Application of Student-Central Based Classroom in Postgraduate Teaching

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Abstract. Student-Central based Classroom gains a lot of attention, especially in the field of Postgraduate Teaching. In this paper, we investigate the application of Student-Central based Classroom in postgraduate teaching. Based on the successful application in other countries, we put forward some issues that should be paid attention to in the process of implementing the Student-Central based Classroom in our country. We hope this paper can help to provide some useful suggestions, which could lead to the improvement of postgraduate teaching.

Introduction

As the key of the cultivation of high-level talents in colleges, the quality of postgraduate education is directly related to the development of a country. Therefore, it has become the focus of academia aiming to improve the quality of postgraduate students, and it has also become an important part of the exploration of postgraduate education reform in our country.

Student-Central based Classroom essentially overturn the traditional curriculum teaching process and teaching structure, which is a new way for knowledge transferring and knowledge internalization. In general, Student-Central based Classroom can be divided into two parts: before-class, students learn new knowledge by watching the teaching video; in-class, students realize internalization of knowledge by participating in classroom activities organized by their teachers[1,2,3].

Student-Central based Classroom has two main contributions: First, the main mode of teaching in traditional classroom is a teacher-to-student way of which teacher is more likely to be the center. Students passively accept the knowledge, where teacher determines the start and end of the learning process. Instead, Student-Central based Classroom concentrates on students themselves. In the classroom, students should learn before class as well as in class. That is to say, students conduct self-study before class through micro-lectures and MOOC. Interactive teaching is the core of solving problems during their studies, which can help students focus on knowledge internalization. Second, Traditional teaching way is Cramming teaching which means it is dull and boring. However, Student-Central based Classroom has variety kinds of teaching mode, such as watching teaching videos, interactive discussing with each other and participation in practice. So students with Student-Central based Classroom will be effectively encouraged to learn and realize internalization of knowledge easily.

In general, Student-Central based Classroom mainly explain the concept of "student-center", subvert the traditional teaching mode, brings new ideas to modern classroom teaching, and provided a new direction for the reform of postgraduate education in our country.

The Feasibility Analysis of Student-Central Based Classroom Applied to Postgraduate Teaching

In this section, we mainly analyze the feasibility when Student-Central based Classroom is applied to postgraduate teaching from subjective conditions and objective conditions.
Subjective Conditions

**Students' Ability of Learning Independently.** As Student-Central Classroom needs students to learn before class according to the teaching content, students should be able to arrange their studying time reasonably and get initial understand of the knowledge so as to make a suitable leaning mode for themselves. Compared with children and adults, postgraduate students have higher level of the talent and the ability of self-learning \(^{[4,5]}\). Therefore, they have stronger subjective initiative in the learning process, and can actively learn, think, explore and even innovate according to the tasks of teachers. This is consistent with the requests of Student-Central Classroom.

**Students' Individual Needs.** The postgraduate education has stricter requirements on the professional quality of students. The tutors develop personalized research proposals for every individual student, so the students have different knowledge needs in a same classroom. Student-Central Classroom can meet this requirement well. Students with Student-Central Classroom can watch teaching videos according to their own needs, discuss research questions with the students having similar problems, and they are free to control the learning time, choose the learning site, also free to control the learning content, the amount of learning. This can help students better meet their needs and solve the problems quickly.

Objective Conditions

**Technical Supports.** Postgraduate education has better technical support. General universities have special laboratories, equipped with specialized computer equipment, Internet access facilities as well as other equipment, such as GPU or CPU serves for doing some large experiments. Also, there are less limitations for using the Internet and postgraduate student are more skilled at computer operating than children and adults \(^{[6,7]}\). The aforementioned supports provide technical bases for Student-Central Classroom achievement.

**Other Supports.** On the one hand, the learning time of postgraduate students is more flexible and free to control as the management for postgraduate students is not as strict as high school students. They are able to give reasonable arrangements of the time.

On the other hand, the size of classroom for postgraduate students is small, so teachers are able to pay attention to every student in their classroom. Teachers can thus develop teaching tasks according to each student's needs, follow up the progress of teaching, and conduct individualized instructions.

Last but not least, the postgraduate students are not under the huge press of the examinations so that they can learn what they are interested in.

The Model of Student-Central Classroom for Postgraduate Students Teaching

In this section, we mainly analyze the detailed model of Student-Central Classroom for Postgraduate students teaching.

Based on the experience of many professional teachers, the student-central classroom model can be divided into two parts: before-class and in-class. The part of before-class contains watching videos of the knowledge to be learned and finishing some pre-training tasks. As for the part of in-class, it contains quick test, interactive discussion, conclusion and feedback.

When the model of Student-Central Classroom is applied to the postgraduate students teaching, we detail the processes in each part of the model.

**Before-Class**

In this part, teachers should prepare the learning resources such as the watching videos and pre-training exercises. What’s more, those resources and tests should be separated according to different research filed. For students, they need to find those materials and finish those corresponding tests to get an initial understanding of the knowledge to be learned. When there are some questions,
which students cannot solve in time, they can also ask for the teachers’ help through the online platform, such as MOOC. Students can also communicate with each other through this way.

**In-Class**

This part treats students as the center, which is the key part of the Student-Central Classroom model. First, the students take a quick examination to test their before-class studying results. Then every student presents his or her learning gains by slides or videos. After that, there is a discussion in every studying group in order to exchange the knowledge and problems with each other and teachers need to solve those problems in this step. Finally, there should be a conclusion and feedback as well as an evaluation for every student from the teacher. This encourages students to do a self-reflection after class.

Here, we give a total explanation of the Student-Central Classroom model in Figure 1. As show in figure 1. The model contains two main parts: Before-class and In-class. In the part of Before-class, teachers and students have their own tasks to finish and they can communicate through some on-line platform. And students finish the tasks on their own. However, in the part of In-class, students and teachers have frequent communication and discussion. Also, students can share and discuss with each other in the classroom.

![Figure 1. The Student-Central classroom model.](image)

**Suggestions for Application of Student-Central Based Classroom in Postgraduate Teaching**

As there are some specialties of postgraduate teaching, we address some questions that may be occur when applying the Student-Central based Classroom in postgraduate teaching and give some effective suggestions to solve it.
Diversification

For teachers, when preparing the learning resources, they should choose different topics targeting at different research tasks. Since different research filed contains different subtopics, it is better for teachers to prepare amount kinds of materials. Also, in a same field, there will be students with different learning abilities, so teachers should prepare some basic leaning resources as well as some high-level resources.

For students, when they choose the resources to learn, it is better for them to learn from the basic ones to the high-level ones. Also, if they have time, learning knowledge of different research topics can inspire them with some innovative ideas.

In the part of In-class, it takes full advantage of the teaching time; teachers should organize various learning activities to help students complete the internalization of knowledge. Teachers can organize students to discuss, explore, practice, exchange and interact with each other, so as to provide students with personalized guidance. At the same time they can take a variety of teaching activities, such as no scoring test, one minute paper presentation, brainstorming, world coffee and so on. Various teaching activities can not only build active mind but also help to produce innovations.

Evaluation

The effect of student learning is related to certain incentives. In order to promote students' initiative, teachers are required to give some evaluation according to their performance. Here, we introduce an evaluation system which can be applies in the Student-Central based Classroom model effectively.

Figure 2 shows the evaluation system in Student-Central based Classroom model.

The evaluation part contains different weights for the parts of Before-class and In-class. We mainly pay attention to the student performance in classroom so we give 70% weight to it while the Before-class part only accounts for 30%.

The reason for this setting is because activities in the classroom are the process of knowledge internalization. Only by truly internalizing knowledge into the students’ own available resources can it be possible to achieve the creation of knowledge and innovation of new ideas.

As shown in figure 2, we divide the evaluation into to main parts: resource evaluation, which contains the tests in Before-class and In-class; and teaching activities evaluation, which contains results presentation, questioning, solving problems independently and teamwork. We think it is a complete evaluation for students learning performance especially for postgraduate students.

![Figure 2. Evaluation system.](image-url)
Feedback

Effective feedback from students can help teachers to know the advantages and drawbacks of the Student-Central based Classroom model when they apply it.

The feedback should be in time so that teacher can change the drawbacks as soon as possible. We suggest that in the part of Before-class, students can submit their feedback through the online platform. As for the In-class part, teachers should ask the students for feedback when finishing the class. Teachers should be careful when designing the feedback form.

We suggest that the feedback form should contain variety filed, including the resources prepared, the learning difficulty, the teaching rhythm and the activities that teachers organize in the class. When we receive those effective feedback, we suggest teachers do a careful analysis so that to make effective changes in next class.

The feedback mechanism can help the Student-Central based Classroom model get improved constantly.

Conclusion

As an important part of high education, the quality of postgraduate education and the quality of cultivation of high-level national talents are related to postgraduate teaching methods.

In this paper, we investigate the application of Student-Central based Classroom in postgraduate teaching. Based on the successful application in other countries, we put forward some issues that should be noticed in the process of implementing the Student-Central based Classroom in our country. We hope this paper can help to provide some useful suggestions in the improvement of postgraduate teaching.

Also, we want to do some further investigation towards the topic of Student-Central based Classroom, such as its adaptability and effectiveness to different subjects.

References


