

Research on Teaching Reform of Integration of College Organic Chemistry Learning and Online Live Classroom of Xuexitong

Shuai Wang

Inner Mongolia Normal University, Hohhot 010022, Inner Mongolia, China. E-mail: wangshuai@imnu.edu.cn.
Fund Projects: This study was supported by the Teaching Research Foundation of Inner Mongolia Normal University (No. 2018XXT20 and KYKC2044).

Abstract: The maturity and development of information technology provides the possibility for the innovation of teaching. Online education has become a new and effective teaching method. This paper will take Superstar Xuexitong as an example to carry out a detailed analysis of online teaching of organic chemistry, from the wired teaching process and curriculum construction, curriculum implementation and other aspects of discussion, so as to share teaching experience and teaching experience, and provide ideas for the teaching reform of online live classroom.

Keywords: Online Teaching; Xuexitong; Teaching Method; Organic Chemistry; Course Construction

2020 is a year of leapfrog development of online live classroom. Under the call of “stopping class, non stopping teaching and learning” by the Ministry of Education, “Xuexitong” “Tencent conference” “Dingding” and other online education platforms show their magic power, providing great support for online education. Teachers have gradually adapted to the online education mode and accumulated professional disciplines in the application online teaching experience, gradually in the teaching of each stage of teaching reform.

1. Learning online teaching process

1.1 Preparing attention to early preparation

In the past, most of the teaching methods in colleges and universities were face-to-face indoor teaching, and online teaching was only used in large-scale or special cases. Therefore, in the face of large-scale online teaching, colleges and universities are not fully prepared, teachers, network platforms, and even students are facing severe tests. In the preliminary preparation, the organic chemistry course chooses to use Superstar Xuexitong for online teaching. Before actual teaching, teachers need to learn how to use the online platform, understand the operation methods and basic functions of the platform, and join students in the class QQ group or WeChat group, so as to release course information, invite students into the learning class of superstar learning platform, and use QQ group and WeChat group to understand and manage the situation of students. In the preparation process, teachers will inevitably have doubts about the differences between online teaching and offline teaching, and worry about whether the teaching effect can be achieved and the learning state of students. Therefore, teachers in the early preparation must adjust their own mentality, firmly believe that their excellent teaching level can be reflected in online teaching, and even take advantage of some aspects of online teaching to improve the teaching effect.

Copyright© 2020 Shuai Wang

doi: 10.18686/ahe.v4i12.3200

This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

1.2 Doing a good job in curriculum construction

The construction of Xuexitong live classroom needs to start from these two aspects, one is classroom teaching live broadcast, the other is exercise exercises.

1.2.1 Live broadcast of classroom teaching

Different from the previous recording and broadcasting teaching, live classroom will not give teachers the time to record, so teachers should use a more close to classroom teaching state to implement teaching. However, it should be noted that while the teachers' status is close to the actual teaching work, the teaching means should be more in line with the characteristics of the learning platform. Just as many teachers are in a hurry when they are just exposed to live teaching, they can't find the appropriate blackboard writing knowledge points, so they can only use simple boards temporarily. Although this method is helpless, it will also have a certain negative impact on teaching. Therefore, teachers should learn how to use the live broadcast platform more deeply. Just as Superstar Xuexitong has the function of inserting class break, teachers can turn the picture to the class break when explaining knowledge points, reasonably paginate the class break, and express knowledge concisely, so that students can take notes appropriately and quickly and build a knowledge system. For example, when explaining the knowledge points of olefin chapter, the teacher can list the structure and isomerization of olefin respectively, and show the olefin reaction video to students, so that students can fully access to the knowledge points like previous learning. It is worth mentioning that the courseware in live teaching can also be shared with students. If necessary, the live frequency recording can be used as review materials for students. In this way, the diversified learning requirements of students are also met.

1.2.2 Making exercises

It is no use learning without thinking. Problem setting is an effective way for students to think about the application of knowledge points. In the process of setting exercises, teachers should pay attention to both teaching and practice. For example, if the teacher wants to know the students' listening situation, some simple questions can be set, such as what is the chemical reaction of double bond in olefin chapter, and a blank filling question can be set, so that students can complete the answer within 60 seconds. After the teacher's answer is released, each student needs to answer the question according to the requirements. If the student is listening carefully, he can finish the answer in a short time. However, if the student does not listen carefully, the correct rate of the answer cannot be guaranteed, so the teacher can remind the students who have abnormal performance. Under the effect of online answering, teachers have formed a reasonable supervision of students, and to a certain extent, realized the interaction between teachers and students. Of course, there are many knowledge points in organic chemistry learning. Teachers can set corresponding exercises according to different knowledge points, but we must pay attention not to delay classroom teaching because of exercises. The more reasonable way should be that the live exercise is short and concise, which can be completed by simple thinking; the exercises after class are slightly complicated, which requires students to review their knowledge and think for themselves. For example, the questions after class can be set as the reactions of hydrophilic acid, water, bromine, hypobaric acid in the electrophilic addition of double bond, and mark the difficulty of the topic, so that students can form a basic understanding of self-learning.

2. Online discussion and question and answer

The chapters of organic chemistry course are closely linked, and the knowledge points are interrelated and cross each other. It is easy for students to confuse the knowledge points that have been studied and are learning. In the online live classroom teaching environment, if students cannot put their doubts out in time, they will be subject to long-term negative impact. In this case, teachers should actively use online communication to break the limit of space, and provide students with professional knowledge. Therefore, teachers should make good use of the large discussion area of Superstar Xuexitong, encourage students to share their problems in the learning process and actively seek the help of teachers. In order to improve the efficiency of answering questions, the teaching working group can arrange teachers to answer students' questions in turn, so that students can get effective answers after asking questions. On this basis, teachers also need to analyze students' common knowledge mistakes and reflect on whether there is a situation of inadequate explanation. QQ group and WeChat group are also

effective ways for teachers to answer questions and solve doubts for students. They can throw out their own problems in the group and then discuss with their classmates. If there is no unified conclusion after discussion, teachers can “@” seek help. In such a learning atmosphere, students actively participate in learning activities, through their own thinking of knowledge points, to achieve the development of professional ability and their own comprehensive quality.

3. Course tracking and improvement

In order to ensure the quality of classroom teaching, teachers need to track and improve the curriculum. In the traditional face-to-face teaching, teachers need to analyze students' learning state, and then through complex processing, they can have cognition of the real state of curriculum effect. However, in live online teaching, teachers can more easily and quickly achieve the goal of tracking and improvement. In the process of tracking, the platform tools reflect students' learning status, such as learning visits, classroom activities, homework statistics, etc. With the support of various data, teachers can intuitively understand the personal situation of students. At the beginning of learning, knowledge points are still relatively small, students only need to spend a little energy to master effectively. However, with the passage of time, students need to remember more and more knowledge, but a lot of the knowledge has been forgotten, even if the teacher repeatedly stressed, it is still easy to make mistakes. For this situation, we can review the previous knowledge points in the follow-up teaching. For example, there is a certain correlation between the chemical reaction of ketone carbonyl and the chemical reaction of olefin. The teacher can put it into the class for comparison, so that students can understand the difference between the two more intuitively, to distinguish the memory. If necessary, teachers can share mind map with students to strengthen students' knowledge.

4. Playing the role of examination

Examination is an important way to reflect students' learning situation, even online teaching also needs to use examination assisted teaching. For the production of the test paper, release, invigilation and so on, we should make adjustments to ensure the authenticity and effectiveness of the examination. Teachers should master the application method of Superstar platform skillfully, set the time of paper distribution uniformly, and disorder the order of test questions. After the online examination, teachers only need to correct a small number of questions. After finishing the marking, they can get the analysis report related to students' scores directly. This will reduce the pressure of teachers' work to a certain extent, and provide the basis for the adjustment of teachers' teaching methods.

5. Conclusion

The online live broadcast education of Xuexitong played an important role during the epidemic period, which created realistic conditions for the realization of the call of “no school suspension”. Teachers not only improve the understanding of online teaching methods, but also observe the state of students from the perspective of data, and reflect on their own teaching mode. Therefore, college teachers should be fully aware of the positive role of online live education, with the help of diversified reform means, adapt to the change of teaching environment, and provide students with better classroom teaching.

References

1. Lu L, Shuai Q, Li J, *et al.* Online teaching practice of analytical chemistry based on MOOC, MOOC classroom and QQ group in Chinese universities. *College Chemistry* 2020; 35(5): 15-18.
2. Zhang L, Wu W, Li H, *et al.* “Double teacher online course” promotes precision teaching guidance and——Taking Dingding online class as an example. *College Chemistry* 2020; 35(5): 33-37.
3. Chen Y, Hu H, Yang B, *et al.* “Online asynchronous teaching” based on UOOC platform and Tencent classroom. *College Chemistry* 2020; 35(5): 115-120.