

# Study on the Stimulation of College Students' Initiatives in Research Teaching

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## Abstract

**Stimulation of college students' initiatives is one of the goals and problems in research teaching reform. There are several approaches to motivate the students including teaching ability improvement, teaching methods innovation and teaching evaluation institution. It can get the research teaching reform into practice.**

## Keywords

**Initiatives; College Student; Research Teaching.**

## 1. Introduction

The so-called research teaching is to choose the subject from the students' learning life on the premise of respecting the students' learning interest and knowledge ability, and create the scientific research situation through the guidance of the teacher to enable the students to explore, analyze the problem and solve the problem independently, so as to cultivate the practical ability and creative ability of their learning. At present, many colleges and universities have explored and practiced research teaching and accumulated rich experience. However, there are still many problems to be solved in teaching practice, and how to stimulate the initiatives of college students is one of them. The initiatives of college students refer to the autonomy, subjective activity, independence, creativity and self-awareness that college students show when dealing with relations with the outside world under the guidance of teachers in their study and life. [1] For a long time, the traditional teaching methods have made students accustomed to receiving knowledge passively. Numerous cases show that after the implementation of research teaching, some students feel at a loss and reject many aspects of the teaching process. Some students fade the passion and interest after the beginning of implementing research teaching and generally prevail fear, retreat and perfunctory as research teaching means high standards for themselves and the increasing workload of learning. The author thinks that the initiatives of the students in the research teaching is not stimulated or is not stimulated enough, which leads to the reform and innovation of teaching only in form, and the teaching effect is greatly reduced. Some colleges and universities even have the situation that the research teaching cannot be carried out. Combined with the author's research teaching practice, it is necessary to stimulate the initiatives of college students from the aspects of teaching ability improvement, teaching content design, teaching method innovation and teaching evaluation institution.

## 2. Teaching Ability Improvement

### 2.1. Changing the Concept of Education

The improvement of teachers' teaching ability is the key link to improve the quality of teaching and realize the students' initiative development. Firstly, teachers must internalize the new educational idea into their hearts and consciously implement it into the teaching link. It is

important to realize that the lack of initiatives of college students can affect the improvement of independent learning and innovation ability, so as to accept the new teaching concept actively, and realize the role change from instill and imparts knowledge to guide and promote students to discover and explore knowledge. Secondly, it is necessary to strengthen teachers' teaching ability, including the ability to study students and organize teaching. According to students' external performance, teachers should be good at understanding their personality and psychological state, understanding their knowledge base, ability level and hobbies, and taking into account the knowledge logic and students' cognitive laws in teaching, so as to teach students in accordance with their aptitude and stimulate the students' initiatives. The understanding of students begins with the exchanges and discussions between teachers and students. Teachers should adhere to the attitude of personality equality and academic equality to interact with students, encourage students to think freely and make different voices, respect students' innovative thinking, and let students fully appreciate the sense of self-efficacy of independent thinking and self-expression. At the same time, positive and effective feedback should be given to students in the whole teaching process to help them improve their self-efficacy of independent innovation.[2] The feedback given by teachers should minimize the "good or bad" judgment on the performance of students and replace them with more suggestions and inspiration.

### **3. Teaching Content Design**

#### **3.1. Adjusting the Teaching Content According to the Actual Situation**

The selection of teaching content should keep pace with the times and update in time in order to stimulate the students' initiatives. The research teaching content should be dynamic and open. It does not completely abandon the knowledge base that has been constructed by the discipline, but it does not bound to it. The Internet, news publications and the most cutting-edge research dynamics of the discipline are all available resources. The research problems that design are best to be contemporary, are hot issues in the field, or are connected with social reality closely. Such problems are easy to motivate students, and students can easily get a sense of achievement after the problem is solved. At the same time, it is important to learn from the experience of Western countries through integrating research on employ ability training into the teaching content and defining the training objectives and professional ability requirements clearly. Clear teaching objectives can make students' learning more directional and teachers' teaching easier to obtain students' cooperation. Therefore, teachers should define and strengthen the training goal of the professional training of this major in the course teaching process, and play the role of the target's supervision, guidance and motivation to the students' initiatives.

#### **3.2. Redeveloping Knowledge**

The rational and even dull book knowledge should be developed perceptually and vividly to make the knowledge active, instead of showing it to the students in a cold state, which can attract students to maintain an active and positive mental state in the teaching process. At the same time, the opportunities for practical teaching are increased. Book knowledge can be made tangible through practical teaching. Social practice and academic activities such as professional internship, college students' challenge cup, science and innovation programs can combine professional knowledge with practical activities to better stimulate students' initiatives.

#### **3.3. Designing Problems Well**

The essence of research teaching is to turn "answer" into "question" and to grasp knowledge through questioning and thinking about "question". By virtue of their familiarity with their research field, teachers select or guide students to choose research questions in the light of the

development trend of cutting-edge issues. In addition, the selection of research problems should not be consistent with the teaching objectives of courses, but also be compatible with students' existing knowledge level, experience, interest, etc. Too high the target easy to let students feel frustrated, thus damaging their enthusiasm for active learning and exploration. At the same time, research teaching has the characteristics beyond the time limit of the classroom. When designing teaching content, teachers should fully consider the tasks that students need to complete in different learning time before, during and after class. Of course, after the completion of classroom teaching, students can be invited to construct their own problems on the basis of understanding the basic theoretical knowledge, and the subsequent classroom teaching will provide rich teaching content combining with the actual situation of students. [3]

## 4. Teaching Methods Innovation

According to different courses or different chapters, different teaching methods can be chosen for research teaching, but no matter which teaching method is chosen, the stimulation of students' initiatives should be fully considered. Generally, the following teaching methods can be adopted comprehensively according to different teaching contents in research teaching.

### 4.1. Teaching Methods

Traditional teaching methods are necessary for certain courses or chapters, such as the theoretical part of the course. At present, there are misunderstandings in cognition. It seems that research teaching excludes traditional teaching methods, but it is not true. For courses with a higher degree of theory, it is impractical to conduct so-called "research" without the guidance of teachers and the content of textbooks, which may even mislead students. Unclear basic theories and concepts will increase the difficulty of students' follow-up learning and damage their initiative and enthusiasm in learning.

### 4.2. Case Teaching Methods

According to the teaching objectives, teachers can promote knowledge points by carefully selecting and interpreting typical cases, and guide students to analyze, discuss and study the cases presented in the learning process, so as to cultivate students' thinking ability, stimulate students' subjectivity, and realize teaching and learning. Teachers generally use this method after making an example of new knowledge to draw inferences, strengthen and consolidate knowledge, and guide students to think independently. This method requires teachers to devote a certain amount of time and energy to carry out case design. At the same time, they can also use teaching teams to share resources such as teaching cases to jointly promote the development of case teaching.

### 4.3. Project Teaching Methods

Research teaching activities can be one or more small research projects. Project teaching methods is "project-oriented, teacher-led and student-centered".[4] Students have changed from passively receiving knowledge to actively acquiring knowledge in completing specific tasks assigned by teachers, while teachers have changed from knowledge sharing to the organization and task assignment of teaching activities, and provide guidance and services to students by means of different teaching means. The complete project research process includes research problem selection, data query, investigation and analysis, research results report and other links. Some links are difficult to complete in class, requiring students to conduct a lot of data search and analysis after class. The main activity of the classroom is the presentation and discussion of research results. The project teaching method divide students into groups. Each group is assigned different tasks. The group leader is responsible for project management to decompose tasks and each group member obtains and completes different tasks. Project

research not only includes the work completed independently by individuals, but also has the content that requires collective cooperation, which can combine the development of individual ability with teamwork. Personal value in the teaching activities is fully reflected. Students need to complete the corresponding tasks independently, which is conducive to cultivating students' independent and confident psychological quality; and the final research results need to be presented in a group, which inspires students to learn to communicate with others, seek common ground while reserving differences, and realize the importance and fun of teamwork. It should be emphasized that in the project teaching method, teachers should not leave the task alone, but should guide each step well. Classroom teaching and discussion must follow up to the whole process of the project to ensure that students complete the task at the specified time node. The step-by-step inspection and implementation of teachers are also the guidance for the next step of research. The discussion in class can avoid unnecessary detours of students and provide innovative ideas for their further research.

## **5. Teaching Evaluation Institution**

Teaching evaluation plays an important feedback and incentive role in research teaching. Traditional assessment and evaluation methods do not highlight the process and development of the assessment of students. The assessment and evaluation of teachers also focus on scientific research rather than teaching. The current evaluation system needs to be adjusted to the characteristics of research teaching, and the diversified teaching evaluation can be constructed from teachers and students.

### **5.1. Establishing a Diversified Student Assessment and Evaluation System**

The effectiveness of research teaching reform is largely reflected in the improvement of students' initiatives and learning ability. To this end, a diverse evaluation system should be constructed. A variety of evaluation methods such as teachers' evaluation, students' self-evaluation, and students' mutual evaluation that used comprehensively are constructed from factors such as peacetime study, final examinations, investigation reports, participation in competitions, and paper publishing into a multiple evaluation methods, including process inspection, open examination, independent learning evaluation, group cooperation evaluation and other aspects. First of all, emphasis is placed on procedural investigations, focusing on the students' participation in the research teaching process. Through the process of participating in group discussion, group cooperation, group division of labor, thematic speech and expanded learning, students' initiatives and ability improvement are comprehensively inspected. Secondly, open examination means are used flexibly, which pay attention to the examination of students' angle and ability to solve and analyze problems, and focus on innovative thinking. Corresponding teachers need to carefully design the content of the open test papers to ensure that the content can be expanded and solved in a multi-dimensional way. Thirdly, the evaluation of independent learning is strengthened. The effectiveness of students' independent learning is evaluated comprehensively through the book review of reference books, course essays, social practice, science and innovation projects of college students and the utilization of resources of network teaching platform. Last but not least, the evaluation of group cooperation is made by members in order to evaluate students' ability of cooperation, practical ability, organizational ability and innovation ability in the process of cooperation.

### **5.2. Establishing the Overall Collaborative Teacher Performance Appraisal System**

The stimulation of students' initiatives in research teaching cannot be separated from the mobilization of teachers' enthusiasm. Only teaching and learning can ensure the implementation of research teaching reform. Therefore, it is necessary to establish an overall

collaborative teacher performance appraisal system corresponding to research-based teaching. Firstly, the evaluation of teachers' teaching behavior should adopt the evaluation system of professional teaching guidance group, professional director, peer teachers, student information officer and all students, and gradually increase the weight of students' evaluation of teaching. Secondly, mentor performance is emphasized. Professional teachers with doctoral degrees and vice-high professional titles or higher are selected to serve as tutors of students and the mentor system is implemented. Once established, the tutor runs through the four-year learning process. The tutor is fully involved in the course selection guidance of students, the application and guidance of undergraduate science and innovation projects, the guidance of social investigation and practice, the guidance of course papers, the evaluation of academic salons and the guidance of graduation papers. Relevant departments should make summary every semester, conduct assessment every academic year, reward teachers with outstanding achievements, and put forward rectification direction for the laggards. Thirdly, it is important for teachers to participate in students' independent learning, which can enhance teachers' sense of acquisition and achievement. In addition to regular meetings between students and tutors, tutors are encouraged to play a guiding role in the study of student bibliography studies, group discussions, writing guidance for course papers, scientific innovation and social practice through specific requirements of tutors, which can make them to be participants and promoters of research teaching reform. Last but not least, it is necessary to increase the workload coefficient of research teaching in the calculation of teaching workload and to increase the reward for teachers' achievement, encouraging teachers to actively undertake research teaching courses and open courses, apply for research teaching reform projects at all levels, and write research teaching reform papers.

## 6. Conclusion

Stimulating the initiatives of college students through research teaching is not only the goal of research teaching reform but also the difficult problem of teaching reform. This paper believes it is necessary to change the concept of education, strengthen teachers' teaching design and organizational ability, adjust the teaching content and knowledge based on the actual situation, redevelop knowledge, design discussion problems well, innovate multiple teaching methods such as case teaching methods and project teaching methods, and construct multiple teaching evaluations from a diversified student assessment and evaluation system and an collaborative teacher performance appraisal system, so as to stimulate the initiatives of college students and implement research teaching reform.

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