



Preliminary Discussion on the Teaching of Medical Majors and Non-medical Majors in Digital Vision

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Abstract: With the extensive application of modern information technology in the field of pedagogy, medical and other non-medical majors, through online teaching, combined with their professional characteristics, ameliorate traditional learning models, productively design online teaching models, and apply them in practice. Good results have been achieved. In the learning mode under the background of online education, online learning is a new learning method that is different from the traditional offline face-to-face learning. Online learning breaks through various limitations such as time, place and age, which to a large extent broadens the vision of learners, promotes the circulation of knowledge, and breaks through the barriers of theory and practice for students. At present, online education methods, such as MOOCs, SPOC, micro-course, online virtual training, and online case teaching have been gradually applied in medical and non-medical education, and have become one of the most important teaching methods. Online teaching can not only supplement teaching resources and content, increase students' enthusiasm for vigorous learning, but also enhance communication between teachers and students and improve teachers' exclusive quality. This paper explores how to make finer use of the advantages of online teaching by exploring the online teaching of medical majors and other majors, and can guide the direction for further work.

Keywords: Medical Specialty, Non-Medical Specialty, Online Teaching

1. Introduction

Higher education is becoming increasingly shared, longterm and global, and the traditional educational concepts and modes have gradually changed. With the practice of online teaching, it breaks through the limitations of traditional class and realizes the real-time feedback interactivity between teachers and students in class [1]. Therefore, teachers can have the fortuity to deeply understand the learning effect of students, the current learning state, and the feedback between peers. Which can not only help learners to change their learning plan of action but also help the instructors to timely adjust the teaching method, so as to ultimately improve the learning

effect of students [2].

The study of medical major should not only master the basic theoretical knowledge, but also carry out a lot of preclinical skills training, so as to grow into a qualified doctor with certain clinical competence [3]. Online teaching of medical major is more like a learning revolution. There are many different retaliatory features for non-medical majors, the center of attention of online teaching are also different. As far as traditional teaching is concerned, the teaching methods are relatively simple and clear. In general, it is up for teachers to evaluate students' learning situation, and teachers are in an unshakable dominant position in the whole learning process. That is, the teacher-centered. However,

online education has broken through various restrictions and constraints of traditional education, expanded the timeliness of information and the area of knowledge dissemination, increased the types and means of information and knowledge presentation, and provided a guarantee for the development of students' creative thinking and the incubation of innovation ability. That is, student-centered. The following will introduce the characteristics of online teaching of medical majors and non-medical majors, and discuss how to give better play to the advantages of online teaching, and provide a new reference for the new teaching model in the field of education.

2. Online Teaching of Medical Major

Medical major is a highly practical subject, which requires not only a solid theoretical basis, but also rich clinical practice ability. Clinical work is actually a process of constantly finding, inspect and solving problems. The teaching method should be heuristic and participatory so that rally the enthusiasm and initiative of students to finally form the correct brainstorming [4]. With the development and application of modern information technology in the teaching field, how to make medical students fully adapt to the characteristics of online teaching mode and cultivate students with clinical thinking and comprehensive ability is worth our attention.

2.1. The Revolution of Online Teaching, Supplement the Traditional Teaching Forms

Online teaching of medical majors is more like a learning revolution, which makes the fundamental changes in the teaching methods, teaching content and learning methods of medical majors, and also provides an effective supplement to the traditional classroom forms [5]. With the development of diagnosis and treatment technology and the rise of subject content, the relatively fixed teaching hours have gradually been unable to meet the needs of full-time learning. However, online teaching provides new possibilities for the reform and development of curriculum. Nowadays, the updated teaching mode, more research samples and more research space can be used on the Internet platform to further promote the teaching reform and research on medical professional courses.

Compared with traditional teaching methods, online teaching has many advantages, including wealthy teaching resources and teaching models, which are more helpful to restoring students' interest in learning and help learners to continue their lifelong education. Traditional teaching methods such as PBL teaching are the process in which students find problems, solve problems and draw conclusions in class. The combination of online teaching and traditional teaching method can not only improve students' ability to use knowledge, cultivate students' progressive thinking, realize real-time communication and interaction between individual groups, but also improve the comprehensive quality of teachers to get feedback from students in time, so that boost the teaching mode [6].

2.2. Online Teaching Targeting, Design the Online Teaching Mode

Students lack autonomy and enthusiasm in traditional offline learning mode, which often makes it difficult to achieve better teaching results. Online teaching is student-centered and mainly focuses on the growing of students' comprehensive ability, which is more targeted. Teachers should actively and timely guide students to develop and use digital resources in teaching to promote teacher-student interaction and in-depth research, and thereby cultivate students' ability of discovery, thinking, analysis and penalty. Students can choose relevant teaching materials and academic information according to their existing knowledge background, thinking structure and academic needs, construct a complete knowledge system and draw their own views and opinions [7]. In this way, students' learning can change from one-way guidance given by teachers to constructive and discovery learning mode.

2.3. Professional Online Teaching, Online Transfer Clinical Treatment

Online teaching should be combined with professional characteristics, supplemented with clinical case discussion and practical operation in teaching, so as to strengthen students' understanding and application of theoretical knowledge [8]. Carry out online teaching of clinical diagnosis and treatment. The clinical teachers select the appropriate cases, and after obtaining the informed consent of the patients, use the Internet live broadcast platform to carry out practical teaching. For the cases that can cooperate, students can directly conduct "cloud consultation" to the them [9]. Live medical history collection, oral clinical examination, auxiliary examination results and other links can be carried out, teachers and students can discuss and analyze online to get the most appropriate diagnosis and treatment plan. In this way, on-site teaching can be simulated and students' ability of expression, clinical diagnosis and treatment can be cultivated.

2.4. Diversity of Online Teaching, Improve the Teaching Quality

There are many online teaching methods, such as MOOCs, SPOC and wechat public account platform [10]. MOOCs has rich and high-quality educational resources, it pursues classroom openness, scale and networking, and carries out teaching activities driven by students' interests. In the medical teaching, it not only enriches the teaching content of medical specialty, highlights the key and difficult points of medical specialty, but also attaches importance to the cultivation of students' comprehensive abilities such as practical operation, and can help build a diversified evaluation system; Watching the simulation model clinical skills training on the SPOC course online can evaluate the exercises in real time, and strengthen the interactive evaluation between teachers and students after class, which helps to improve the students' enthusiasm and ability to think

and solve problems [11]. In addition to MOOCs and SPOC online courses, the wechat official account platform also has a good adaptability in stomatology teaching with a wide audience range and convenient data transmission, which can improve the teaching effect.

3. Online Teaching for Non-medical Majors

For both medical and non-medical majors, the online teaching mode should combine professional characteristics, take the online teaching platform as the carrier, and skillfully combine modern technology and classroom skills [12]. Internet education can exactly serve as a beneficial supplement to traditional classroom education. Compared with the online teaching of medical specialty, the online teaching of non-medical specialty has some similarities with the former, but it also has its own characteristics.

3.1. Focus on Fun, Knowledge Becomes Vivid

Different subjects have different characteristics, whether in teaching methods or teaching content are pretty different. For example, the classroom teaching time of science and engineering students is mostly used for the simple explanation of new content, which is difficult to further explore and apply [13]. However, the classroom content is dull and abstract, which is difficult to be lively and interesting. This kind of course is rigorous and scientific, the content is deep and difficult, logical and coherent, and the learning often needs to review the past and learn the new. According to the teaching characteristics of such subjects, online teaching can timely explore and cultivate their problem-solving ability, reasonably apply corresponding theories to stimulate creative enthusiasm, and real-time interaction can make the knowledge in class lively and interesting [14].

3.2. Focus on Interactivity, More Real-Time Communication

We live in a rapidly developing, open and diversified environment, and one-way output teaching has long been unable to meet learners' pursuit of knowledge and communication needs. The lack of interaction in traditional education is a major weakness of traditional education compared with online education. At the beginning of the development of online education, it mainly depends on the form of recording and broadcasting, and students click on the Internet to watch it by themselves, and the interaction between teachers and students is almost zero. With the extensive application of the Internet in the field of education, learning has the characteristics of immediacy and personalized, and two-way online interactive learning is the direction of future teaching [15].

3.3. Focus on Challenge, Tradition Will Be Overturned

It is not easy for teachers to adapt to the new teaching methods, especially for the teachers who lack the grasp of

modern teaching equipment and the use of teaching software. It is difficult for them to master and use it freely like the traditional teaching. Secondly, harmonious teacher-student relationship is the premise of effective teaching. However, there are still differences between such "cloud interaction" and offline interaction [16]. The provocations for teachers and students in the process of online teaching are not the only ones mentioned above, but the more difficult they are, the more they need to be tackled, so that they can grasp the opportunities of online teaching and education can embrace a new future.

3.4. Focus on Frontier Science Can Be Innovative

The development of the subject is push on with The Times, and our exploration of science should never stop. Literature reading is one of the ways to understand frontier knowledge. On the basis of doing a good job in basic knowledge reserve, we should have a good ability to absorb scientific frontier. For example, the zoology project assignment conducted by a university that connects classroom teaching and scientific frontier is a group cooperation project [17], including a series of links such as literature retrieval, paper selection, reading comprehension and presentation of key points. It closely follows the subject frontier, promotes students' scientific research level and improves their ability of independent thinking. This teaching mode also opens up students' academic vision, enhances their enthusiasm for active learning, promotes the interaction between teachers and students, and plays an early leading role in students' academic reading.

4. Conclusion

This paper affirms that online teaching can play in different majors, but it does not deny that the traditional teaching mode is an irreplaceable force in the field of education. Just as Yu Minhong said that online education is a challenge to traditional face-to-face teaching, but it's more complementary to traditional education rather than replaced.

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References

- [1] Hean Liu. On-line and Off-line informatization teaching in colleges and universities based on rain classroom. 2019, 8 (2).
- [2] Huei-Zhen Gu, Chien-Wei Ku. A research on innovative management of teaching assessment- using I. T. to implement students' on-line peer review of learning outcomes through rubric. 2018, 169.

- [3] Simon Sze. Pre-clinical experimental education in Stomatology [J]. Northwestern Medical Education, 2009, 17 (04): 831-832.
- [4] Ye Jianying, Chen Lujun, Huang Nianzhao, et al. Research on the ath of clinical thinking ability of medical students in Internship [J]. Technology Vision, 2019 (36): 33-34.
- [5] Yang Jing. Applied analysis of MOOCs in basic oral medicine teaching [J]. Electronic Journal of General Stomatology, 2019, 6 (22): 16-17.
- [6] Wu Zhigang Wu. Experience of MOOCs and PBL in oral and maxillofacial surgery [J]. Contemporary Educational Practice and Teaching Research, 2020 (07): 22-23.
- [7] Zhao Sanjun, Chen Jihua, Zhang Shaofeng. Application of prosthodontics in teaching [J]. China Education Technology and Equipment, 2010 (03): 94-96.
- [8] Yang Yongbin, Wu Sufang, Yang Ye, et al. Application and exploration of online education in clinical teaching of medical students [J]. Science and Education Guide, 2021 (12): 43-45.
- [9] Qian Kefeng. "Cloud consultation" promotes medical services to "private customization" [N]. Shaoxing Daily, 2017-07-03 (004).
- [10] Liu Koga. On the application of WeChat public platform in Stomatology teaching [J]. Intelligence, 2019 (14): 120.
- [11] Jin Zhe, Chen Lu, Fang Jin. Construction and thinking on the new mode of online and offline mixed teaching in medical imaging in the post-epidemic era [J]. Management of Medical Education, 2021, 7 (06): 636-640.
- [12] LAN Yi. Exploring the teaching mode of combining MOOCs and flipped classroom [J]. China Education Technology and Equipment, 2019 (05): 90-91.
- [13] Liu Lizhen, Shang Yuan Yuan, Song Wei, et al. "Mathematical Logic" based on SPOC [J]. Computer Education, 2016 (10): 30-33.
- [14] Liu Jie, Wu Hongde. Research on scenario-based online education of practical courses [J]. Higher Education in China, 2022 (Z3): 72-74.
- [15] Huang Enmin. Mobile terminal design and implementation of the Interactive online teaching system [D]. Huazhong University of Science and Technology, 2015.
- [16] Hu Xiaoping, Xie Zuoxu. Analysis on the advantages and challenges of Online teaching in universities under the epidemic [J]. Chinese Higher Education Research, 2020 (04): 18-22 + 58.
- [17] Lei Lei, Jiang Xiaodong. Zoology project-style assignments linking classroom teaching with the cutting edge of science [J / OL]. Biology Journal: 1-6 [2020-05-18].