a different impact on educational equity. The generalizability of much published research on this issue is problematic, author Ding only talks about is the impact of stratified small class teaching on American education, there are some data and

experimental methods that can be shown in my paper. Author Shu's experimental data is a bit one-sided in my opinion, the results obtained and the author's viewpoint can be adopted. When I want to understand the impact of class-based education on Chinese education, I think that both experimental data and theoretical support are necessary, but these experimental data should be comprehensive. There are two aspects included, the first aspect is the students and the second aspect is the teachers. Firstly, on the student side, it is possible to search for some data on both aspects of student psychology and student achievement. Secondly, on the teacher side, the focus should be on observing the teacher's educational psychology and pedagogy when teaching in separate classes.

### 3. Methodology

My experiment uses a qualitative research approach. This study will use a mixed methods design with two parts, different questionnaires for teachers and students and telephone interviews. For the first part of the questionnaire, a non-probability convenience sample of 100 high school students and 50 teachers from a high school and middle school in China will be recruited and invited to participate in the questionnaire. All participants in the study will be anonymous. The names of the participants or the university will not appear in the study. The purpose of the study will be given in advance before the study is conducted and all participants in the questionnaire and interviews will agree to participate in the study.

The questionnaires will be distributed via Wechat and the interview participants for the second part of the telephone interview study survey will be selected from the consenting students who have completed the questionnaire and the interviews will be conducted over the telephone. 20 high school and junior high school students and a sample of 10 teachers are targeted for this aspect of the study. The aim of the questionnaire is to collect the opinions of students and teachers, with responses ranging from "strongly disagree" to "strongly agree". Using a 5-point Likert scale, 10 questions about class-based teaching by achievement will be used for statistical purposes. The purpose of the telephone interview is to investigate the deeper opinions of students and teachers about achievement-based classroom teaching. In order to investigate the relationship between achievement-based classroom teaching and educational equity, the mean scores of the participants' variables will first be calculated. The correlation between these two variables will then be presented using a statistical graph. One hundred high school students and 50 teachers from a high school and junior high school in China were invited to take part in the questionnaire, and 20 junior high and high school students and 10 teachers were selected from those who participated in the questionnaire to take part in the telephone interviews. The questionnaires are divided into two according to the respondents, the student questionnaire contains 10 questions and the teacher questionnaire contains 5 questions. Qualitative data will be analyzed using NVivo. A sample item is "I have felt anxious in teaching by grade placement". Participants will be asked to respond to each question by choosing from "strongly disagree" to "strongly agree" and they will be asked to give their opinion in a telephone interview. The questions asked in the student survey included whether the students had experienced anxiety, ups and downs in their performance, and whether their learning status had changed. Were there any mood swings, feelings of pride or shame, or feelings of being treated differently? Whether students have become disgusted with a subject or have been criticized and pressurized by their parents as a result of the placement. Did their peers around them ever think differently of them after grade placement, and did teachers stress about it all day long. The questions asked by the teachers included whether they had felt anxious or pressured after the introduction of grade banding and whether there had been any changes in teaching methods. Did they feel that there were any significant psychological changes in their students after the implementation of split-class teaching, did they feel that split-class teaching should not be implemented, did split-class teaching have an impact on students' performance, and did they have

the same attitude towards teaching classes with different grades. Have you felt that your workload has increased since the implementation of split-class teaching, and do parents often report to you about their own attitudes.

Once I have the final results, I will consolidate the results according to the options, make a pie chart and get the percentages for further discussion. During the survey, to ensure the authenticity of the questionnaire, I will set a "Please choose strongly disagree for this question" and if the answer is strongly disagree, the questionnaire will be valid, if the answer is other options, the questionnaire will be invalid, but the final sample size will be guaranteed. After the questionnaire has been completed, interviews will be conducted with several of the teachers and students. The questionnaire method can effectively measure the attitudes of junior and senior high school students and teachers towards the merit-based teaching method, but the method has limitations in that the survey respondents are students and teachers in Tianjin, not taking into account geographical differences, and the ratio of male to female respondents is one to one, taking into account gender factors. The reason for choosing middle and high school students as the target population is that the use of performance-based classroom teaching in primary schools is not widespread and, given the psychological reasons of primary school students, I do not think that primary school students are suitable as the target population for the survey.

#### 4. Results

A circumspect reading of the data from this questionnaire shows that the achievement-based model is not a good way of teaching in the opinion of 65% students and 75% teachers.

However, there are about 10% students and 5% teachers who feel that it is a good way to better and more efficiently differentiate the suitability of different content for different groups of students.

After visualizing the data, we can see that in the pie chart, the student group totally agrees, strongly agrees and agrees account for 65%, and totally disagrees, strongly disagrees and disagrees account for 35%, but the number of people who disagree is also large and cannot be ignored. These figures show that the student body is resistant to grade splitting, perhaps because it would encroach on their rights, but some students also believe that grade splitting is a good teaching model that would bring them better teaching resources and a learning environment that would better match their learning process, thus achieving the learning outcomes they want and improving their academic performance. This can lead to better matching of their learning process to achieve their desired learning outcomes and improve their academic performance.

According to Figure 1, more people agreed than disagreed in the student questionnaire drawing, with the largest proportion strongly agreeing.

After visualizing the data, we can see that in the pie chart, the teacher group has a large area of the agreeing population, with agreeing taking up the largest area. This information suggests that teachers are not very receptive to the achievement-based classroom model. It is possible that this is because the grade banding model increases the workload of teachers, possibly even doubling it. It may also be that teachers believe that grade banding will lead to a change in students' attitudes to learning and a decline in academic performance. However, some teachers believe that achievement-based classroom teaching can be used to develop different learning strategies for each different class, personalize learning plans, arrange different learning styles according to the students, improve the efficiency of learning and achieve better results.

According to Figure 2, the majority of the population agrees, while the smallest number of those who disagree strongly disagree.

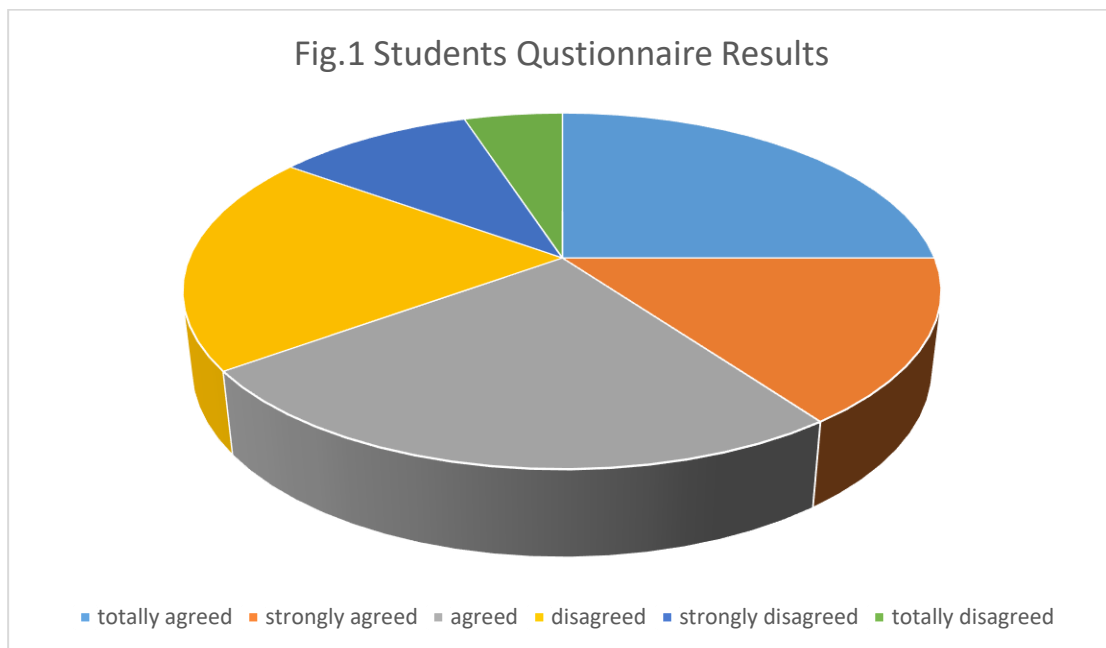


Figure 1: Student questionnaire data statistics.

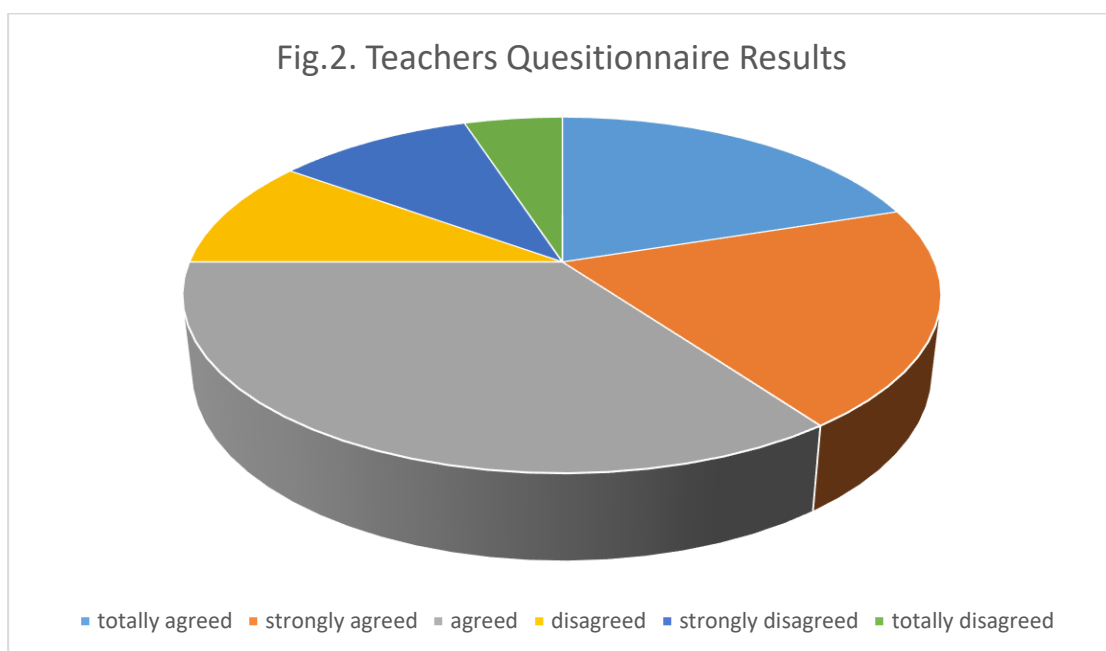


Figure 2: Teacher questionnaire data statistics.

## 5. Discussion

According to the results of the questionnaire, 25% of the students totally agreed, 15% strongly agreed, 25% agreed, 20% disagreed, 10% strongly disagreed and 5% totally disagreed. According to the analysis of the students questionnaires, 65% of the students were opposed to the implementation of the grade splitting model and only 35% of the students liked the stratified small class model. This shows that there are reasons for the students to dislike the grade placement model, which could be false fairness, malicious speculation from other groups, or other reasons. What is false equity? For high-achieving rural students, their educational journey is basically one of attending primary school

in a rural area, junior high school in a township, and coming to a prefecture-level city to attend a key high school. This is extremely disadvantageous to rural students in ordinary classes, who need to work very hard to be promoted to the key classes under the conditions of poor teachers' resources and poor learning atmosphere, and after entering the key classes, they are very likely to be brushed aside because of the unfamiliar environment and different teaching mode. Being brushed off creates a strong sense of frustration, which is false fairness. In high school, the goals of different levels of classes are also very different. The slogan of ordinary classes is all undergraduates, while the slogan of key classes is indeed all one and hit the heavyweight. Through this goal implication, often after the entrance examinations, the students' examination results are not far from the original goal. In turn, in the labor market, different levels of university are treated very differently, in some cases twice as differently. The grade placement model will undoubtedly discourage students from rural areas and may even affect their next generation.

According to the analysis of the teacher questionnaire (Fig.2.), 75% of the teachers were opposed to the stratified small class teaching model, while only 25% of the teachers were appreciative of the stratified small class teaching model. In the questionnaire survey, some teachers believed that class placement would affect students' self-confidence and that if a student failed in an exam, he or she might lose interest and confidence in learning by being transferred to a regular class, and his or her grades would fall. Some teachers believe that if the so-called 'poor' students are placed in a class, they may have a false perception of themselves and doubt themselves: "Am I just a poor student" [6], thus losing their self-confidence and enthusiasm for learning and turning to other students around them. This can lead to a loss of self-confidence and enthusiasm for learning, and a tendency to gang up with other 'poor' students around them, which can lead to a breach of school order and endanger students' personal health. The education authorities in China also explicitly prohibit the use of the stratified small class teaching model, and it is against the rules to specify that a class is a key class and a class is an ordinary class. However, tiered teaching is possible and the class system should be encouraged.

The tiered teaching model has certain advantages as an educational tool, but schools should not use marks as a criterion for tiered students. For example, there are three levels of teaching difficulty, A, B and C. Schools should not synchronize students into three levels, but should allow them to choose one of the three levels of difficulty on their own, based on their completion of the National Curriculum [7], and allow them to move between them according to their learning, a teaching model that has been advocated in several countries, including the United States, as the mainstream learning model of the future.

## 6. Conclusions

The innovative aspect of this study is that the questionnaire was designed to take into account not only the students, but also the teachers, as the students' understanding of the relationship between stratified small class teaching and educational equity is one-sided. The aim of this study is to identify the ways in which stratified small class teaching can be used in the future to promote equity and improve the quality of education. Based on the qualitative analysis, the teacher and student perceptions of this relationship, it can be concluded that stratified small class teaching does undermine educational equity in some ways. Class placement criteria, student psychology and teacher teaching methods are important factors to be considered.

Although the sample size and geography somewhat limit the generalizability of the results, this approach provides new insights into the relationship between stratified small class teaching and educational equity. The study clearly illustrates the detrimental effects of stratified small class teaching on educational equity, but it also suggests that the results are affected by differences in the geographic location, gender and age of the respondents. Based on these findings, the government and schools should consider how to make better use of stratified small class teaching as a teaching method



in order to improve the standard of education in China and to ensure that quality education is available alongside basic education [8]. In order to better understand the implications of these results, future research could address how to improve this teaching method and what educational equity means for the country. Further research is also needed to determine how the geographic location, gender, and age of the study participants affect the results of this study. In reviewing this study, it can provide ideas on how to improve this method of teaching and learning, as well as provide feedback to the government and schools on the current method of teaching and learning.

## Reference

- [1] Dingxian, (1994), 'A US study of the effects of ability-based classroom teaching', in *China Academic Journal Electronic Publishing House*.
- [2] Shuzeng, (2014), 'On equity issues in the practice of merit-based class allocation in general secondary schools', in *Beijing Normal University's Cultural and Educational Materials*.
- [3] Wangyong, (2016), 'Reflections on tiered teaching in a project-based teaching model', in *Journal of Higher Education*.
- [4] GuYongming, (2010), 'Experimenting with the impact of dividing key classes on students' English learning', in *China Academic Journal Electronic Publishing House*.
- [5] JiangChengjing, (2018), 'A study of tiered education at the junior secondary level', in *Central China Normal University*.
- [6] ChenZhuru, (1996), 'On working with poor students in nine-year compulsory education', in *Jian Teachers College*.
- [7] LiYihong, (2002), 'Analysis of the causes and countermeasures of the gap between the performance of arts and science mathematics in high school classes', in *Curriculum Materials Teaching Research*.
- [8] Wangmei, (2013), 'The impact of focused class placement on high school students' learning in mathematics', in *Academic Theory*.