

Reform and Practice of Undergraduate Talent Cultivation Mode of Medical Image under the New Era

Deming Qi

Qilu Medical University, Zibo 255300, China

qidemingsd@126.com

Keywords: medical imaging; talent training; improvement measures.

Abstract: Medical technology can effectively promote the development of medicine and provide a basis for the judgment and treatment of various diseases. Especially in the new era, society has put forward higher requirements for medical talents, so it is necessary to constantly innovate the model of talent cultivation to adapt to the needs of society. Medical imaging professionals use computer and digital technology to study pathology and have a wide range of applications. Based on this, this paper starts with the significance of the training of undergraduate talents in medical imaging in the new era. Firstly, it analyzes the reform measures of medical imaging undergraduate talent training, and then analyzes the specific practical results. It hopes to provide a certain direction for the improvement of medical imaging talents in China.

1. The significance of the training of undergraduate talents in medical imaging in the new era

Medical imaging engineering is an interdisciplinary subject in engineering, medicine, and science. It can use modern equipment to provide a basis for pathological judgment, such as ultrasound imaging and CT. Moreover, medical imaging engineering can also introduce artificial intelligence to effectively assist in the development of treatment. In recent years, China's computer technology has developed rapidly, so the medical field has made great breakthroughs and improvements. Modern technologies such as nuclear magnetic resonance and ultrasonic have been applied in the medical field, making medical images more specific and precise. For this reason, medical images have emerged as a networked and computerized development trend, requiring more specialized compound talents.

Modern medical care is based on various mechanical equipments, and more and more medical images are used. The maintenance and operation of various types of equipment require professional talents, so the corresponding talent cultivation has social needs. From the current actual situation, most of the failures of MRI or CT equipment in large hospitals are caused by the lack of maintenance and maintenance, so there is a shortage of talents in this area. In addition, the current training of medical imaging professionals in China is still not perfect, and the related education is not systematic and professional, which has led many medical imaging students to enter the medical equipment sales industry after graduation. Therefore, the medical imaging profession must carry out modern personnel training and continuously improve the overall quality of students, so as to meet the needs of the hospital's required talents on the one hand, and improve the employment rate of the profession on the other hand, in order to promote medical progress and development.

2. Reform of undergraduate talent training in new era medical imaging

2.1 Improvement of training objectives

Training objectives directly affect teaching activities. Therefore, all kinds of medical colleges must rationally formulate talent training goals and effectively meet the needs of the society for medical imaging talents. Medical imaging belongs to medical technology innovation, supported by advanced technology, and medical machinery equipment as the foundation. Therefore, the medical

imaging profession has a strong era. The traditional professional definition is to train skilled imaging equipment technicians, which is inconsistent with current needs, so it needs to be refined and improved. In combination with the current actual situation, the goal of medical imaging professionals should first include the application of medical imaging equipment, as well as the development of advanced functions, and of course, research and development in emerging fields such as molecular imaging and functional imaging. Only in this way can talent training be more targeted and effectively improve the comprehensive quality of medical imaging professionals.

2.2 Optimization of the curriculum system

Reasonable setting of the curriculum system is the key to improving the quality of teaching, because the curriculum system is the carrier of educational activities and the main way to realize the teaching concept. Therefore, in the new era, the training of medical imaging undergraduate talents needs to set up a reasonable curriculum system, on the one hand to reduce the duplication of content, on the other hand to coordinate the comprehensive development of quality and ability. For medical imaging majors, it is necessary to rationally set the courses of engineering, science, and medicine to comprehensively cultivate the comprehensive ability of talents and improve the level of innovation. In the whole curriculum system, science and engineering lay the foundation for innovation and practice for students, and medicine is to train students' thinking. Therefore, the relevant curriculum system should be based on medicine, supplemented by engineering and science, the best proportion. It is 2:1:1. In terms of content, we must also keep pace with the times and constantly update modern technologies and equipment. Through these measures, knowledge can be effectively integrated and a scientific curriculum system can be constructed.

In the specific teaching, we must build a multi-dimensional talent training mode and continuously strengthen students' practical ability. Because of the strong practical requirements of medical imaging, students need to have the ability to operate equipment, and at the same time can innovate in combination with specific needs. Based on this demand, virtual simulation technology can be used in teaching activities. Through the virtual teaching of medical imaging equipment, students can establish a preliminary framework and perception, and then use real equipment to make students proficient. It should be noted that in the specific hospital internship process, students should continue to learn and understand the examination and maintenance of clinical medical imaging equipment, realize the mutual penetration of theoretical and practical teaching, and cultivate practical talents.

2.3 Three-dimensional training mode based on scientific research

Cultivating students' ability of scientific research and innovation is an important measure to realize the optimization of higher education. Therefore, the development of effective medical imaging professionals should highlight innovation and integrate it into the whole process of teaching. In order to achieve this, the following measures can be taken in teaching:

(1) Promote awareness of innovation. Through education and lectures, schools can educate students about the importance of innovation, enhance student awareness, and encourage students to innovate independently. This can provide a corresponding environment for students' innovation and stimulate the subjective initiative of students' innovation.

(2) Teaching mode combining teaching and research. In order to effectively cultivate students' sense of innovation, it is necessary to introduce innovative content in the curriculum to encourage students and teachers to participate in scientific research projects, so that theory and practice can be effectively combined, and technological innovation can be promoted at the same time.

(3) Improve the incubation of scientific research results. The essence of innovation is to improve the current model, so the efficient medical imaging profession also needs the use of results incubation to achieve the application of technological innovation. For example, projects can be converted into results through the laboratory, while complementing teaching resources.

(4) The graduation design is perfect. The student's graduation design can't adopt the traditional model. To create more new topics, the instructor will guide the students to carry out scientific research and practice, and continuously improve their innovation ability.

Medical imaging is a new project. The current teaching system is not comprehensive and perfect. Therefore, students should be continuously guided to participate in the R&D team to explore new technologies and equipment. On the one hand, it can promote the construction of professional talents, on the other hand, it can effectively improve students' independent innovation ability.

2.4 Improve the assessment mechanism

The assessment mechanism has a significant role in promoting the improvement of teaching quality. Therefore, it is necessary to continuously carry out the reform and innovation of the assessment mechanism. Only in this way can we fully verify the effect of talent cultivation and improve the quality of personnel training. For medical imaging majors, the assessment mechanism should be carried out in different levels, from the aspects of skills assessment, curriculum assessment, process assessment, practice assessment, graduation assessment, etc., focusing on the improvement of the assessment system of the personnel training process, and building up to practice. Based on the comprehensive evaluation, this can effectively improve the students' cognition and improve the teaching effect.

The medical imaging profession pays attention to the cultivation of practical ability, so it should be highlighted in the assessment mechanism. The internship and graduation design of students to the hospital must occupy a large share. At the same time, the internship evaluation and teacher evaluation are also the key measures to effectively promote the teaching reform. In the traditional medical imaging professional assessment mechanism, most of them are based on test scores and graduation thesis, which is not conducive to the cultivation of the whole process of talents, so it is necessary to speed up the pace of improvement and improvement.

2.5 Construction of the featured curriculum platform

In order to improve the quality of teaching, the current medical imaging profession can build a special curriculum platform and use the network to optimize the teaching activities. On the one hand, it can break the time and space constraints of traditional teaching, on the other hand, it can also make students get better quality. Teaching resources. For example, an open practice teaching system is to let students discover problems on their own, verify them through practice, and finally draw corresponding conclusions. This kind of teaching system not only effectively enhances students' independent innovation ability, but also creates an open platform for students to meet the educational needs of students. Of course, this kind of course teaching system needs to improve the construction of the laboratory, and the school must carry out the construction of the innovation base.

The featured course platform needs rich educational resources. Therefore, the teachers of medical imaging should have in-depth communication and discussion, upload perfect teaching materials and videos, and build a platform for students' feedback problems. When students encounter doubts, they can timely and Teachers communicate and solve problems quickly.

2.6 Talent training mode of school-enterprise cooperation

The development of school-enterprise cooperation is an important measure for the integration of current education enhancement theory and practice, as well as for medical imaging professionals. Moreover, the profession needs more specialized equipment and practical operations, so in the teaching process, it is necessary to deeply explore the path of school-enterprise cooperation. The school can cooperate with medical equipment companies to introduce advanced equipment to facilitate students' practical teaching. Of course, this also facilitates the follow-up practice of students and greatly helps the improvement of teaching quality. In particular, the cooperation between schools and hospitals, the government can play a guiding role, promote cooperative relations, allow students to go to the hospital for internships, and enrich the students' practical ability. Of course, this is an important way for hospitals to absorb talents and retain talents.

2.7 Promote teaching by competition

In order to improve students' practical ability, the school can also hold various types of

competitions to provide opportunities for students' practice. For example, schools can regularly conduct professional competitions in medical imaging technology, which are divided into theoretical and practical aspects, allowing students to learn and progress in the competition. Of course, this kind of activity can also cooperate with the medical school to promote communication and communication. Competitions and exchanges between different schools can also enable students to fully apply theoretical knowledge and find their own inadequacies in specific practice, so as to effectively improve the quality of personnel training.

Due to the advancement of science and technology, the current medical field has undergone tremendous changes, and the corresponding talent training needs to be changed in order to adapt to the needs of social development. For medical imaging majors, talent training should be diversified, set goals and curriculum system rationally, cultivate students' practical ability, and provide a platform for students through school-enterprise cooperation and competition. Of course, colleges and universities in various regions must combine their own actual conditions with the goal of cultivating the comprehensive quality of talents, and closely meet the development needs of the times, so as to effectively improve the quality of education.

3. Practical results

At present, many universities in China have carried out innovations in the training of medical imaging professionals, such as Taishan Medical College and Beijing Medical University, which combine the specific needs of the current medical field to explore the optimization path of talent cultivation. Other universities have taken similar measures in carrying out reforms and innovations, not only highlighting their own characteristics, but also making overall plans to achieve reform and innovation. Up to now, the cultivation of talents in medical imaging in China has initially established an innovative mechanism, which not only allows the effective combination of theory and practice, but also cultivates high-quality innovative talents, and has taken the lead in demonstrating the improvement and improvement of medical universities. effect.

The advancement of medicine is inseparable from modern technology, so universities must constantly improve and innovate. For the medical imaging profession, the dependence on equipment and technology is stronger, and the improvement and innovation of technology are also faster. Based on this status quo, in the follow-up development, we must grasp the trend of development, take the intelligent and network as the general direction, highlight technological innovation, and cultivate modern and innovative talents to promote the advancement of the medical field.

4. Conclusion

Medical imaging engineering is a modern project that combines engineering, science, and medicine. It requires talents to have this high comprehensive quality and also requires innovation. Therefore, the medical imaging profession must improve the traditional problems in the cultivation of talents, and use modern means to improve the quality of education. Combined with the current social development, this paper puts forward the improvement of training objectives, the optimization of curriculum system, the three-dimensional training mode based on scientific research, the improvement of assessment mechanism, the construction of featured curriculum platform, the cultivation of talents in school-enterprise cooperation, and the promotion of teaching by competition. The improvement measures hope to provide a certain idea for the improvement of the training of medical imaging undergraduate talents in China, help the university to innovate the education system, and cultivate more high-quality medical imaging talents.

Acknowledgement

Title of the project: "Research and Practice of Medical Imaging Technology Professional Training Program under the Guidance of Compound Talents Training", Shandong Vocational Education

Teaching Reform Research Project, Project No.: 2017152, Project Leader: Qi Deming.

References

- [1] Zhang Weiwei, Tie Ping, Donna Goldhawk, Li Li, Lin Zhiyan. The Enlightenment of Medical Imaging Talents Training Model of Western University of Canada to the Reform of Medical Image Education in China[J]. Medicine and Philosophy (B), 2018, 39(11) :94-97.
- [2] Li Huan, Han Xiaolei. Thoughts on the Cultivation of High-Quality Medical Imaging Technology Talents under the Mode of Medical Education Collaboration [J]. Vocational Education (中刊刊), 2018, 17(06): 32-34.
- [3] Zhuang Yinping. Discussion on the Necessity of Training Medical Imaging Engineering Talents in New Forms [J]. Imaging Research and Medical Applications, 2018, 2(01): 214-215.
- [4] Yang Ying, Sun Guochao, Gu Xueming, Jin Di, Zhang Defu, Zhang Xu, Wang Jun, Li Hang, Wang Licong. Exploration of the training program for four-year medical imaging technology professionals[J].Continuing Medical Education, 2017,31 (11): 29-30.
- [5] Zhao Haibo, Liao Mingzhuang, Luo Huanjiang, Long Tenghe, Xie Chaoxian. Discussion on the training mode of high-level medical imaging technology talents in the top three hospitals[J].Hospital Management Forum, 2017, 34(06): 67-68.
- [6] Zhang Tao. Discussion on the teaching of medical imaging equipment in the training of medical imaging technology talents[J]. China continuing medical education, 2017, 9 (13): 45-46.