

Investigation on the Effect of Online Physiological Experimental Design Defense Teaching during COVID-19

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Experimental teaching is an important part of physiological teaching. In order to further cultivate students' scientific innovation ability, we have been carrying out experimental design defense teaching in physiological experimental class for many years. Firstly, under the guidance of teachers, students understand the basic principles of medical scientific research design; Then, according to their own interest, students choose their own topics on the basis of consulting a large number of literatures themselves, design their own experiment in groups, and give an oral defense of the project to the class. During the oral defense, each group send a representative to introduce the background, experimental purpose, methods and expected results of the design scheme. After that, the teachers and other groups of students ask questions, and finally the teachers give comments and suggestions. This teaching method greatly stimulates the students' initiative and innovation, and achieves good teaching results. During COVID-19 outbreak, the teaching of physiological experimental design defense was switched to online teaching. This study randomly selected four administrative classes of students majoring in clinical medicine of Xiangya Medical College of Central South University to carry out online questionnaire survey, and 135 effective questionnaires were collected. Analysis was made from three dimensions: students' learning status and process, teaching implementation and teaching effect. The results showed that 94.1% of the students adapted to the online defense teaching, while the overall satisfaction was 82.9%, and 90.4% of the students thought the online defense teaching was most fruitful. 93.3% of the students were fully participated in the group discussion before the oral defense, and 85.9% of the experimental designs came from the topics selected by the students themselves after consulting the literatures. 90.4% of the students believed that the overall performance of the Q & A and interactive atmosphere of the whole class in the online oral defense process was excellent or good. Students reported that the most valuable segments of online defense teaching were "design of research contents and methods" and "teacher's comments", which were 48.2% and 38.5% respectively. These results suggest that the online physiological experimental design defense teaching has played an important role in ensuring students' normal learning during COVID-19, which is conducive to stimulate students' learning enthusiasm and promote team cooperation on line, and it is also an effective way to improve students' innovative consciousness and scientific thinking ability.