

The Effect of Stratified Teaching on Students' Self-efficacy

Minxi Zhao^{1,a,*}

¹*Faculty of Science and Technology, Beijing Normal University-Hong Kong Baptist University
United International College, Guangdong, 519000, China*

a. q030016073@mail.uic.edu.cn

**corresponding author*

Abstract: As an educational principle, stratified teaching aims to effectively improve teachers' focus in the classroom, alleviate their stress, and enhance students' learning at their respective levels. To date, this pedagogical principle, although widely used in schooling, has had an impact on the development of students' self-efficacy due to the unfair differentiation it produces. Self-efficacy, as an important factor affecting self-directed learning as well as long-term learning, is a competence that students need to develop in the 21st century. This study explores the impact of stratified teaching on students' self-efficacy by analyzing existing literature and data. Differentiation induced by stratified teaching affects students' self-confidence, which, in turn, impacts their motivation to learn and has a negative effect on their self-efficacy. Besides, since teachers' salaries are linked to students' performance, the hidden salary disparities caused by stratified teaching also impact teachers' expectations of students. This, in turn, reduces their focus and support for students, ultimately affecting students' development of self-efficacy.

Keywords: stratified teaching, self-efficacy, affect

1. Introduction

The saying “teach students under their aptitude” has existed in China since ancient times and was first put forward and practised by Confucius in “The Analects of Confucius”. It plays an important role in education. This approach emphasizes the need to tailor teaching methods to match students' diverse abilities, levels, and qualities. It is crucial to stimulate students' interest in learning, build their confidence, and promote their overall development. This teaching principle is important for education professionals, parents, and students and promotes educational equity more effectively. In the 21st century, people have new educational requirements, emphasizing the individuality of education and the need to cultivate talents with creativity, uniqueness, and broad adaptability. At the same time, the development of educational psychology also highlights the variations among individuals and the importance of implementing personalized teaching. However, the current teaching conditions do not allow individualized teaching implementation. As a result, stratified teaching has gained popularity as a practical approach to “customizing teaching to the student's ability”. In 2010, the “Outline of the National Medium- and Long-Term Education Reform and Development Plan (2010-2020)” introduced the concept of “prioritizing teaching students in accordance with their aptitude,” it is believed that people should pay attention to the different characteristics and personality differences of students and develop the advantageous potential of each student. This approach

promotes the reform of the teaching management system through stratified teaching [1]. In 2019, the policy of “Modernization of China’s Education 2035” proposed to prioritize teaching according to students’ aptitude and lifelong learning. Based on current education, most schools adhere to a fixed school year system and have limited resources to implement a class-selection system teaching. As a result, the between-class ability grouping and within-class ability grouping continue to be the primary models for differentiated instruction.

However, when analyzing the effects of stratified teaching in practice, there are mixed attitudes in the education sector. Some studies have shown that implementing stratified teaching has brought about positive impacts. Students’ performance, learning attitudes, and self-confidence have greatly improved [2]. However, other studies have pointed out the negative impacts of stratified teaching. For example, Ding highlighted that dividing students into classes of “high” and “low” ability based on their abilities can have negative psychological effects on students in the “low” class [3]. However, stratification is a complex practice, and some studies have found that it can contribute to educational inequality. Some studies have suggested that disadvantaged student groups with lower socioeconomic levels are more likely to be assigned to the low-ability group [4,5]. After implementing ability grouping, schools will have an inequitable distribution regarding investment in educational resources and the provision of learning opportunities. This can negatively impact students in the low-ability group, affecting their academic achievement, learning attitudes, self-concept, and interpersonal relationships. As a result, the gap between students at different levels may widen [6,7]. Oakes suggests that skill or ability grouping will inevitably result in the separation of higher-achieving students from lower-achieving ones and children from affluent families from less affluent families [8]. Moreover, however unintentionally, it divides students by their ethnic groups. Inequity in education and the unequal distribution of resources can harm students’ mental health. Developing 21st-century talent requires academic excellence and the cultivation of excellent character, self-confidence, and self-esteem. Based on existing literature and data, this study analyzes the application of stratified teaching in China and its impact on students’ self-efficacy.

As for the research on stratified teaching, foreign research appeared earlier, while the research on stratified teaching in China started late, and the number of research results is relatively insufficient. Yang and Liu [9] divided the research on stratified teaching into three dimensions: academic, psychological, and social. After summarizing and analyzing, it was found that current domestic research primarily focuses on the application of technology in primary, secondary, and university education, as well as in core subjects like language, mathematics, and English. The research mainly emphasizes the impact on academic dimensions and the improvement of students’ knowledge and skills. However, there is limited attention given to the impact on psychological and social dimensions [9,10]. As one of the psychological dimensions, self-efficacy has received even less research on the relationship between tiered instruction and self-efficacy. The long-term benefits of education lie not only in the development of students’ academic performance but also in the cultivation of their ambition, self-confidence, determination in adversity, and self-concept development [11]. In order to address the existing research gap, this study will focus on self-efficacy and examine the effects of tiered instruction on it. Based on this analysis, provide suggestions on utilizing stratified teaching to enhance students’ self-efficacy and foster 21st-century skills that align with the demands of the new era and the nation.

2. Stratified Teaching and Self-efficacy

2.1. Forms of Stratified Teaching

Stratified teaching refers to dividing students into different levels based on their learning ability and skill level. Students of similar levels are placed in the same class, and teaching objectives are

determined accordingly. This approach considers the needs of students at different levels and allows for targeted instruction. The level of stratified teaching gradually decreases from inter-school stratification to within-class stratification and finally to intra-group stratification. Generally, stratified teaching is divided into inter-school stratification, class-selection-system teaching system, between-class ability grouping, and within-class ability grouping.

Inter-school stratification refers to classifying schools into priority, sub-priority, average, and weak tiers. Students are then placed into schools of different tiers based on their performance in the entrance examination. Students with the best results are enrolled in priority schools, while those with slightly lower results are enrolled in sub-priority schools. Students with average results are enrolled in ordinary schools, and so forth. For schools to elevate their status and enhance their reputation, it is necessary to increase the rate of progress, nurture more students with exceptional academic performance, and allocate educational resources in favor of the top students. Coupled with the fact that many countries have a compulsory education stage, ranging from a minimum of 5 years to a maximum of 14 years, the division of priorities and non-priorities at the compulsory education stage is undoubtedly detrimental to the fairness of education [12].

The selection-system teaching system allows students to independently choose classes at different levels based on their knowledge, learning ability, and interest in the subject. They receive guidance from their classroom teachers, and the content and teaching methods vary across different tiers, providing flexibility and mobility in the learning process. Selection-system teaching system divides each subject into three levels of class teaching: “A, B, C”. Each level has its teacher, fixed location, teaching objectives, and teaching methods tailored to the students’ level. This selection-system teaching system caters to the learning needs of students at different levels. However, the constant change in the teacher’s teaching object is not conducive to management. In China, the selection-system teaching system is still in the pilot stage on a small scale [13].

Between-class ability grouping divides students into classes based on their test scores and grade ranking. Schools divide teaching classes into two categories: honor classes and regular classes. Typically, the top 20% of students in the grade ranking are placed in honor classes, while the remaining students are assigned to regular classes for their learning. Accordingly, teachers assigned to honor classes are more capable of teaching, while those with average or poor teaching ability are assigned to regular classes. This stratified teaching model leads to a significant division of educational resources, favoring the honor class with resources that should be distributed equally. Meanwhile, the regular class lacks the necessary resources, undermining its potential. In 2019, the Ministry of Education explicitly prohibited schools from categorizing students into honor and regular classes.

Within-class ability grouping is the practice of grouping students with similar grades or abilities within a class. Often, these students are assigned to specific tables to study and discuss together. This model of stratified teaching is smaller and more flexible, which limits the categorization of students into high, medium, and low grades. It also allows teachers to better identify and meet students’ needs [14].

2.2. Application of Stratified Teaching in China

Since entering the 21st century, the Ministry of Education has put forward the need to develop quality education vigorously, and schools across the country have actively tried to implement stratified teaching. Initially, stratified teaching was generally implemented as between-class ability teaching. Schools arrange students into honor and regular classes based on students’ entrance test scores. In order to nurture students in honor classes, schools will arrange for them to have excellent teachers and a comfortable environment, as well as provide them with abundant learning resources. However, this approach is rejected and resisted by society, parents, and students because it has exacerbated the inequities in education and the unequal distribution of educational resources. To a certain extent, this

mode of stratification carries the meaning of “discrimination”. It is difficult for teachers to maintain the same treatment when facing both high-achieving and low-achieving students. This difference in attitude will touch on the self-esteem and self-confidence of low-achieving students, which will do harm to the students’ mental health. For the good students, it will form a sense of superiority, which may result in discriminatory behaviors of the superior students against the inferior ones. In addition to the psychological harm, there is also a certain negative impact on students’ performance. Disadvantaged students are often unintentionally overlooked by teachers while high-achieving students receive more attention and support from teachers. This differential treatment can potentially exacerbate the academic disparities between the two groups, ultimately widening the achievement gap among students. This type of stratified teaching method, detrimental to students’ psychological development and physical and mental health, was explicitly prohibited by the Ministry of Education in 2009 [15].

Although this unfair stratified teaching mode has been banned, many schools still continue to segregate students by renaming the honor class to a more obscure term or by using other forms of assessment. In this situation, many schools have also switched from stratified teaching to within-class ability grouping and a selection-system teaching system. Within-class ability grouping divides students into levels based on their learning ability, academic performance, and knowledge level. It establishes teaching objectives and methods for each level of students, aiming to assist them in actively and effectively mastering basic knowledge and enhancing their learning ability. However, due to the difficulty of implementing this type of stratified teaching, only a few schools are using it. In 2017, the Ministry of Education issued the “Implementation Opinions on the Start of the Academic Level of Ordinary Senior Secondary Schools.” This document proposed implementing a national comprehensive college entrance examination reform since 2017. In order to better meet the challenges of the new college entrance examination, the use of a selection-system teaching system in teaching is becoming increasingly prevalent. In China, the selection-system teaching system is generally implemented in subjects that do not require entrance examinations or extracurricular courses that do not have the pressure to advance to higher education. It is also only implemented in a few schools, as this model tests whether there is an adapted education system and a strong teaching staff. Educational inequity persists throughout the implementation of the stratified teaching model in all types of schools. Students are graded based on their performance or ability, resulting in those with poor performance or limited access to resources experiencing a gradual loss of confidence, low self-esteem, and other negative psychological emotions. Whether positive or negative, stratified teaching impacts students’ self-efficacy development.

3. Stratified Teaching and Student Self-efficacy

3.1. Definition of Self-efficacy

Self-efficacy refers to the “belief in one’s ability to organize and execute the necessary actions to achieve specific goals” [16]. Self-efficacy, as a non-cognitive ability, is a crucial factor in achieving educational and professional success, making it a significant contribution to educational psychology. China’s new curriculum reform actively advocates for students to engage in independent learning, and lifelong learning has become a shared objective across all disciplines. The purpose of education should not solely focus on short-term achievement results but rather take a long-term view to enable students to achieve lifelong learning. Self-efficacy, as one of the factors affecting independent learning ability, can promote independent learning [17].

3.2. Effects of Stratified Teaching on Students' Self-efficacy

3.2.1. The Connection and Influence Between Stratified Teaching and Students' Learning Motivation and Self-efficacy

There are two main ways to categorize the levels of stratified teaching in China: (1) based on individual achievement and (2) based on individual interest and actual ability [18].

The first is divided according to students' abilities, from high to low. Therefore, this teaching method can inadvertently shape students' psychological beliefs, such as "I am a high-achieving student" or "I am a low-achieving student." This can lead to complacency among high-achieving students and pessimism and demoralization among struggling students, which is not beneficial for their overall development. This does not contribute to their healthy growth. In particular, students assigned to lower-level classes may feel inferior due to the perception of hierarchical differentiation and may frequently belittle themselves. In the long run, this will lead to a decrease in motivation to learn, a decline in academic performance, and may even result in engaging in activities that violate the law and disciplinary measures. In addition to having a certain impact on the motivation to study, the psychological effects will also influence their future lives.

The second way, that is, according to personal interest and actual ability, allows students to have the right to make independent choices. Students can start with their interests and actual talents, then pick and create their own course structure depending on their knowledge foundation. This assists individuals in developing an appropriate "package" for their personal growth and fully using their desire to learn. This is another crucial aspect of stratified teaching. The selection-based teaching strategy is another name for stratified teaching. This strategy allows students to select lessons depending on their particular learning levels, which is one of the most successful ways of increasing students' self-confidence and sense of accomplishment. In the process of active learning and practice, the direction of their development becomes clearer. This reduces ideological pressure and enables students to maintain optimism and a balanced mindset and realize that "what suits you is the best." The above type of instruction effectively emphasizes the importance of the students in the learning process and displays the teacher's regard for them in its entirety. However, there are benefits and drawbacks to this strategy. When individuals are classified based on their abilities, using the A, B, and C three levels from high to low, the hierarchical distribution of classes will inevitably create a sense of unequal status among students, which is not conducive to their growth and progress.

Learning is often monotonous and solitary, and students frequently feel fatigued. Competition is an indispensable driving factor in learning and in life. It can motivate students to learn, so their academic performance will gradually improve [19]. Students' self-confidence and sense of achievement will also increase with this improvement in grades. The improvement of academic achievement will gain more recognition, making learning a more enjoyable experience and gradually reducing the mental pressure associated with it [20]. Implementing stratified teaching for high school students with demanding academic workloads can help them gradually realize that genuine love for learning is the key to self-improvement in the face of academic pressure. It is crucial for students to experience the joy of learning, enabling them to maintain optimism and a balanced mindset. This allows them to understand that "the learning that suits them best is the most fulfilling and enjoyable." Such a feeling will help students gain self-confidence in learning, reduce the tension and anxiety caused by mismatched levels of teaching and learning, and develop a clearer sense of their level of competence and self-efficacy.

3.2.2. The Connection and Influence Between Stratified Teaching and Teacher Expectations and Self-efficacy

Based on the analysis of the literature on stratified teaching, it can be concluded that most schools continue to employ between-class ability grouping methods, which involve dividing classes based on students' academic performance. Stratified teaching is not a deliberate attempt to differentiate students solely based on their grades but rather a method to assist teachers in more effectively targeting their teaching strategies. In teaching, the teacher's attention to the students is limited. The teacher cannot notice whether all the students have kept up with the learning progress. By stratifying students according to their performance, teachers can ensure that students who have not yet mastered their learning abilities are not left behind in the learning process. Additionally, there is also no need to worry about high level students "learning more than they can handle" and wasting their study time. Teachers only need to focus on teaching more advanced concepts, assigning more challenging homework to high-level students, and implementing the basics in classes of average or low-level students to ensure that students are not missing out on the basics. For teachers and schools, a stratified teaching approach helps meet the needs of students at different levels. By focusing on students at the same level, teachers can increase the depth and breadth of their lectures, reducing teaching pressure [20].

In China, the level of teachers' salaries and benefits is often determined by the students' performance in the classes taught by the teachers. It is evident that the treatment of teachers also varies due to the stratified teaching system. Teachers in honor classes receive higher treatment compared to teachers who teach regular classes [21]. This will demotivate teachers who teach regular classes, and as a result, more and more teachers in regular classes will be reluctant to come and teach. Moreover, when a teacher teaches different levels of classes simultaneously, they may unconsciously compare the classes, leading to the creation of a gap. When teachers observe a series of honors and certificates unrelated to the regular classes, they may allocate most of their energy and time to the high-level classes. This is clearly unfair to the students in the low-level classes and can also negatively impact their self-confidence and motivation to learn.

4. Suggestions

The original purpose of stratified teaching is to provide students with a more equitable education, allowing them to learn in a manner that is better suited to their needs and enhance their abilities. In order to make stratified teaching more conducive to the development of students' mental health and to achieve educational equity, it is important to not only apply appropriate teaching methods but also enhance students' self-efficacy.

From the student-centered teaching perspective, in terms of improving the external teaching environment, by training teachers to change their roles and exploring their involvement in teaching as "motivators of emotions" and "participants in learning". In addition, the Internet can be incorporated into the implementation of stratified teaching. Through the production of online learning resources, students are guided to study before class and complete the assigned learning tasks. According to online learning feedback, precise difficulty levelling and targeted tutoring is conducted offline. The online learning platform relies on the computing power of the Internet, which can effectively reduce the pressure on teachers in the differentiation of students. The flexible differentiation helps students assess their progress, strengths, and weaknesses, enhancing their perception of their abilities.

In terms of developing students' internal literacy, remedial measures are taken for students who have already caused low self-efficacy. Self-efficacy is not only a response to the level of academic motivation but also one of the most crucial factors influencing students' psychological wellbeing [22].

Schools conduct group counseling activities to enhance students' self-efficacy with low self-efficacy levels. Group counseling activities are conducted to address factors that impact students' self-efficacy, including attribution styles, coping styles, and self-confidence. The aim is to help students recognize their negative self-efficacy beliefs and correct ineffective coping styles through group counseling. Ultimately, the goal is to enhance self-efficacy.

5. Conclusions

This study analyzes the current situation of stratified teaching in China and examines the impact of stratified teaching on students' self-efficacy by reviewing existing literature and data. The analysis found that most schools in China currently use the stratified teaching methods of between-class ability grouping and within-class ability grouping. It was also found that the class-selection-system teaching system is still in the promotion stage and only implemented in a few schools in cities such as Beijing, Shanghai, and Shenzhen. Stratified teaching negatively impacts the development of students' self-efficacy by influencing non-high-performing students to develop low self-esteem, leading to emotional depression and consequently affecting their motivation to learn. At the same time, stratified teaching also has a negative impact on students' development of self-efficacy due to teachers' feedback. Stratified teaching indirectly affects students' development of self-efficacy by influencing teachers' high expectations and attention to students' performance at the upper levels and their low expectations and lack of attention at the lower levels. This, in turn, impacts students' development of self-confidence and sense of achievement. Based on this conclusion, stratified teaching still has a negative impact on students' self-efficacy development. This study provides new information on the psychological impact of stratified teaching on students and offers suggestions for improving the subsequent implementation of stratified teaching in China. The suggestions include improving the role of the teacher, introducing online teaching resources, and providing group counseling. However, it is important to note that this paper has certain limitations. Firstly, it did not involve an actual research study, and secondly, it lacked relevant primary data. Future research could be based on further quantitative analyses of the findings of this study while examining the psychological impact of tiered instruction on students.

References

- [1] Fang, Y., & Liu, M. (2023). A study on the negative effects of interclass stratified teaching on the development of students' self-cognition and its causes. *China Electronic Education*, 05, 113-120+128.
- [2] Hamilton, L., & O'Hara, P. (2011). The tyranny of setting (ability grouping): Challenges to inclusion in Scottish primary schools. *Teaching and Teacher Education*, 27(4), 712-721.
- [3] Ding, X. (1990). An American study on the effect of class (group) teaching by ability. *Foreign Education Trends*, 02, 51-53.
- [4] Francis, B., Connolly, P., & Archer, L. et al. (2017). Attainment grouping as self-fulfilling prophecy? A mixed methods exploration of self-confidence and set level among Year 7 students. *International Journal of Educational Research*, 86, 96-108.
- [5] McGillicuddy, D. (2021). "They would make you feel stupid": Ability grouping, children's friendships and psychosocial wellbeing in Irish primary school. *Learning and Instruction*, 75, 101492.
- [6] Von Hippel, P. T., & Canedo, A. P. (2022). Is kindergarten ability group placement biased? New data, new methods, new answers. *American Educational Research Journal*, 59(4), 820-857.
- [7] Hargreaves, E., Quick, L., & Buchanan, D. (2021). "I got rejected": Investigating the status of "low-attaining" children in primary schooling. *Pedagogy, Culture and Society*, 29(1), 79-97.
- [8] Oakes, J. (1985). *Keeping track: How schools structure inequality*. New Haven: Yale University Press.
- [9] Yang, B., & Liu, M. (2021). A study on the evaluation dimensions of teaching effectiveness in stratified teaching: Based on a systematic literature analysis of foreign literatures from 2000 to 2020. *Modern Educational Technology*, 31(11), 9.
- [10] Luo, W. (2023). Research on the status quo of hierarchical teaching evaluation in China based on systematic literature review. *Modern Vocational Education*, 17, 21-24.

- [11] Cox, T., & Davie, R. (2002). *Combating educational disadvantage: Meeting the needs of vulnerable children*. Taylor and Francis. <https://doi.org/10.4324/9780203009833>.
- [12] Chen, J., & Liu, Q. (2015). *International comparison of the years of compulsory education in China*. *Educational Research*, 01, 143-147.
- [13] Xiao, L. (2016). *Impact, challenges, and countermeasures of “class-based” teaching*. *Basic Education Forum*, 03, 22-24+64.
- [14] Hattie, J., & Anderman, E. M. (2013). *International guide to student achievement*. New York, NY: Routledge.
- [15] Luo, X. (2015). *Safeguarding the fairness of education process is teacher’s moral ethics*. *Moral Education in Primary and Secondary Schools*, 10, 3.
- [16] Bandura, A. (1997). *Self-efficacy: The exercise of control*. W H Freeman/Times Books/Henry Holt & Co.
- [17] Li, X. L. (2006). *The influence of self-efficacy on autonomous learning*. *Journal of Daxian Normal College (Educational Teaching Research Album)*, S1, 1-3.
- [18] Liu L. (2015). *Review on the development and research of stratified teaching at home and abroad*. *Science and Wealth*, 7(15), 1.
- [19] Jane, W. J. (2015). *Peer effects and individual performance: Evidence from swimming competitions*. *Journal of Sports Economics*, 16, 531-539.
- [20] Zhao, Z., & Wang, J. (2014). *The pros and cons of stratified teaching research*. *China’s School Education*, 09, 73.
- [21] Lei, W., & Ma, H. (2019). *Student achievement influence on teachers’ salaries*. *Peking University Education Comments*, 04, 160-172+188-189.
- [22] Zhao, L. (2015). *The relationship among learning burnout, learning motivation and academic self-efficacy of adult higher vocational students and group counseling intervention (Master’s thesis)*. Northwest Normal University.