The Study on Development and Application of Micro Lecture & MOOC in Applied Undergraduate——A Case Study of 'Horse Anatomy and Physiology'

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Abstract. Study on how to develop and apply micro lecture & MOOC of 'horse anatomy and physiology' from students of horse equestrian of Wuhan business college through the methods of literature, interviews, observation and etc.; it was found that development and application of micro lecture & MOOC of this course could make full use of the students' spare time and anywhere to learn, could improve their learning interest, could comprehension and memory of knowledge deeply; therefore, it is import on change the traditional teaching methods, students' learning style, learning habits and learning effect when teaching using micro lecture & MOOC.

1. Introduction

In 2008, Professor Dave Cormier and Bryan A Lexander proposed the concept of MOOC for the first time, and the development of MOOC and micro Lecture entered a period of rapid development. In 2012, the three network platforms of Coursera, Udacity and edX in the United States introduced a large number of MOOC courses, a large number of learners around the world have joined the learning and production process of MOOC. At present, there are a large number of MOOC platforms in China, for example, IMOOC, icourse163, MOOC China, etc. Zhang Jing's article "Influence of MOOC on Higher Vocational Education" thought that MOOC has turned teachers from an educator into learner and developer; MOOC can optimize resource sharing and promote the education development of China; MOOC subvert traditional teaching concepts and make personalized learning possible. From the information obtained, the research on MOC mainly focused on the effects of MOM on the teaching mode and teachers, the application of MOOC in teaching, and the production methods of MOOC videos. Micro lecture has more differences in concept and form with MOOC, and the concepts and distinctions of micro lecture and lecture are described in detail in the "Comparison of micro lecture and MOOC of Flipped Teaching in the Information Age". At present, the research on micro lecture mainly focuses on the research of the concept of micro lecture, the influence of micro lecture on the teaching model, and the production methods of micro lecture.

Regardless of micro lecture or MOOC, this education form based on Internet thinking has received more and more attention. The development of MOOC and micro lecture has been overwhelming. One possible trend is that universities to join the MOOC/micro-lecture coalition and present various courses in the form of MOOC/micro lecture; this will redefine the relationship between universities and society and change the traditional education concept.

2. Screening Principle of Knowledge Points in the Course Production

Several principles should be grasped in the screening of knowledge points before the production of micro lecture and MOOC in the course of Horse Anatomy and Physiology.

1. Principle of important and difficult points

When screening the knowledge points of the curriculum, we should select the important knowledge points and the unintelligible knowledge points in the course chapters, the easily understandable knowledge points are not very suitable for making the micro lecture. If all the knowledge points in the

course are made into micro video, it is not cost-effective in time and economy. Therefore, when we screen the knowledge points, we should distinguish the key point and select the key points.

2. Principle of Practicality

The "horse anatomy and physiology" course provides very rich textbook content, the knowledge in the book covers a wide range of knowledge, it has a very large amount of knowledge for different professional students such as horse racing, equestrianism, animal husbandry, and animal science. In production process of micro lecture and MOOC, we can choose some practical knowledge points to make for different professions, and do not need comprehensive coverage. For example, for horse racing and equestrian students, we can choose some more practical knowledge, such as the structure of the horses, the structure and principles of the digestive system, and the anatomy structure of the motor system. These practical knowledge points are closer to reality, and they can play a role in laying a professional foundation for students to work in the future.

3. Principle of feasibility

The feasibility principle should be followed in the process of making micro lecture, the feasibility of the micro lecture is mainly the feasibility of making the micro class, some knowledge points can only be understood, but there is no way to show it through the form of video or animation. Therefore, we should consider the feasibility of video implementation of knowledge points and follow the feasibility principle when screening knowledge points.

4. Principle of moderation

Because there are many knowledge points in the course of horse anatomy and physiology, it will cost a lot of time and money to make all the knowledge points into micro lecture or MOOC, and some easily understandable knowledge points are not necessary to be made into a micro lecture, so the principle of moderation should be followed in the on the selection of knowledge points, the main contents of textbook knowledge are presented, and the optimization of time and economy can be achieved.

3. Course Development Steps for Micro Lecture and MOOC

1. Material preparation and script compilation

In the process of making micro-courses, if only micro lecture with one knowledge point is produced, the content amount is small and the work pressure is relatively small. If we want to create the entire course of MOOC, the workload is a relatively large, therefore, it is necessary to allocate time and integrate resources before the production of the course. Usually before shooting, materials related to the knowledge points, such as photos, videos, animations, presentations, and related items need to be prepared. In addition, it is necessary to prepare relevant scripts of the knowledge points, namely, the manuscripts that need to be presented, the writing of the manuscripts should be clear and logical, highlight the important and difficult points, concise and comprehensive. The word number in the manuscript should be controlled from 5 minutes to 10 minutes in the normal speech speed.

2. Video shooting scene layout and rehearsals

The scene of video shooting should be arranged according to the knowledge of the micro lecture to be produced, the scene should conform to the knowledge content, and scenes unrelated to knowledge should not be placed under the shooting lens. The shooting scene should be as clean and tidy as possible, and the entire shooting environment should try to avoid outside interference. After all the shooting scenes are arranged, field rehearsal must be conducted, and insufficiency is found through the rehearsals, so that corrections can be made in time, and the rehearsal is carried out in strict accordance with the normal shooting procedures.

3. Official shooting and points for attention

In the formal shooting, we must ensure that the shooting environment is quiet, the image of the lecturer of knowledge point is better, and the words in the explanation process must be clear, and the speech speed is moderate. If conditions permit, several camera positions can be set up to save shooting time. During the shooting process, if a lecturer appears stuck, repeat speech or pet phrase

cannot stop, some small problems can be handled in the video post-production, if there is a big mistake, the scene need to re-shoot. Video shooting should pay attention to one principle, in the case of uncertainty, we should be as much as possible to shoot more video resources for later editing, if the shooting resources are too small, may cause trouble for later editing of videos, micro lecture effect will be greatly reduced or even may need to shoot again.

4. Post-editing and processing of video

Post-processing of video is usually performed by a professional editing company, during the editing process; the lecturer should be on site and propose own requirements according to their needs in order to edit the best results of the video. If participating in the editing it yourself, the lecturer need professional editing techniques. Video is generally divided into titles, texts, and trailers. These contents are preferably produced by professional companies; professional companies can make the best video effects and save time.

4. Function and Effect of Micro Lecture and MOOC in Classroom Teaching

1. Micro lecture and MOOC can improve students' learning interest

Traditional teaching methods include lectures, group discussions, questions, activities and so on. These teaching methods are necessary and indispensable, but these teaching methods can no longer meet the diverse needs of contemporary students for knowledge learning. Today, every student has a smart phone, and they tend to seek new knowledge from the Internet, they often think that the traditional teaching methods do not meet the development of the times. Therefore, the basic theoretical knowledge in the book can change the teaching way, so that students will have a new sense of wonder, will increase students' learning interest. The micro lecture produced in this course is used as a supplementary means to classroom teaching and play a very important role in improving students' learning interest. When a knowledge point is explained, students are required to take out the mobile phone to consolidate this knowledge point by connecting micro lecture on the network, students generally have high enthusiasm and learning interest has also been increased greatly. Therefore, micro lecture and MOOC play an important role in improving students' learning interest, in fact, the teaching of micro lecture and MOOC only changes the traditional teaching methods, but this method conforms to the students' psychology, therefore, play a good role in promoting students' learning interest.

2. Micro lecture and MOOC can deepen students' understanding and memory of knowledge points

Traditional classroom teaching requires teachers to produce presentation manuscript and then gradually explain the knowledge points, although some knowledge points can understand the truth through language, but they cannot give students a deep impression, this is also the defect of language, the condition is particularly prominent in horse anatomy and physiology, because this course involves a large number of physiological knowledge, physiological knowledge often belongs to theoretical model, simply teaching students with pictures and languages, it is difficult for students to understand, However, the use of micro lecture and MOOC will receive different effects. Through computer multimedia technology, anatomical and physiological knowledge can be simulated and presented in the form of animation and 3D in the production of micro lecture, therefore, students can easily understand knowledge points, and this method is better than the traditional teaching effect and greatly improves students' understanding and memory for knowledge points.

3. Micro lecture and MOOC reduce teachers' repetitive work and reduce teachers' workload

In the traditional teaching method, the same knowledge point needs to repeatedly explain to every session of students, which increases the teachers' repeated work and reduces the teachers' work enthusiasm. The use of micro lecture and MOOC can significantly reduce teachers' repetitive workload and allow teachers have more time to study courses, improve and perfect improve teaching quality. Therefore, the construction, development and application of micro lecture and MOOC are not only beneficial to students, but also improve the teachers' teaching quality, and are also very beneficial to the further development of teachers.

4. Micro lecture and MOOC inject new vitality into traditional classroom teaching

In course teaching, using micro lecture video find students have a strong learning interest and passion. The implementation of micro lecture and MOOC in teaching not only has improved the teaching quality of teachers, reduced the workload of teachers, improved the learning effect of students, but also injected new vitality into the traditional classroom teaching mode. The compulsory means no longer require students to prohibit the use of mobile phones in class; students are encouraged to use mobile phones to connect to micro lecture and MOOC websites for knowledge learning, this not only injects new vitality into classroom teaching, but also changes students. Only use mobile phones as a habit of entertainment tools, it also changed the habit which students only use the mobile phone as an entertainment tool.

5. Influence of Micro Lecture and MOOC on Students' Extracurricular Learning

1. Micro lecture and MOOC have changed the habit of students' extracurricular learning

Micro lecture and MOOC are not only useful for students' classroom learning, but also useful for students' extracurricular learning. Teachers can upload their own micro lecture and MOOC to the Internet, in addition to learning in the classroom, students can also study during their spare time. This learning way on the Internet not only allows students to learn the knowledge, but also changes the student's learning habits.

2. Micro lecture and MOOC make full use of student's fragmented time

Today, with the popularity of smart phones, students at school all have a smart phone, students may spend most time in browsing the information on mobile phones and using mobile phones for entertainment. Teachers can publish micro lecture and MOOC on their own social software, such as the WeChat moment, so that students can make full use of fragmented time to learn anytime, anywhere. This method not only can expand the knowledge amount of students, but at the same time, the video features of micro lecture do not make students feel boring and do not occupy students' entire time. It can be said that this kind of Internet-based learning model fully integrates the students' hobbies and fragmented time, and this method is also one of the most important ways for modern people to acquire information and knowledge.

3. Micro lecture and MOOC expand students' knowledge

The production and use of micro lecture and MOOC can expand the students' knowledge, the production and distribution of micro lecture and MOOC can enable students to acquire more knowledge through the internet and provide students with a way to consolidate knowledge. For example, in actual work, if your certain knowledge points are forgotten, you can use the smart phone immediately to obtain related micro lecture through the Internet. This is a way to consolidate knowledge efficiently and conveniently. In addition, through the micro lecture and MOOC platform, students can learn the knowledge of the courses taught by various universities around the world, and can expand knowledge of students farthest.

4. Micro-curriculums and MOOC provide learning and communication platform for course enthusiasts

The production and use of micro lecture and MOOC can enable the global course enthusiasts to converge on a unified web platform, which provide convenience for these enthusiasts to carry out knowledge learning and exchange, this learning method is very useful for the construction of open universities. For example, at present, many domestic and foreign universities have joined the micro lecture and MOOC network platform. Every day, tens of thousands of people learn through the Internet platform. These people may be professionals, it may be amateurs, may be Chinese, and may also be foreigners. In short, the micro lecture and MOOC network platform is a new model for globalized learning, and the production of micro lecture and MOOC ARE the basis of this model.

6. Conclusions and Suggestions

1. The production and implementation of micro lecture and MOOC have great benefits for learners

The promotion role of micro lecture and MOOC for learners is mainly reflected: first, it can enhance learners' learning interest; second, it can deepen learners' understanding and memory of knowledge points; third, it inject new vitality into traditional classroom teaching; fourth, it can change learners' learning habits; fifth, it can make full use of learners' fragmented time to learn anytime and anywhere; Sixth, it can expand the knowledge of learners; seventh, it can provide an open learning and communication platform for like-minded people.

2. There are some areas that need to be improved in the production process of micro lecture and MOOC

Although micro lecture and MOOC have many benefits for learners, there are many disadvantages for producers. First, the production of micro lecture and MOOC requires a lot of time; second, the shooting and editing of micro lecture and MOOC require the assistance of professional company; third, the production of micro lecture and MOOC requires a lot of financial support. Therefore, the best way to produce micro lecture and MOOC should be that the lecturers have certain capabilities such as video shooting, editing, animation production, etc., so that they can use spare time to make micro lecture and MOOC, this method has higher requirements for course lecturers but can save money.

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