 DOI: 10.19601/j.cnki.issn1943 - 9903.2022.02.016

Construction of Case Database for Postgraduate Course Aquatic Animal Pathogen Biology

Huanying PANG, Miao XIE*, Shuanghu CAI, Ziling WANG, Shiping YANG, Yucong HUANG, Jichang JIAN

College of Fisheries, Guangdong Ocean University, Zhanjiang 524088, China; National Demonstration Center for Experimental Fisheries Science Education, Zhanjiang 524088, China

Abstract As an application instructional course for Aquatic Animal Medicine (AAM), Aquatic Animal Pathogen Biology needs to be guided by a large number of examples and cases, but the current case database construction faces many urgent problems. In view of this, this paper analyzes the characteristics of professional education of AAM postgraduate students. With the goal of cultivating applied personnel that meet the requirements of the times, and the guiding ideology of strengthening the reform of the education model in colleges and universities, and improving the quantity and quality of personnel training, it builds a case database for the course Aquatic Animal Pathogen Biology in accordance with modern postgraduate teaching needs.

Key words Case database, Aquatic Animal Pathogen Biology, Aquatic Animal Medicine (AAM) discipline

1 Introduction

With the deepening of China's reform and opening up and the integration of the global economy, the role of aquatic veterinarians in social and economic development has become more and more important. They have developed from serving only aquaculture in the past to providing technical support and services for animal health and public health at present, which are closely related to the country's economic development and public health. The connotation of aquatic veterinarian has also developed from a single animal disease treatment in the past to multiple fields such as animal disease prevention and control, zoonotic disease prevention and control, food safety, public health, biological safety and environmental protection[1]. In order to adapt to this development trend, Guangdong Ocean University started to recruit master and doctoral students in Aquatic Animal Medicine (AAM) from 2018. The core of Guangdong Ocean University's AAM master training is the cultivation of practical ability, while the level of students' practical ability is an important indicator to evaluate the quality of AAM master cultivation. How to closely combine theoretical knowledge with practice and improve students' practical ability has become an important topic in the teaching of AAM postgraduate courses.

Received: October 20, 2021 Accepted: January 15, 2022

Supported by Project of Degree and Postgraduate Education and Teaching Reform of Guangdong Ocean University (202020 & 202120); Project on Education and Teaching Reform of Higher Education Institutions in Guangdong Province; Applied Personnel Training Course of Guangdong Ocean University; Industry-University-Research Institute Cooperation Collaborative Education Teaching Content and Curriculum System Reform Project of Ministry of Education (202101134003).

Huanying PANG, PhD., associate professor, research direction: diseases of aquatic economic animals.

* Corresponding author. Miao XIE, master, laboratory technician, research direction: diseases of aquatic economic animals.

Editorial Office E-mail: asiaar@163.com

Case teaching method, as an exploratory teaching mode based on practical experience, is suitable for courses with strong practicality[2]. This method emphasizes solving practical problems in a simulated situation, allowing learners to actively acquire broader knowledge and regular rules from typical (disease) cases. Such teaching mode and personnel training method have greatly changed the traditional teaching practice of taking books as the center and changed the practice of moving from concept to concept, making students become the real main body in teaching activities, and promoting independent, cooperative, research and exploratory learning. It has become an important way to cultivate high-level applied personnel in the whole world. Case (disease case) teaching has been widely used in management, engineering, law and medicine. However, it still remains at the starting stage in the AAM postgraduate education, and the construction of the master case database of AAM is an important foundation for its healthy development.

2 Current situations and problems of the construction of case database for Aquatic Animal Pathogen Biology

Aquatic Animal Pathogen Biology is a basic course for AAM postgraduate students in Guangdong Ocean University. This course mainly studies the morphology, structure, metabolic activity, heredity and variation, pathogenic mechanism, anti-infection immunity, laboratory diagnosis and specific prevention of pathogenic organisms related to aquatic animal diseases[3]. As an application instructional course for AAM, Aquatic Animal Pathogen Biology needs to be guided by a large number of examples and cases, but the current case database construction faces many urgent problems.

In the first place, the founding time of AAM master degree postgraduate students is not only, and the training mechanism is not perfect. Due to the influence of traditional academic postgrad-

uate teaching ideas, many universities pay more attention to academic papers while pay little attention to practical level. The training method of case teaching has not yet attracted the attention of educators in various colleges and universities, and the construction of the case database of Aquatic Animal Pathogen Biology is seriously lagging behind. In the second place, the teaching cases of Aquatic Animal Pathogen Biology are mainly extracted from typical examples in production practice, or typical cases in clinical practice, or examples collected and adapted from newspapers and magazines. On the one hand, teachers have insufficient experience in case teaching and handling is improper, such as the background and problems are too complex, and the knowledge involved in the case is too broad. On the other hand, due to insufficient knowledge reserves and lack of clinical experience of students, teachers cannot effectively control the cases. Consequently, it is difficult to achieve the expected teaching effect. Therefore, how to build a rich and practical case resource database has become an urgent issue to be solved in the case teaching of the course Aquatic Animal Pathogen Biology, and it is an indispensable and important part of promoting the construction of AAM case database.

3 Significance and functions of construction of case database of the course Aquatic Animal Pathogen Biology

3.1 Accelerating education and teaching reform The construction of the case database highlights the guiding role of the course teaching resource database in teaching, training and production guidance. It is a professional teaching material database integrating teaching, training, improvement and production guidance. AAM is a discipline with strong practicality. It is necessary to combine the characteristics of the discipline itself, fully explore the teaching resources, and develop a special teaching resource database suitable for Aquatic Animal Pathogen Biology according to the normative requirements for the construction of the course resource database, which will play an important role in promoting teachers to update educational concepts, innovate educational ideas, enrich teaching content, and accelerate the teaching reform.

3.2 Realizing extensive sharing of teaching resources Vigorously promoting the joint construction, sharing and application of high-quality resources is an important part of educational informatization. The case database of Aquatic Animal Pathogen Biology can not only be used in the teaching practice of aquaculture, marine biology and other disciplines in Guangdong Ocean University, but also provide scientific reference for the construction of other course resource databases. In addition, the content of the case database can be shared through the network, and it will also provide services for the national AAM students and the on-the-job personnel in related industries to improve and update their skills, graduates to receive continuing education on-the-job, and individual diversified learning.

3.3 Improving the teaching level of teachers In the process of constructing the case database of Aquatic Animal Pathogen Biology, the teachers of the course team need to learn the development concept of the course resource database, integrate them, and make clear their ideas. Besides, teachers need to read a lot of materials and go deep to many enterprises to collect relevant resources. In this process, they will absorb a lot of knowledge invisibly, which will improve their professional level and enrich their knowledge. Such combination of theory and practice improves the teaching level of teachers and promotes the construction of professional teaching staff.

4 Strategies for construction of case database

4.1 Construction purpose The purpose of constructing the case database for the course Aquatic Animal Pathogen Biology is to fully find out the characteristics of professional education of AAM postgraduate students, take cultivating applied personnel that meet the requirements of the times as the goal, and strengthening the reform of the education model in colleges and universities, and improving the quantity and quality of personnel training as the guiding ideology in accordance with modern postgraduate teaching needs.

4.2 Main tasks Main tasks include (i) feasibility analysis and positioning research of case database; (ii) analysis and research on composition, content and structure of case database; (iii) organic integration research of case database and postgraduate training program.

4.3 Implementation plan Through the survey, we fully understood the characteristics of professional education of AAM postgraduate students. We took cultivating applied personnel that meet the requirements of the times as the goal, the course Aquatic Animal Pathogen Biology as the main line. We studied and built content, planning, and design scheme of a case database with local characteristics, established a new teaching and education model and method closely integrated with modern information technology, to strengthen the reform of college education model, and improve the quality of personnel training.

4.4 Implementation scheme

4.4.1 Positioning analysis of the teaching objectives and case database of Aquatic Animal Pathogen Biology. According to the teaching objectives of Aquatic Animal Pathogen Biology, combined with the needs of local industries and talents, our team studied and determined the teaching mode and the positioning of the case database.

4.4.2 Collection, arrangement and analysis of local characteristic teaching resources. We fully investigated the teaching resources related to the course Aquatic Animal Pathogen Biology, and provided material basis for the design and planning of the construction of the characteristic case database through collection, sorting and classification.

4.4.3 Design, planning and content analysis of the construction of characteristic case database. In accordance with the syllabus of Aquatic Animal Pathogen Biology, combined with local teaching resources, we analyzed how to effectively integrate teaching materials and local teaching resources.

4.4.4 Research on sharing and management mechanism of case database. We prepared the script of the case database, studied the operation, management and sharing mechanism of the case database, and expanded the utilization efficiency of the case database.

5 Conclusions

Postgraduate students of AAM are an important source of advanced aquaculture talents. Cultivating postgraduate students with independent thinking ability, scientific decision-making ability and clinical practice ability conforms to training orientation of "high-level, application-oriented" aquatic veterinarian talents for the master's degree of AAM in China. Case teaching is undoubtedly an effective way to accomplish this goal. However, at present, the construction of the domestic Aquatic Animal Pathogen Biology case database is still not mature, and there are no samples for reference. In this paper, we preliminarily constructed the case database of Aquatic Animal Pathogen Biology. It is expected to provide new ideas for the construction of the case database, but there are still shortcomings. It is hoped that in the future, through cooperation with other universities and companies, the quality of the case database of Aquatic Animal Pathogen Biology can be continuously improved.

References

[1] PANG HY, HUANG YC, CAI SH, *et al.* Research and practice on the practice teaching reform of aquatic animal pathogen biology based on veterinary qualification examination[J]. Journal of Anhui Agricultural Sciences, 2018, 46(6):231 – 232, 236. (in Chinese).

[2] LAI YT, GE L, CHEN JX, *et al.* Study on the construction of virtual simulation teaching case library for master degree of nursing[J]. Medical Information, 2020,33(19):13 – 15. (in Chinese).

[3] PANG HY, LU YS, CAI SH, *et al.* Exploration and Practice on the Teaching Reform of Aquatic Animal Pathogen Biology[J]. Journal of Anhui Agricultural Sciences, 2014, 42(17):523 – 524. (in Chinese).

(From page 61)

children's home, to guide the relocated people to change their way of life, promote their rapid integration into the new life, and realize the transformation from farmers to citizens.

5 Conclusions

Relocation is only a means, while getting rich is the ultimate purpose. It is expected to realize whole employment of the relocated poor people, continuously enhance the sense of gain, happiness and safety of the relocated people. These are main direction and effort of poverty alleviation relocation work. Only by doing well in poverty alleviation relocation follow-up support and ensuring relocated people living stably and comfortably after relocation, may it be able to consolidate the achievements in the poverty alleviation and solidly promote the rural revitalization strategy.

References

[1] BAI YX, NING Q. Study on mechanism system of relocation of poverty alleviation[J]. Journal of Northwest University (Philosophy and Social Sciences Edition), 2018, 48(4): 62 – 74. (in Chinese).

[2] YQ Q, SU H. Policy practice and recapitalization: Experience expression of anti-poverty by relocation of Guizhou Province[J]. Journal of China Agricultural University (Social Sciences Edition), 2016, 33(5): 64 – 70. (in Chinese).

[3] CHEN WJ, DUAN XH. Study on the satisfaction of farmers with the implementation of poverty alleviation and relocation policy in inhospitable areas: Taking the immigration area of Wuwei City in Gansu Province as an example[J]. Resource Development & Market, 2020, 36(12): 1369 – 1373. (in Chinese).

[4] XING CJ. Poverty alleviation by relocation and reconstruction of immigrant's livelihood: Evidence of Shaanxi Province[J]. Reform, 2016 (11): 65 – 73. (in Chinese).

[5] LIU S. Analysis of social stability risk in urban centralized resettlement type poverty alleviation relocation communities[J]. Journal of Huazhong Agricultural University (Social Sciences Edition), 2020, 39(6): 94 – 100, 165. (in Chinese).

[6] WU ZL, LI YT. Poverty alleviation relocation: historical evolution, realistic logic and risk prevention[J]. Study & Exploration, 2020, 41(2): 131 – 137, 2. (in Chinese).

[7] WANG SG, GUO JB, HU J. Some thoughts on consolidating and expanding the achievements of poverty alleviation[J]. Journal of Northwest Normal University (Social Sciences), 2021, 57(3): 16 – 25. (in Chinese).

[8] GE XC, CHEN SJ. Reactivation and activation: The livelihood transformation and development of relocated migrants in the post poverty alleviation era[J]. Journal of Arid Land Resources and Environment, 2021, 35(5): 15 – 21. (in Chinese).

[9] ZHANG HP, LUO YY. Research on the employment-promoting effect of poverty alleviation relocation: Based on the dual perspectives of labor force non-agricultural transfer and employment quality[J]. Chinese Journal of Population Science, 2021, 35(2): 13 – 25, 126. (in Chinese).

[10] JIANG Y, YANG JJ. Challenge and solution of resettlement community governance: A case study of Jing'an District in Zhaotong City of Yunnan[J]. Journal of Yunnan Agricultural University (Social Science), 2021, 15(2): 1 – 5. (in Chinese).

[11] ZHANG FF. Study on the path of social integration of the elderly immigrants relocated for poverty alleviation in ethnic areas: Based on the investigation of 13 immigration settlements in Guizhou Province[J]. Journal of Xihua University (Philosophy & Social Sciences), 2021, 40(2): 69 – 77. (in Chinese).

[12] Research Group of Wuhan University on Follow-up Support for Relocation for Poverty Alleviation. The basic characteristics of relocation for poverty alleviation and path selections of the follow-up support[J]. Chinese Rural Economy, 2020, 36(12): 88 – 102. (in Chinese).

[13] ZHOU L, LI HM, LI P. Impact of livelihood capital on the choice of livelihood strategy for resettled farmers: Based on the survey of resettled farmers in Hunan Province[J]. Economic Geography, 2020, 40(11): 167 – 175. (in Chinese).

[14] WANG JH, LI W, LENG GX, *et al.* Impact of poverty alleviation relocation on livelihood capital and livelihood strategy of poor households: Analysis based on three waves of microdata from 16 counties in 8 province[J]. China Population Resources and Environment, 2020, 30(10): 143 – 153. (in Chinese).