

On the obstacles to the development of water bombs, military and police technical and tactical training and national defense education and teaching tools

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Abstract: In the current international environment, safeguarding national security has become an important task for every country. At the same time, the development of water bomb military and police technical and tactical training, national defense education, and teaching tools and their derivative toys has gradually become an important part of safeguarding national security, which has important strategic significance and practical application value. This paper aims to explore the training of domestic small weapons design, the defense education and the present situation of the development of domestic toys, and analyze the obstacles, research solutions, and the future development of the toys. This paper analyzes the development status of military and police training and its derivative toys, discusses the obstacles and solutions in its development, and puts forward the strategies and suggestions to promote the comprehensive development of this field.

Key words: domestic light weapons design; water bomb; military and police technical and tactical training; national defense education; teaching equipment; derivative toys

1 Introduction

With the continuous development of modern science and technology and the continuous upgrading of weapons and equipment, light weapons have been widely used as the necessary equipment for the military and police forces [1]. As a new simulation weapon, the water bullet gun has the characteristics of long range, small power, safety and environmental protection, etc. It has also been widely used in the fields of military and police technical and tactical training and national defense education and teaching. However, there are some problems in the development process of the domestic water ammunition gun market. Some water bullet gun production enterprises use hunger marketing in the network marketing, which hinders the development of enterprises. Secondly, due to the special nature of water bullet guns, their production and sales need to be supervised and managed by the state, but the current relevant policies and regulations are not perfect. In addition, there are also some problems in consumers' cognition and use of water bullet gun products. These problems have

restricted the development of the domestic water ammunition gun market.

Therefore, the purpose of this study is to explore the obstacles to the development of military and police training of water bombs and their solutions. Through literature research and field investigation, the current situation and existing problems of domestic water ammunition gun market are analyzed, and corresponding solutions are put forward. The significance of this study is to provide reference and suggestions for the development of domestic water ammunition gun market, and also to provide new ideas and methods for the fields of military and police technical and tactical training and national defense education and teaching.

2 The development status of national defense education teaching tools and their derivative toys in China

2.1 Application status of national defense education and teaching equipment in China

National defense education teaching tools refer to all kinds of teaching tools and models used for national defense education and military theory teaching, such as military equipment models and simulation models of war scenes. Because they can show military knowledge intuitively and improve students' understanding and interest in military science knowledge, they are widely used in national defense education and teaching in schools.

2.2 The development status of derivative toys in China

As the extension of national defense education and teaching equipment, the derivative toys are also an important part of the military and police technical and tactical training, and their role cannot be ignored. In foreign countries, derivative toys have become an indispensable part of the children's toy market, while China's derivative toy market is relatively lagging behind, and its development is still hindered to some extent. On the one hand, the brand awareness and popularity of derivative toys are still far behind those of foreign brands. In the process of producing derivative toys, some domestic toy manufacturers attach importance to the market size rather than the brand itself, which leads to the reduction of product competitiveness, but makes the market more cruel. At the same time, domestic toy manufacturers in the brand distribution chain, efficiency, management level and other aspects also need to further improve, in order to seize more market share [2]. On the other hand, the safety problem of derivative toys is still one of the bottlenecks of the market. Because derivative toys are similar to military and police equipment, if quality problems are not effectively controlled, they may bring safety risks to users. At the same time, not all consumers consume rationally. Some products purchased by consumers who are too greedy for low prices often have quality problems, which seriously affects the development of the market and even poses a threat to consumers. The key to solving these problems is to improve the brand awareness and safety management level of domestic toy manufacturers. At the same time, the relevant government departments should strengthen the supervision and management of the derivative toy market, and implement stricter management of the derivative toys from the aspects of origin, quality and after-sales service.

3 Referring to the application of domestic light weapon design in the military, national defense education teaching equipment and its derivative toys

3.1 Application of domestic light weapon design in the technical and tactical training of the military and police

In the training of the military and police technology and tactics, the design of domestic light weapons undoubtedly plays an important role. First of all, the use of domestic light weapon design can improve the safety and authenticity of training. Water ammunition has a range and power that is closer to the real environment than conventional training equipment such as air guns. The launch of domestic light weapons meets the use of water bombs, making the training more practical significance. At the same time, the design of domestic light weapons is also more in line with the actual use needs

of the military and police, such as easy to carry and operate. These characteristics make it easier for trainers to use and improve the training effect.

3.2 Application of domestic light weapon design in national defense education and teaching tools

In national defense education and teaching, domestic light weapon design can be used as teaching tools in order to let students better understand modern military technology [3]. For example, a simulated rifle or a simulated pistol can be used to demonstrate the basic posture and skills of shooting, so that students can better understand how the gun is operated. This also better allows students to experience the atmosphere of military education.

4 The obstacles to domestic development and their solutions

4.1 Restrictions on technology, equipment and talents

In the past few decades, the design level of domestic light weapons has improved rapidly. However, there are still many limitations in technology, equipment, talent and other aspects, which have become one of the main factors restricting the development of domestic light weapon design. First, the limitation of technical level is one of the main obstacles to the current domestic light weapon design. Different from the design of foreign light weapons, domestic light weapons designers often lack advanced manufacturing technology and advanced process equipment. To have a place in light arms design, these manufacturing technologies and equipment are essential. Secondly, the limitation of talent aspect is also the bottleneck of domestic light weapon design [4]. At present, there is a shortage of high-end technical talents in the field of light weapon design in China. These talents should not only have rich theoretical knowledge, but also have practical experience and innovation ability.

4.2 Restrictions on the market and consumers

In terms of the market, the water bullet gun, as a new type of military and police training equipment, its market demand is limited by many aspects. Although some sporting goods stores, toy stores and other businesses are selling such products, they are not selling as well as expected. On the one hand, the price of water bullets is relatively high and not affordable for some consumers. On the other hand, because the range and firing rate of the water bullet gun are not as good as the traditional toy gun, for some consumers, the fun and playability of this product are not high, and it is easy to make people lose interest. At the same time, consumers' cognition and acceptance of water bullet gun products are also important factors hindering their market development. At present, when most consumers see the water bomb gun as a military police equipment, they will first think of its practicality and functionality, rather than as an entertainment or a toy. Although this cognitive mode is conducive to the promotion of the military and police training function of water bullet gun to some extent, it has a certain limiting effect on the dissemination and popularization of its entertainment nature.

4.3 Solutions

4.3.1 Breakthrough of restrictions in technology, equipment, and talents

Under the limitations of technology, equipment, talent and other aspects, we need to establish an innovative research and development mechanism from many aspects. First of all, we can obtain more high-level technology and talents by establishing cooperative relations with universities and scientific research institutions [5]. At the same time, advanced production equipment and advanced production technology can be introduced to improve production efficiency and product quality. In addition, with the support of information technology, digital manufacturing technology and other means can be reduced through virtual simulation technology, to reduce the time and cost of physical sample production. These measures can effectively solve the limitations of technology, equipment, talent and other aspects.

4.3.2 Overcome the restrictions of the market and consumers

Under the restrictions of the market and consumers, it is necessary to strengthen market research and brand publicity to improve the visibility and reputation of products. At the same time, we can carry out early trial marketing activities to adjust the price and quality of products and improve consumer satisfaction. In addition, more products suitable for different ages, genders and preferences can be developed to expand the market share while meeting consumer demand. These measures can effectively solve the market, consumer and other restrictions.

5 The future development direction of water bomb military and police technical and tactical training and national defense education teaching equipment and its derivative toys

5.1 Technological innovation and application

The continuous progress of modern science and technology has provided a broad development space and rich innovation means for the innovation of water bomb military and police technical and tactical training and national defense education teaching tools and their derivative toys. In the future development, we need more technological innovation and applications to meet the growing market demand and the pursuit of experienced players. The direction of technological innovation should pay more attention to safety issues. In the manufacturing process of toys, the damage intensity of water bombs should be reduced as much as possible, and the safety performance of toys should be increased. Secondly, the reliability of toys is also an issue that we need to focus on. In the process of use, the life and maintenance cost of vulnerable parts is also a problem we need to consider. Therefore, researchers can draw lessons from the relevant foreign research results, and gradually improve the quality and technical content of toys in the aspects of material selection, process manufacturing, assembly and verification [6]. In terms of technology application, we can use simulation technology to simulate testing on toys, so as to more intuitively and scientifically understand the defects and development direction of products. In addition, intelligent technology is also one of our future research priorities. By adding smart chips or sensors, toys can be made more intelligent, adaptive, more in line with the needs of players, and improve their market appeal.

5.2 Market expansion and promotion

In view of the obstacles encountered in the market promotion of water bomb military police technical and tactical training and national defense education teaching equipment and their derivative toys, some effective measures are needed to be taken to expand and promote the market. We should establish the market-oriented concept, understand the actual demand, and deeply tap the market potential. The R & D team needs to go out of the laboratory and enter the market, communicate with users, collect user needs and feedback, and design and improve the product on this basis. At the same time, for different market demands, different styles and prices are needed to attract more users. In addition, we should pay attention to the brand construction, and improve the brand awareness and market competitiveness. Brand exposure can be enhanced by participating in various exhibitions, cooperation between military and police training institutions and schools, and organizing promotion activities. At the same time, we should strengthen the after-sales service, timely solve the problems and difficulties encountered by users, and do a good job in user maintenance and word-of-mouth communication.

5.3 The importance of education and publicity

Water bomb military police technical and tactical training and national defense education teaching equipment and their derivative toys have gradually attracted attention in China. However, for these products to truly grow, the importance of education and propaganda cannot be ignored. First of all, for national defense education, water bomb military and police technical and tactical training and national defense education teaching tools and their derivative toys can become important teaching tools. Through these products, students can have a deeper understanding of national defense knowledge and

improve patriotism. At the same time, in educational institutions, we should strengthen the publicity and promotion of these products, so that more people can understand and realize the value and significance of these products. Universities and scientific research institutions should also attach importance to the importance of education and publicity. The influence of universities and scientific research institutions in this field can be enhanced by widely publicizing the relevant information of the technical and tactical training of military, police and water bombs, national defense education and teaching equipment and its derivative toys.

6 Conclusion

It is found that the development of domestic light arms design is a new type of military and police technical and tactical training teaching equipment and its derivative toys in the domestic market. First of all, due to people's lack of awareness of water bombs, many people also have confusion and misunderstanding about their use methods and effects, resulting in a low purchase and utilization rate. Secondly, the market competition is fierce, and the water bomb products from abroad occupy a great advantage in terms of low price and high quality, which makes the domestic products are at a disadvantage in the competition. Thirdly, insufficient investment and publicity in military and police technical and tactical training and national defense education in some places have also hindered the development of water bombs. To sum up, there are some difficulties and adverse factors in the development of domestic water bombs in the domestic market. To solve these problems, we can start from the following aspects: first, strengthen the publicity and popularization of water bombs to let more people understand the use method and effect of water bombs; second, improve the quality and cost performance of products, enhance competitiveness and increase market share; third, increase the investment and publicity of military and police technical and tactical training and national defense education, so as to enhance the public security awareness of the people. It is believed that these measures can effectively promote the development and promotion of domestic light weapon designed water bombs.

Conflicts of interest

The author declares no conflicts of interest regarding the publication of this paper.

References

- [1] Zeng ZY, Yuan W. 2001. Experts on the development of light weapons in China. *Light Weapons*, 17-18.
- [2] Liu GQ, Shi SB, Chen ZX. 2015. Analysis of the current situation and central test requirements of domestic tactical laser weapons. *Ordnance Test*, 41.
- [3] Sun YF, Song SH. 2005. Overview of the development of small arms abroad in 2004. *Modern Small Weapons*, 2-6.
- [4] Du JY, Chao FQ, Sun H. 2014. Test status and development trend of weapon target range in China. *Measurement & Control Technology*, 6-7+10.
- [5] Long JH, Wang ZY. 2003. Discussion on the development of light weapons in China. *Sichuan Military Engineering Journal*, 17-19.
- [6] Wen L. 2000. Thoughts on the future development of small arms in China. *Light Weapon*, 6-8.