

A SPOC Teaching Mode of College English Translation Based on “Rain Classroom”

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Abstract—College English translation is a specialty for students’ all-around development in listening, speaking, reading and writing. Traditional “Duck-stuffing” method is only effective to teach students to listen and write, and even results in students’ rejection to learning oral English. With the traditional teaching method, students and teacher seldom interact with each other, and students are passive to absorb the content of courses, and no positive feedback on teaching, which impacts the teaching efficiency to a certain extent. In view of this, an SPOC teaching mode based on “rain classroom” was designed by combining rain classroom that is based on WeChat and intelligent teaching tools of multimedia with SPOC blended teaching and partitioning the whole learning process into stage before class, stage during class and stage after class, applied in College English translation course, and checked for the teaching efficiency to verify the effectiveness of SPOC teaching mode. Results show that the SPOC teaching mode based on “rain classroom” put forward herein has some effect on teaching reform of college English translation course.

Keywords—SPOC; blended teaching mode; rain classroom; college English

1 Introduction

As the “Internet plus” action plan was proposed, various industries started to be integrated with the internet for innovation, and combining the teaching profession with the internet to improve teaching quality is an irresistible trend. For college English translation specialty that requires students and teacher to interact and communicate frequently and knowledge not limited to book learning, the traditional “Duck-stuffing” teaching mode is a far cry from meeting the needs of teaching. Thus, reform in the teaching direction and mode is imperative.

“Rain classroom” and blended SPOC mode exactly appeared under the context of rapid development of information technology. By the aid of “rain classroom”, the teaching of college English translation has realized sustainability, and enhanced students’ comprehension of course content. Meanwhile, in virtue of the internet technology, blended SPOC mode adopted online and offline teaching, so that students become increasingly positive to participate in class rather than passively receive knowledge.

For purpose of this study, students of the department of foreign languages are focused on to explore the effect of SPOC mode based on “rain classroom” in college English teaching, and “rain classroom” is combined with SPOC blended teaching mode to improve teaching efficiency and level, with a view to providing more English application talents to the society.

2 State of the Art

SPOC (Small Private Online Course) is a new concept put forward following MOOC. It means course education for really registered students via online course. Its emergence has provided an opportunity for the change of teaching method with teacher as the main body and the optimization of students’ learning state. Comparing with MOOC, SPOC is mainly featured by that the number of participants in course is small, registered students are targeted, and other supplementary online and offline classrooms and Q&A [1] activities are offered in addition to online videos and exercises. Harvard University started to integrate small-sale online practice course into teaching [2] in 2012, and Massachusetts Institute of Technology also launched relevant teaching mode reform later to combine SPOC mode with flipped classroom [3]. Mao et al. [4] applied design and development of content of courses and procedure and evaluation of teaching in the teaching of “Marketing” by means of SPOC, having greatly enhanced students’ learning interest and quality. Chen et al. [5] applied course design in computer aided industrial design course by means of SPOC, having improved the utilization of teaching resources and realized refined teaching. Zhang et al. [6] applied the building of teaching team in teaching of biology course by means of SPOC, having raised the overall teaching level and academic ability of team members, and achieved gratifying results.

“Rain classroom” is renowned as one of the most convenient intelligent classrooms and most comprehensive teaching data[6]. Rain classroom is a plug-in of Power Point. Specifically, it adopts “cloud” as the service mode, and provides information technology support to teaching links before, during and after class via cloud computing, cloud storage and cloud service. Users who master PPT and WeChat can arrange an intelligent classroom with ease. “Rain classroom” launched public beta in 15 classes of 8 universities in 2016, and version 1.0 was released officially soon afterwards. Currently, there are more than 20,000 real classes being teaching with the aid of rain classroom tools [7]. Adjei et al. [8] applied the effect of allowing learners to select the order of assignment and task on assignment completion in ITS and future achievement based on “rain classroom”, and regarded that allowing learners to select the order of assignment and task could raise accomplishment ratio and lead to better results. Zhang et al. selected Helping You Excel at PS via Oeasy from Bilibili for study. She conducted behavioral analysis, interaction analysis and emotional attitude analysis of learners based on 62,593 messages on bullet screen. Pan [10] pointed out that under the background of “Internet + education”, the teaching practice of “rain classroom” had largely changed the current course teaching and learning method, was helpful for training students’ ability of getting information and analyzing information, but also had changed teachers’ teaching philosophy and teaching method.

Traditional college English translation teaching has many problems. Students are not used to preparing lessons before class, so that they hardly know the course content, and will achieve low learning efficiency via attending a lecture purposeless. Teachers who stick to dull “Duck-stuffing” teaching method seldom interact with students, which is liable to disinterest students from course content; classroom time is limited, so that it is unlikely to focus on training students’ “speaking” and “reading” ability. No one emphasizes consolidating the knowledge learned in classroom after class, and there is no additional material for students’ further exercise. As a result, college English translation teaching becomes a more formality. To cope with the problems in college English translation teaching mentioned above, it is proposed to build a SPOC mode based on “rain classroom” in college English translation teaching in this study. The mode mainly targets students of college English translation course, and can really maximize learning efficiency for both students and teachers. The innovation points include: firstly, in the mode, SPOC is combined with blended teaching, small classroom is taken as a whole, diversified interactions are conducted by means of online information sharing, question answering and learning team building to acquire most basic knowledge, and classroom interactive learning style is adopted offline to reflect the connotation and humanistic features of English translation teaching; secondly, rain classroom, an intelligent teaching tool based on WeChat and multimedia, was adopted in this study, SPOC-based blended teaching mode was applied, the whole classroom learning process was divided into three stages (before class, during class and after class), the following things have been realized such as founding classroom intelligently, intelligent classroom check-in, random roll call, real-time classroom question answering, in-class bullet screen interaction, and after-class summary and feedback, mobilizing classroom climate thoroughly and hoping to provide reference for teaching of relevant courses such as college English.

3 SPOC Teaching Mode of College English Based on “Rain Classroom”

3.1 SPOC teaching mode

“SPOC” is course education specially offered to officially registered students, and a process of customizing teaching for different schools and majors in combination with advantages of traditional online MOOC learning mode. It organically combines high-quality course resources of MOOC with classroom teaching, but greatly differs from MOOC in teaching scale and thought. What is advocated in MOOC is openness, and MOOC targets most people, while SPOC intends to deeply integrate the form of MOOC into traditional course and targets a few people. Fig. 1 shows a combination of MOOC + SPOC + blended classroom teaching. In traditional teaching mode of MOOC, the MOOC teaching team released MOOC courses online, and all people including both students and others who are willing to participate in social learning can take online courses of MOOC as they interest in. Although the video courses and exercises are totally accessible, learners have to be highly disciplined to get something, and

interaction is impossible. SPOC mode is based on MOOC teaching mode. The SPOC teaching team of a school integrates the online course resources of MOOC into their courses, and builds an online teaching platform with school characteristics and in compliance with the school’s theory on school management. Teachers of the school are responsible for course design on the platform to enhance interaction with students, and students get preview materials before class from the platform and give real-time feedback on their learning state via the platform. SPOC mode has enhanced teaching efficiency, is of high sustainability, has realized “teaching students in accordance of their aptitude”, makes teaching process more professional, and repairs the deficiencies of MOOC of improper practice course and low objectivity of examination.

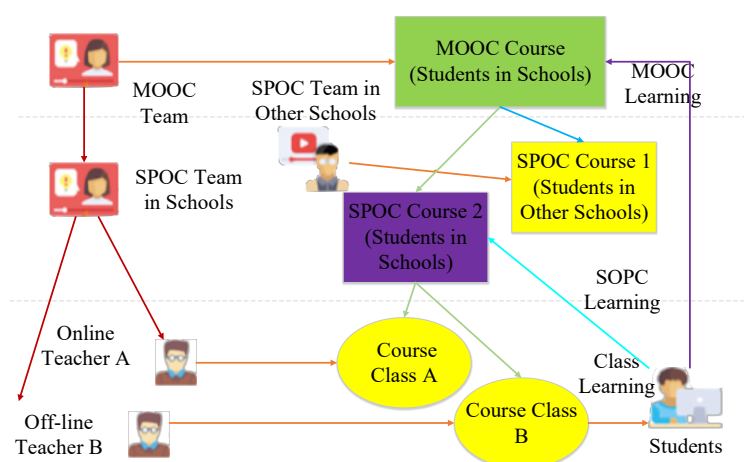


Fig. 1. Combination of MOOC + SPOC + blended classroom teaching

3.2 College English teaching mode combined with blended teaching

Blended teaching mode refers to blending various learning methods, such as combination of computer aided learning with traditional learning, and combination of independent learning with collaborative learning. Blended teaching mode has made use of the advantages of modern technological development, combined online teaching with offline teaching, and largely reformed traditional teaching idea. Fig. 2 shows blended teaching links based on SPOC mode. According to Fig. 2, the whole teaching process consists of “traditional teaching” and “flipped teaching”. The course is specially designed for a small class, in which students other than teacher dominate. In the link of flipped teaching, students do exercises, learn knowledge by watching videos and conduct communications and discussions via online class, teachers will give lessons and instruct computer experiments offline as they do in traditional teaching mode, but teachers will focus on key and difficult questions based on feedback of online class, organize group discussions with students as main host and answer questions from students. The combination of blended teaching mode with SPOC classroom has stimulated students’

subjective initiative, and improved the learning atmosphere. It has achieved good results.

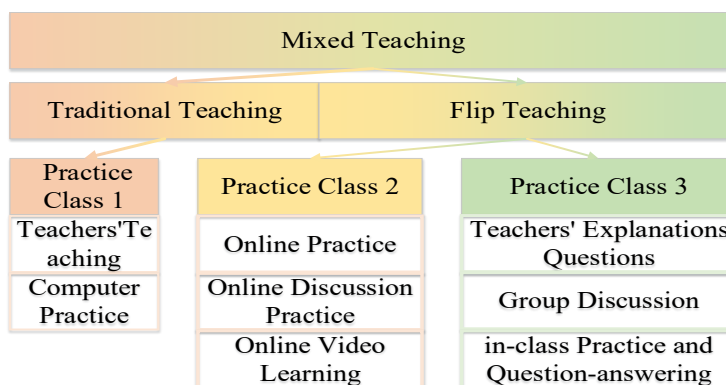


Fig. 2. Schematic diagram of SPOC-based blended college English teaching mode

3.3 College English SPOC teaching mode based on “rain classroom”

The SPOC mode based on “rain classroom” designed in this study is mainly applied in college English course teaching. Such kind of courses mainly target students at school. In this study, a blended teaching mode has been formed by combing “rain classroom” with SPOC, with a view to stimulating students’ learning interest and thirst for knowledge in the process of learning college English translation and making both students and teachers into subjects on an equal footing in teaching process.

Fig. 3 shows schematic diagram of “SPOC + small class” blended teaching mode of college English translation course. The blended teaching mode of college English translation course mainly consists of three parts. Firstly, students do independent study online, including watching teaching videos, completing exercises and assignments, raising questions by posting online, resource sharing, and answering questions for other classmates to maximize learning efficiency. Secondly, students acquire knowledge via offline societies practice, including classroom teaching by teachers, internalizing knowledge via assignment and lecture, and construction of scenarios for comprehensive application. Students consolidate knowledge extracurricular activity. Thirdly, students conduct micro-learning at mobile terminal by virtue of new media technology such as self-media to expand knowledge. Students can subscribe micro-resources of English learning from the account, enjoy learning reminding, exercise English skills, and show learning outcomes.

Online independent learning supports offline societies practice, and micro-learning at mobile terminal helps expand learning content. The three parts become an organic entirety, connect to each other, and together constitute a new environment supporting the development of comprehensive language ability.

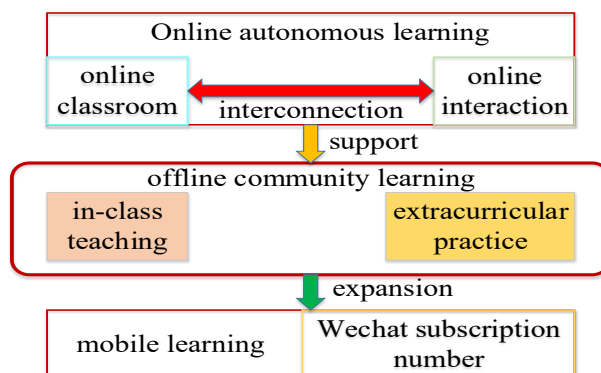


Fig. 3. Schematic diagram of “SPOC + small class” blended teaching mode of college English course

3.4 Evaluation on “SPOC + small class” college English translation course based on the rank correlation analysis method

Online courses are usually evaluated in three methods, namely multi-factor comprehensive evaluation method for fuzzy environment, analytic hierarchy process, and rank correlation analysis method. Since the evaluation for fuzzy environment is adopted in the case that different indicator systems are involved, it is hard to calculate weight value accurately. Although the analytic hierarchy process has been improved some defects of fuzzy environment, it is still a problem to calculate the index weight accurately. In view of this, the rank correlation analysis method was employed for purpose of this study. The primary task of rank correlation analysis is to determine the hierarchical structure of index. In this study, the indexes specified in CELTS222 were adopted for the establishment of hierarchical structure, mainly including four primary evaluation indexes and 36 secondary evaluation indexes. To ensure a rational rank correlation, experts specializing in teaching and learning, education technology, computer and relevant courses were invited to determine the weights with Formula (1), as below:

$$U_1 > U_2 > U_3 > \dots > U_m \quad (1)$$

For analyzing “SPOC + small class” college English translation course with the rank correlation analysis method, it is needed to ask all experts to establish a rank correlation of secondary evaluation indexes and primary evaluation indexes at each level, and then determined the importance scale. Suppose the process that experts determine the rational judgment r_k of importance scale W_{k-1} / W_k of evaluation indicators U_{k-1} and U_k is as below:

$$W_{k-1} / W_k = r_k, \quad k=m, m-1, m-2, \dots \quad (2)$$

Wherein, W_k refers to the weight of the K_{th} index. r_k can be evaluated to be 1.0 if the value of m is large. On this basis, the weight of each rank correlation evaluation index is calculated as below:

$$W_m = \left(1 + \sum_{k=2}^m \prod_{i=k}^m r_i \right)^{-1} \tag{3}$$

After calculation of evaluation weights according to the rank correlation and importance scale as defined by the experts, the calculation was normalized by means of weighted arithmetic mean to obtain a comprehensive evaluation weight vector. For the above process, three educational technology experts, two computer professionals, three SPOC classroom practitioners, and two educational experts were invited to evaluate the translation course system, and the process of calculating index weight is as table 1:

Table 1. Calculation sheet of index weight

Expert	Order	r_2	r_3	r_4	W_4^*	W_3^*	W_2^*	W_1^*	W_1	W_2	W_3	W_4	
P_1	$u_2 > u_1 > u_3 > u_4$	1.4	1.6	1.2	0.147	0.179	0.282	0.395	0.282	0.395	0.179	0.147	
P_2	$u_2 > u_1 > u_4 > u_3$	1.6	1.8	1.4	0.133	0.156	0.282	0.450	0.282	0.504	0.133	0.156	
P_3	$u_2 > u_3 > u_1 > u_4$	1.4	1.4	1.2	0.160	0.193	0.288	0.403	0.288	0.193	0.403	0.160	
P_4	$u_2 > u_3 > u_1 > u_4$	1.8	1.4	1.2	0.152	0.183	0.370	0.377	0.370	0.183	0.377	0.152	
P_5	$u_2 > u_3 > u_1 > u_4$	1.5	1.6	1.4	0.115	0.161	0.256	0.409	0.256	0.161	0.115	0.409	
P_6	$u_2 > u_1 > u_3 > u_4$	1.4	1.4	1.2	0.160	0.193	0.258	0.465	0.258	0.465	0.193	0.160	
P_7	$u_1 > u_2 > u_4 > u_3$	1.4	1.4	1.4	0.119	0.190	0.270	0.377	0.377	0.270	0.119	0.190	
P_8	$u_2 > u_1 > u_3 > u_4$	1.4	1.6	1.6	0.122	0.170	0.266	0.425	0.266	0.425	0.170	0.122	
P_9	$u_2 > u_1 > u_4 > u_3$	1.6	1.6	1.6	0.129	0.180	0.272	0.436	0.272	0.436	0.129	0.180	
P_{10}	$u_2 > u_1 > u_4 > u_3$	1.6	1.6	1.6	0.129	0.180	0.288	0.403	0.288	0.403	0.129	0.180	
Arithmetic average										0.290	0.387	0.171	0.154
Geometric average										0.282	0.381	0.166	0.154

Note: P_i refers to the i th expert; R_i to relative importance scale; W_i to rank correlation evaluation index weight; and W_i to evaluation index weight

The calculation process indicates that rank correlation evaluation indexes simplify expert judgment, and avoid inconsistency, which is good for the use of real evaluation mode.

4 Teaching Example and Effect

4.1 Teaching example

In this study, the class is divided into three parts on the SPOC blended teaching platform based on “rain classroom”: before class, during class and after class. In the whole teaching process, teachers and students are playing different roles, and undertake different tasks. Fig. 4 shows schematic diagram of reform practice of “college English translation” based on “rain classroom”. Before class, teacher pushes materials for preparing lessons before class via the platform to students, including relevant video, audio, and micro-courseware, and checks students’ performance based on the information from platform big data functional feedback. Students receive materials from teacher, check the content to be learned, and make preparations for lessons before class and exercise before class. During class, teacher organizes a lecture via two-dimension code, checks the attendance of students, can call the roll at random to ensure the attendance rate, pushes course-relating PPT to students at mobile terminal, focuses on key and difficult points based on student’s feedback in the stage of lesson preparing, tries best to take students as the subject in class, mobilizes group discussion, and give instructions on difficulties of students to stimulate students’ subjective initiative. Students join in class by scanning the two-dimension code, and send bullet screen messages from time to time to give comments or ask for help from teacher. In class, students also can conduct interactive discussions to facilitate knowledge internalization. Lastly, in class, students also are required to do small test and voting. Students participate and interact in the whole process. After class, teacher sends relevant extended reading materials to students, reflects and shares the teaching, offers personal one-to-one tutoring based on questions raised by students online, and collects teaching data disposed based on platform big data analysis to learn about student’s tendency and learning state in time. Students can communicate with each other via the platform, ask for help from the teacher online, discuss with the teacher, complete after-class assignments, and summarize the knowledge points that they failed to master based on feedback on errors. Figs. 5-7 show teaching scenes of “rain classroom”.

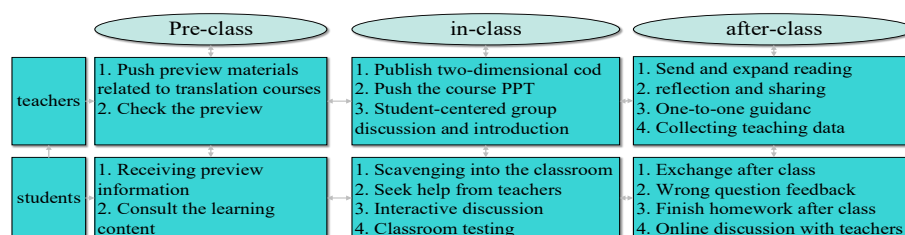


Fig. 4. Schematic diagram of reform practice of “college English translation” course based on “rain classroom”



Fig. 5. Teaching scene of “rain classroom” I



Fig. 6. Teaching scene of “rain classroom” II

Figs. 5-6 suggest that “rain classroom” integrates complicated information technology into PowerPoint and WeChat as an online intelligent teaching tool, bridges preparing lessons before class with classroom teaching, and provides a solution to interaction between teacher and students in traditional classroom teaching. According to Fig. 7, in the special exercise of translation for CET4, students can view group files via mobile QQ, teacher assigned students to do translation in the files, and students input their answers.

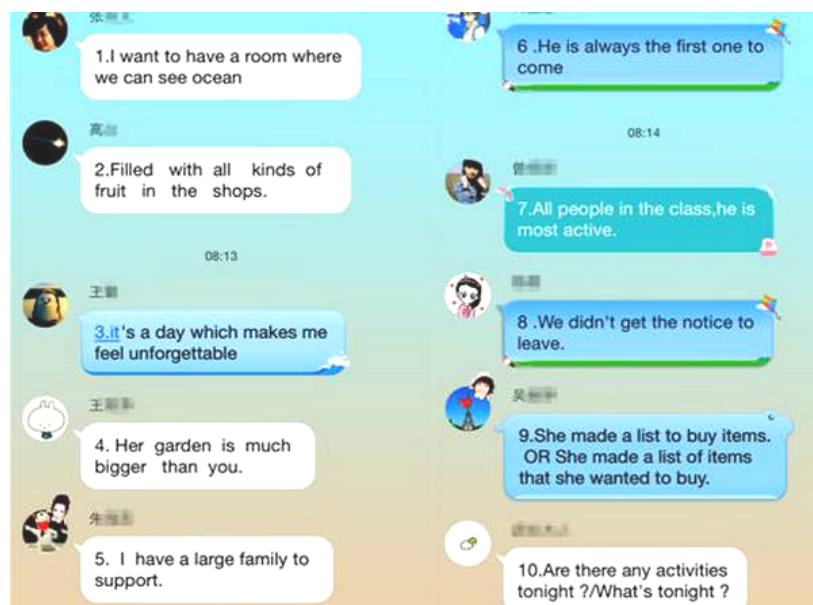


Fig. 7. Students making use of “rain classroom” for learning

4.2 Teaching effect

In this study, the combination of “rain classroom” with SPOC teaching mode was applied in college English translation teaching. Combining before-class, in-class and after-class and combining online teaching with offline teaching can stimulate students’ subjective initiative and learning initiative, and make course teaching highly sustainable, so as to deepen students’ understanding and comprehension of the content of course. To check the effect of the whole classroom teaching practice, the 60 students of Class I of Grade 2018 of the department of foreign languages of Beijing University of Civil Engineering and Architecture were asked to do questionnaire survey in this study. 62 questionnaires were given out, and 60 were recovered, representing a participation rate of 98%. The result is as shown in Table 2.

According to Table 2, over half of the students considered it necessary to prepare lessons before class of college English translation, would read the pushed content from “rain classroom”, and agreed that “rain classroom” had facilitated students forming a good habit of preparing lessons before class. Besides, most students considered the teaching mode to be helpful in enhancing their ability of independent learning, and that “rain classroom” helped deepen their understanding of knowledge points. Especially, an overwhelming majority agreed that “rain classroom” made students and teacher closer. This shows that the blended teaching mode combining “rain classroom” and SPOC can facilitate students’ independent learning and good student-teacher relationship.

Table 2. Survey on evaluation on classroom teaching of college English translation

1 Do you think it is necessary to prepare lessons before class of “college English translation”?	A Yes (69.07%)	B No (9.12%)	C Not to matter (21.81%)	
2 Do you agree that “rain classroom” makes learning more interesting and efficient?	A Totally agree (46.73%)	B Don’t agree (5.04%)	C Generally agree (32.14%)	D Have no idea (3.08%)
3 Do you read the contents pushed from “rain classroom” before and after class carefully?	A Yes (60%)	B No (5.03%)	C Occasionally (34.97%)	
4 Does “rain classroom” make you and your teacher closer?	A Yes (87%)	B No (13%)		
5 Does “rain classroom” help enhance your ability of independent learning?	A Yes (52.03%)	B No (47.97%)		
6 What’s your comment on “rain classroom” after use for one semester?	A Dissatisfactory (45.15%)	B Barely satisfactory (44.03%)	C Just so so (10.82%)	D Dissatisfactory

5 Conclusion

In this study, “rain classroom” and SPOC were combined to develop a blended teaching mode. Firstly, the development situation of SPOC, blended teaching mode and “rain classroom” were analyzed. Secondly, a teaching mode of college English translation based on “rain classroom” and SPOC was developed, and the teaching design process of college English translation based on “rain classroom” and SPOC was introduced. Questionnaire survey was conducted on students to evaluate the teaching effect, and the following conclusions were drawn based on the feedback results via the questionnaire:

- The teaching mode of college English translation based on “rain classroom” and SPOC proposed in this study innovates for classroom teaching mode, covers the shortages of MOOC teaching process, and makes students into the main body of classroom teaching.
- In this study, teaching process is divided into before-class stage, in-class stage and after-class stage via “rain classroom” teaching mode, so that classroom teaching is not limited to classroom anymore, and the sustainability and depth of classroom teaching have been greatly improved.
- In this study, SPOC and blended classroom teaching mode were combined, online teaching and offline teaching were organized simultaneously, to make course more rational and facilitate transformation of course teaching method.
- Nevertheless, the teaching mode proposed in this study has certain disadvantages. In this mode, teaching preparations becomes more demanding for teachers, and it is impossible to cover students’ allocation of extracurricular time in the platform management system. In future, the research direction is to establish certain supervisory and motivation mechanism and guide students to learn before and after class habitually.

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