Analysis of "Intelligence +" College Students' Swimming Course Teaching

Song Li[1,2,a], Dianyi Song[1,b]

[1]College of Military and Political Basic Education, National University of Defense Technology, Changsha, 410073, China

[2]Shijiazhuang Detachment of Hebei Provincial Corps of the Chinese People's Armed Police Force, Shijiazhuang, 050000, China

[a]331213462@qq.com, [b]149070703@qq.com

Keywords: College students; Swimming teaching; Technicalization

Abstract: Swimming positively affects physical and mental health, improves cardiovascular function, mobilizes systemic function, and has survival ability, so teachers and students highly appreciate it. Based on the current situation of college students ' swimming teaching, this paper points out the reasons why the overall college students ' enthusiasm for swimming learning is not high and the overall level of swimming is low. Regarding the lack of intelligent teaching equipment and equipment, the solidification of teaching concepts, and the lack of relevant safety guarantees, the reform of swimming teaching concepts driven by intelligent, informative, and digital teaching methods is discussed so that college students can feel the fun of swimming in an all-round way. Strengthen college students' swimming ability, promote physical and mental health, and relieve academic pressure. At the same time, it lays a good foundation for future responses to water disasters.

1. Introduction

At present, the traditional swimming teaching concept and outdated teaching equipment can no longer meet the needs of contemporary swimming teaching. In order to achieve better results in swimming teaching, it is imperative to improve teaching methods and update related equipment. Scientific swimming improves the functions of the nervous, breathing, and blood circulation systems and can quickly enhance the individual's strength, endurance, coordination, and flexibility, effectively enhancing cardiopulmonary function and resistance. In addition, swimming can also improve core strength, compensate for the disadvantages of insufficient core muscle training, improve the quality of swimming training, and better protect the body from damage. How improve the swimming skills of college students is an urgent problem to be solved at present.

2. The Existing Problems

2.1 College students do not pay enough attention to their ideology, but their self-requirements are low

The first is that the spirit is unstable when learning to swim, and the swimming atmosphere is weak when learning to swim. Pre-training mood swings and hyper-agitation, as well as depression problems, are relatively prevalent, which results in a weak classroom atmosphere and incomprehensible communication and interaction in other sports. Second, there is a reduction in self-requirements. The majority of college students are only competent swimmers and do not pay enough attention to factors such as swimming speed and distance. Swimming common sense, water lifesaving, and other knowledge exposure is less [1]. Thirdly, there is a lack of solid mastery of swimming skills. After coming to the school, the students only remained at the level of learning breaststroke and being able to swim but lacked a certain level of interest in swimming, which led to the subsequent failure to strengthen their sense of swimming, so they had to learn swimming repeatedly.

2.2 Swimming coaches have rich teaching experience, but their teaching concepts are solidified

First of all, swimming instructors are easy to equip, but there are few trainers who are suitable for the characteristics of the students they are to teach, and most focus on teaching "double classes". The second characteristic is the unique method of teaching and training. There are several issues regarding teaching methods, such as insufficient teaching resources, unique training methods, a clear separation of water and land between swimming coaches and students, and poor communication between the two parties. In addition, the teaching and training are primarily at the elementary stage of learning to swim, have not been effectively correlated with water polo, diving, and related water sports and underwater rescue, and have not aroused the college students' enthusiasm for water interest. The third problem is that teaching is a backward concept. The coaches still focus on repeated demonstrations and training when teaching swimming subjects. Moreover, when carrying out training activities, the general setting of training activities and related tasks leads to obvious differences in the learning status and task completion of different college students.

2.3 The teaching support equipment is relatively backward, and the full utilization rate is low

However, swimming lessons cannot guarantee regular operation. Some colleges and universities are often closed for objective reasons such as swimming pool equipment maintenance, water changes, and disinfection [2]. In addition, due to poor supervision and management, lack of attention by the leaders in charge, etc., the opening time is relatively late, and the closing time is relatively early. On the other hand, the intelligent teaching equipment and facilities are not perfect, and the training efficiency is low. For example, the teaching equipment used in swimming teaching in colleges and universities still stays on water boards or swimming rings, paddling palms, flippers, etc., many years ago. However, these old teaching types of equipment cannot improve the teaching quality very well.

3. Analysis of Causes

3.1 Deeply affected by geographical distribution, more careful considerations, and less exposure to swimming before entering school

China has a large territory, unevenly distributed water resources, and relatively scarce water resources in the north. Northerners in the region are traditionally unfamiliar with water, so some students have not mastered basic swimming skills before entering school. During teaching and training, there will also be some problems when some northerners first come into contact with swimming. They are afraid of the water and dare not enter the water or enter the water and dare not take a breath in the water. People in some economically backward areas in the south have been in contact with rivers, lakes, and seas since they were young, and they have had better water swimming skills since childhood. However, in some relatively economically developed southern cities, due to the high pressure of studying before entering school and the fast pace of life, swimming's overall cost-to-performance ratio is not as good as jogging, basketball, etc. This is also an important reason modern college students have low swimming enthusiasm and a poor foundation.

3.2 The teaching mode of colleges and universities is relatively traditional, the thinking concept is solidified, and college students' enthusiasm is not high

On the one hand, colleges and universities are under great study pressure, and many daily businesses, besides occasional drownings caused by illegal swimming, create a lack of enthusiasm for swimming. Some universities are concerned about the safety and have not adequately advertised swimming. On the other hand, the traditional teaching and demonstration methods no longer catch up with the modern concept of skill teaching, leading to a relatively rigid teaching environment and limiting students' interest in swimming. The unified teaching mode of collective organization can

also not teach solid swimming skills in a limited time. Many colleges and universities have serious teaching indexation problems. The evaluation of college students' swimming is mainly based on time as a reference, and the swimming speed is used to measure the quality of swimming skills, thus ignoring the comprehensive evaluation of movement standards, self-rescue, mutual rescue abilities, psychological quality strength, etc.

3.3 The equipment guarantee cannot keep up, the atmosphere of interest is not enough, and the pertinence and directionality are not strong

Swimming is one of the least traumatic sports. Especially in the summer, it is very popular among college students. However, in the current situation, only some colleges and universities can open swimming pools all year round. In addition, some colleges and universities pay little attention to swimming. Even swimming pools are often closed for a long time due to old equipment and untimely maintenance. Besides, the attention and direction of the relevant departments are not strong, and swimming activities organized by the public are still small, not stimulating many students to participate excitedly. At the same time, in training, the interest and health promotion of swimming related to swimming in the whole swimming pool field is far from enough [3], the concept of promoting physical and mental health with happy swimming is not strong, and the teaching concept of lifesaving water traction is not implemented enough.

4. Countermeasures and Prospects

4.1 Highlight Technology and Integrate Swimming Teaching Resources

(1)Build a "dual platform" for intelligent swimming lessons

Using human body posture recognition technology, Web technology, and the developed "smart sports action recognition management platform, " intelligent assessment and feedback of swimming exercises and technical movements are taken, enhancing their standardization. Develop the "College Swimming Class Teaching Cloud Platform" to form a teaching resource library that integrates online courses, videos, and copywriting and provides a systematic teaching guide for college students so that their teaching can break through the limitations of time and space [4].

(2)Application of smart swimming bracelet

A smart swimming bracelet created by up-and-coming American fitness technology company Moov lnc., in addition to detecting the independently developed heart rate, blood pressure, etc., it can also detect swimming movements and correct behavior, stroke efficiency, voice function, etc. On this basis, you can also wear the matching swimming cap launched by the company to make the data more accurate and complete.

(3)Application of intelligent swimming intercom

Yuanshi Bone Swimming Teaching Headphones, a subsidiary of Wuhan Yuanshi Technology Co., Ltd., weigh only 40g, has a battery life of up to 6 hours, and can be used within a range of 155 meters. It can effectively solve the problem of swimming coaches shouting to guide teaching.

(4)Intelligent swimming system using VR technology

Using virtual reality technology (called "VR") methods to further improve the shortcomings in teaching traditional swimming skills, with the immersion and full-dimensional visual impact brought to swimmers by the virtual environment in the computer, will deeply strengthen learners' comprehension and perception of swimming skills, and stimulate learning fun. Then provide new ideas for teaching methods [5].

(5)Innovative teaching concepts

In the paper <(Inverting the classroom to create a global approach to learning)) published by American professor Lage and others. For the first time, flipped classroom teaching was applied to classroom teaching and achieved great success, which also set off a new wave of classroom revolution. This teaching method helps to master motor skills and improve performance, helps students to enhance their self-exploration ability and self-confidence, helps optimize the teaching process, and improves teaching quality [6].

4.2 Create fun and integrate various water sports factors

(1) Guarantee the quality and complete the preliminary preparations. For all kinds of water swimming sports, proficient mastery of breaststroke technique is the basis. At the same time, it is necessary to strengthen the continuity of diving and treading water time continuously and to save physical strength to the maximum extent, and it is necessary to master certain survival and self-saving skills. This is the preparatory work for carrying out various swimming interest sports, and it is also the prerequisite for the safe and smooth organization of various water sports.

(2) Promote heavy and difficult training content in layers. Teaching and training should adhere to going from easy to difficult. Distinguish between levels, clarify the range of personnel levels, and do not eat from the same pot. In addition, in the process, it is necessary to enrich and expand swimming teaching content in combination with survival training. Potential and interested college student trainers should be guided to obtain relevant lifeguard certificates and social instructor certificates. So that when the surrounding people are in danger in the water, they can provide help. It is also important to emphasize cardiopulmonary resuscitation and hemostasis bandaging training. Furthermore, students should be encouraged to develop a sense of social responsibility and mission.

(3) Design a variety of happy swimming teaching modes. For example, in order to dig deeper into the fun of swimming, college students of different majors, combined with related topics of swimming teaching, organize irregular discussions and exchanges and produce exquisite courseware and video materials [7]. It can also be creatively integrated into literature, art, and other related sports. For example, running in water, cosplay display in water, etc., stimulate college students to actively use their brains to innovate and expand their interest in swimming.

(4) It is to increase the adaptive teaching related to swimming. Separate the venue from the ocean, and when you are in the venue, focus on cramps, people nearby asking for help, and how to save yourself. Side effects such as dizziness and fatigue may occur at sea. Also, in order to adapt to the marine environment, it is necessary to understand the characteristics of the ocean, such as currents, tides, and waves.

4.3 Consolidate Security and Comprehensively Upgrade Support Equipment

On the one hand, a complete supervision and monitoring system should be established. In December 2021, Guo Yongchao [8] of Anheng Environmental Technology (Beijing) Co., Ltd. published a method, intelligent terminal, and system for monitoring swimming facilities. The intelligent terminal of this invention supports multiple business hours settings of venues, multiple hardware interfaces, and custom acquisition protocols and realizes adaptation with various monitoring equipment. Complete online monitoring data collection and swimming site evaluation, and upload to the remote server in real-time. Data reporting and collation are accurate and timely, the monitoring system can be connected quickly, and monitoring efficiency is improved, saving manpower and material resources. On the other hand, wear lifesaving protective gear that detects in real-time. For example, the wearable lifesaving bracelet invented by Kingii Company of the United States [9] pops up a striking orange inflatable airbag within 1 second to quickly pull the drowning person out of the water, and the device is also equipped with a whistle and a compass. Also, consider methods such as blowing your mouth and nose and detecting important parts to check whether staff suffers from skin diseases, infections, heart diseases, or other groups unsuitable for swimming. This also allows for quick isolation. Filter people who can't swim well in the first place.

5. Conclusion

In general, with the development of science and technology and the deepening of educational reform, comprehensive improvement of the physical fitness of college students is becoming more and more important for universities. Relevant departments should first understand the difficulties and problems of teaching swimming to college students, and then through the conversion of related teaching concepts, further improve the current swimming course skill training and promote the steady improvement of swimming teaching skills.

References

[1] Lin Haiqiang. Discussion on the Predicament and Teaching Reform of Physical Education Teaching in Colleges and Universities——Taking Swimming Class as an Example [J]. Water Supply and Drainage, 2022, Volume 58 (2): 185

[2] Chen Bozhou. A Brief Discussion on the Skills and Training Methods of College Students' Swimming Teaching [J]. Wisdom, 2020, (2): 110

[3] Sun Qicheng, Li Zeen. Exploration on the skills and skills training methods of college students' swimming teaching [J]. New Campus (Early), 2018, (1): 122

[4] Liu Bin. Practical research on the flipped classroom teaching mode in the classroom teaching of "Physical Education and Health" in junior high schools[D]. Shandong Normal University, 2015

[5] Lan Qing. Application and Exploration of Virtual Reality Technology in Swimming Teaching [J]. Physical Education, 2022, Volume 42 (9): 79-80

[6] He Yichuan, Liu Jun. Practical examples and educational value of artificial intelligence technology empowering swimming courses in colleges and universities [A]. The 14th National Sports Information Technology Academic Conference in 2022 [C], 2022.

[7] Chen Shuang. Experimental Research on the Micro-video Cooperative Teaching Method in the Compulsory Course of Swimming Teaching in Colleges and Universities [D]. Mudanjiang Normal University, 2021

[8] Guo Yongchao. A method, intelligent terminal, and system for supervising swimming pools [P]. Chinese patent: CN113743909A, 2021.12.03

[9] Lu Lu. "Lifejacket" on the wrist - Kingii[J]. Science Popularity, 2016, (32): 18-19