

Research on Multidimensional Strategies to Enhance University Students' Classroom Engagement and Participation

Lixia He, Botao Liu

School of Computer Science, Yangtze University, Jingzhou, Hubei, 434000, China

Abstract: Classroom teaching is the main place for talent cultivation in higher education. Its quality has a direct effect on the quality of talent development. At present, many college students show low enthusiasm in class. Their participation is also not high enough. This has become an important problem in improving teaching quality. Based on years of teaching practice, this paper focuses on this problem and discusses possible solutions from different aspects. The study shows that students' classroom performance is affected by many factors. These factors include intrinsic motivation, teaching methods, and teacher-student relationships. This paper builds a systematic solution framework. It includes pre-class preparation, in-class interaction, post-class consolidation, and teacher-student relationship building. Practice shows that this method can effectively improve students' classroom participation. It can also provide useful reference for teaching reform in higher education.

Keywords: Classroom Participation; Enthusiasm; Teaching Strategies; Teacher-student Interaction.

1. Introduction

In the current higher education environment, many students show low enthusiasm in class. Many students also take part in classroom activities only passively. Some students lose focus during class. Some students do not take the initiative to ask questions or join discussions. This situation reduces the efficiency of classroom teaching. It also affects students' knowledge learning, ability development, and overall growth.

Classroom participation plays an important role in students' academic development. It is closely related to students' learning status, learning interest, knowledge internalization, and social skill development.[1] Active classroom participation helps students understand knowledge more deeply. It also helps students develop critical thinking, problem-solving skills, and teamwork skills.

Information technology has changed the way students learn. Students now have many more ways to gain knowledge than before. This change has also brought new challenges to traditional classroom teaching.

In recent years, AI tools have become more widely used. Some students now turn directly to AI when they encounter problems. As a result, they may become less willing to think independently. This learning habit can easily lead to mental laziness. It may also create a "fast-food style" of learning. This issue deserves further attention.

This study aims to build a relatively systematic strategy framework to improve students' enthusiasm and participation in class. It also hopes to provide useful ideas for improving the quality of higher education teaching and offer some reference for future teaching reform.

2. Current Status of Student Classroom Participation

Teachers collected data over several semesters and across different classes. They used classroom observations, after-class Q&A observations, and questionnaire surveys. Classroom observations focused on students' interaction and

task completion. After-class Q&A observations focused on students' learning initiative and the quality of their questions. The survey results show several clear features of current student classroom participation. These features are shown in Table 1.

Table 1. Statistics on Classroom Participation Levels

Participation Type	Specific Manifestations	Proportion
Active Participation	Proactively asking the teacher questions, raising high-quality questions; actively answering questions with a certain depth of understanding.	~10%
Superficial Participation	Basically following the class progress; only participating when called upon, with answers limited to textbook knowledge without true comprehension; rarely asking questions, waiting for the teacher to explain, and unwilling to think independently.	~70%
Negative Participation	Apathetic learning attitude, such as playing with phones, sleeping, being late, leaving early, or skipping class; either not answering or giving irrelevant answers when called upon.	~20%

After continuous tracking and analysis of the data, teachers identified three main causes.

(1) Student-Level Factors

Insufficient internal motivation is one major reason. Poor self-discipline is also an important factor. Many students study only to cope with exams. These students often do not have clear learning goals. They also lack long-term

enthusiasm for learning.

Some students have weak self-control. They are easily distracted in class. Some even use their phones during class. These behaviors seriously affect their learning outcomes.

(2) Teaching-Level Factors

Traditional one-way lecturing also affects classroom participation. Many teachers still focus mainly on explaining knowledge in class. This teaching style is influenced by traditional exam-oriented education. Some students have become used to receiving knowledge passively. They do not have a strong awareness of active learning. They also seldom take part in classroom discussions on their own.[2]

This situation makes many students rely too much on teachers. These students mainly listen in class and wait for teachers to explain everything. After they enter university, the teaching progress becomes faster. The learning pace also becomes faster. Many students cannot adapt to this change quickly. As a result, their classroom enthusiasm and participation remain low.

(3) External Environmental Factors

AIGC tools have also brought some new challenges. These tools allow students to obtain answers more quickly. However, some students only focus on the final answer and ignore the learning process itself. As a result, their thinking ability is not fully trained.

This habit can easily lead to serious mental laziness. In addition, digital information is now very convenient. Students can easily access a large amount of fragmented knowledge. This may weaken the systematic nature of teaching and learning.

3. Strategic Framework and Implementation

Based on the analysis of the above three aspects, we regard teaching and learning as an integrated system. In this system, resources, methods, and approaches are fully mobilized to build a multidimensional strategy framework.

This framework covers pre-class preparation, classroom interaction, after-class consolidation, and the building of teacher-student relationships. In this way, a complete teaching cycle can be formed. It can help improve students' classroom participation in a comprehensive way.

(1) Pre-Class Preparation

Teachers design and assign targeted pre-class tasks according to the teaching objectives of each lesson. Students are required to complete these tasks on time and submit the problems they encounter through online platforms.

These tasks are mainly designed to help students preview the key points and difficult points in advance. They can also help students develop their ability to learn independently.

For example, in programming courses, teachers can assign code analysis tasks in the class group. Students can debug and run the programs by themselves. Through hands-on practice, they can better understand grammar knowledge. At the same time, students can submit the problems they meet before class. Teachers can then adjust the teaching content according to the collected problems and give more targeted explanations.

(2) In-Class Interaction

To solve the problem of students' passive learning, we designed several types of classroom interaction activities. The purpose is to help students truly take part in class, instead of just sitting there and listening.

The first activity is pre-class warm-up questioning. In the

first five to ten minutes of class, the teacher randomly calls on students to answer questions. These questions are all based on the pre-class preview content. This can help the teacher check whether students have prepared before class. It can also help students quickly settle down and bring their attention back to the classroom.

The second activity is instant feedback. During the lesson, the teacher uses smart tools on a mobile phone to send several questions to students. There are usually three to five questions, including multiple-choice questions, fill-in-the-blank questions, and short-answer questions. The main purpose is to check how well students have understood the key points that have just been taught. Students need to answer the questions within the required time. The tool then shows the statistical results in real time. After seeing which parts many students get wrong, the teacher can decide what needs to be explained again. The teacher can also decide whether to speed up or slow down the teaching pace. In this way, classroom efficiency can be improved.

For example, in a programming course, the teacher can set different types of questions on the learning platform. These may include single-choice questions, true-or-false questions, and code completion questions. After explaining one concept, the teacher can immediately send the questions to students. After collecting the answers, the teacher can find the questions with a high error rate and explain them again. This helps students fully understand the knowledge point.

The third activity is written classroom practice. After finishing each chapter, the teacher leaves ten to fifteen minutes for students to complete exercises by hand. For example, students can summarize the key points of the chapter or complete several simple application questions. The main purpose of this method is to prevent students from directly copying answers generated by AI. When students write by hand, they can remember the knowledge points more firmly. After correcting the assignments, the teacher can also understand how much students have actually mastered. This gives the teacher a clearer idea of how to arrange the following teaching content.

For example, in a programming course, the teacher can ask students to write the code of key algorithms by hand. As long as the logic is correct, the student can be regarded as having mastered the content. To prevent students from copying from each other, all tasks must be completed by hand. Computers and mobile phones are not allowed.

(3) Post-Class Consolidation

Post-class activities extend classroom learning to reinforce outcomes:

Tiered Assignments: Teachers should pay attention to the cognitive levels of different students, design targeted hierarchical activities, and adjust excessively high or low cognitive loads, so as to maximize the stimulation of students' learning participation.[3] Teachers assign basic questions (for all students to consolidate foundational knowledge) and advanced questions (for capable students to apply knowledge comprehensively), catering to varying skill levels.

The last activity is learning reflection. After students finish an important chapter, they are asked to write a reflection report. The report includes a summary of the knowledge points, what they have learned, where they have difficulties, and their learning methods and experiences.

After reading the reports, the teacher gives guidance and suggestions according to each student's situation. In this way, teaching and learning can form a complete closed loop. The

overall quality of teaching can also be gradually improved.

(4)Teacher-Student Relationship Building

A good teacher-student relationship is the emotional foundation for improving students' classroom participation. Teachers need to find ways to build a relationship of mutual trust and respect with students. [4] This can be done from the following aspects.

First, teachers should pay more attention to special students. Teachers should actively contact students who do not listen carefully in class or fall behind in learning. They should talk with these students regularly and find out where the problem lies. For example, the problem may be a lack of motivation, or it may be some learning difficulty. Then teachers can gradually guide them back to the right track of learning.

Second, teachers should make the question-and-answer mechanism more flexible. Online questions can be asked at any time through learning platforms or WeChat groups. Offline office hours can also be arranged once a week. These office hours should allow face-to-face communication. In this way, students can always find someone to ask when they have questions, and the communication channels can remain open.

Third, teachers should also pay attention to students' mental health. Teachers need to communicate regularly with class leaders and student representatives to understand the overall situation of the class. If teachers find that some students are under great pressure or have emotional problems, they should offer timely guidance and support. If the situation is serious, teachers should encourage them to seek professional help from the school psychological counseling center as soon as possible.

4. Effectiveness Evaluation and Reflection

These strategies have been tested in several classes over several semesters, and the results have been quite clear. The specific data are shown in Table 2.

5. Conclusion

Although the above measures have been adopted and some achievements have been made, some problems still remain. For example, a small number of students do not respond much to these strategies. They do not fully accept them. Therefore, teachers need to design separate solutions according to their specific situations. For instance, some students may have a weak learning foundation, while others may have psychological concerns. These problems should be handled in a targeted way.

In addition, the role of teachers has also changed. In the past, teachers were often seen as the owners of knowledge, the transmitters of knowledge, and the controllers of the classroom. Now, teachers need to become participants, guides, and facilitators in students' learning. This change places higher demands on teachers. Teachers need to develop this awareness. They also need to build the required abilities and put the changes into real practice. This is indeed a considerable challenge.

Table 2. Classroom Participation Statistics (Before and After Reform)

Participation Dimension	Pre-Reform Performance	Post-Reform Performance
Active Participation	1. ~10%–15% of students interacted (raising hands, initiating questions, discussing); 2. Interactions were concentrated among a few students, with low overall frequency.	1. the classroom interaction rate increased from the original 15% to 30%. In some classes, it even reached 40%. Second, the classroom atmosphere became much more active than before. The interaction between teachers and students, as well as the interaction among students, improved significantly.
Superficial Participation	1. 70% of students passively completed basic tasks, lacking autonomous extension; 2. Homework aimed for "minimum standards," with low originality and depth.	1. Basic task completion rates remained stable, with some students transitioning to higher engagement; 2. More students actively thought and explored diverse solutions during tasks.
Negative Participation	1. ~30% of students plagiarized homework or delayed tasks; 2. Some students were distracted, skipped class, or arrived late, negatively impacting class atmosphere.	1. Plagiarism and procrastination rates dropped significantly; 2. Distractions decreased, absenteeism/lateness rates fell, and students showed stronger curiosity and exploration, improving their negative attitudes.

References

- [1] Zhang, X. J., & Zhang, S. L. (2025). Strategies for maintaining students' sustained classroom participation in back-row seating. *Journal of Luoyang Normal University*, 44(7), 67–70. <https://doi.org/10.3969/j.issn.1009-4970.2025.07.015>.
- [2] Duan, H. Z. (2025). Strategies to improve classroom participation in university ideological and political courses via interactive discussions. *Public Relations World*, 9, 124–126. <https://doi.org/10.3969/j.issn.1005-3239.2025.09.044>.
- [3] Cui, J., & Luo, P. (2022). Influencing factors and model of undergraduates' course participation: A study based on grounded theory. *Journal of Cangzhou Normal University*, 38(3), 106–114. <https://doi.org/10.3969/j.issn.2095-2910.2022.03.022>.
- [4] Li, Y. (2024). Teaching strategies to promote university students' English classroom participation. *Teachers' Education Forum*, 37(7), 81–84. <https://doi.org/10.3969/j.issn.2095-5995.2024.07.013>.
- [5] Wang, Z. Y., & Dai, Y. T. (2025). Teaching strategies for deep student engagement in classrooms. *Military Higher Education Research*, 1, 13–17.