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DEVELOPMENT OF TABLE TENNIS AUTOPLAY APPLICATION AS SELF-LEARNING MEDIA

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Abstract

This research aims to produce a product in the form of an autoplay that contains everything about table tennis from training tutorials to profiles of professional players. With this product, it is expected to be a self-learning media for someone who wants to learn table tennis independently without having to spend excessive internet data. Thus, the procedures that will be carried out to produce the product include (1) information gathering, (2) making assessment instruments, (3) making products, (4) validation by material experts and media experts, (5) product revision, and (6) product finalization. After the product is completely finished, it will be disseminated through the website so that it can be downloaded for free and watched repeatedly on a laptop or PC.

Keywords: *table tennis, table tennis training, table tennis training model*

INTRODUCTION

A. Background

Sports are a physical activity that has been very popular among the public. Sport has become so popular because it can provide satisfaction and health in humans (Bodin & Taks, 2022). This can be seen from the enthusiasm of the community when participating in a sports competition. Expressions of pleasure and satisfaction when winning and a high sense of motivation to improve when losing are always visible in every moment of sports competition.

Exercise can not only be done through certain sports, but any physical activity that can increase heart rate and muscle performance can also be called exercise. For example, running at a slow, medium, or fast speed can also be categorized as exercise. After a person runs, the heart rate will increase and the performance of certain muscles will increase (Woźniak et al., 2019). Another example is the activity that construction workers usually do. They do not do any particular sport, but their physical quality is very good because their heart and muscle performance are trained by lifting heavy weights.

Exercise is also synonymous with calorie burning. Exercise is undoubtedly an activity that can burn calories so that it can maintain ideal body weight (Mehmet et al., 2017). By regularly doing exercise, calories from the consumption of nutrients will be burned by the energy needs to move. Not only that, human metabolism which can be likened to a natural machine will always maintain its performance when diligently doing sports (Wang, 2021). So that people who have a habit of doing sports tend to have a fresh physique even though they are over 40 years old. Research shows that there is no significant difference between bone density between adolescents and the elderly when they have a habit of doing sports activities (Moraes et al., 2022).

Given the benefits of exercise, it would be a good idea for people to regularly engage in one of the sports they are most capable of doing. Indeed, exercise does not have to be done through a particular sport, but through this way they can meet and socialize with new friends (Koopmans & Doidge, 2022). This is because sports that exist in certain areas of society usually have a community

that regularly conducts training activities both for recreational and achievement purposes (Fortune & Oncescu, 2022). Thus, a person will be more eager to master the sport.

One sport that has a community with a very young to old age range is table tennis. Why table tennis has such a large age range is because table tennis does not require such a strong physique as soccer, badminton, and basketball. The need for physical conditions that do not require as strong as other sports allows a person who has an advanced age can still compete with teenagers (Kong & Li, 2023). In addition, table tennis is also an individual sport so there is no need to gather a lot of playing friends to be able to do it.

To be able to do table tennis techniques correctly, then someone must learn it either through tutorials on YouTube or with a coach. For someone who does not have a coach, of course, learning basic techniques in table tennis will be a little more difficult. This is because, they will be forced to learn through playing directly with colleagues in the community (Oagaz et al., 2022). Whereas when learning through direct play, the thought of making perfect techniques will be replaced by how to get points (Han, 2022). Likewise, community colleagues who do not necessarily have good techniques, this will be an unfavorable effect on the learning process.

Based on the explanation above, if learning through watching video tutorials on YouTube requires a lot of internet quota. However, if someone downloads it to watch offline, of course it will be a behavior that is less respectful of the video maker because the video maker will not get any income from the video he made on YouTube (Maziriri et al., 2020).

To overcome these problems, the author made an idea to create an autoplay application that contains all kinds of table tennis technique exercises. The exercises are presented in the form of training with a partner or training alone at home. This application will also be filled with knowledge about: (a) advice on choosing a bet that is suitable and keeps up with the times, (b) updates on changes to ITTF regulations, (c) bet combinations used by professional athletes, (d) profiles of players who have a distinctive style of play, (e) the type of wood that makes up a blade, and (f) the type of rubber used in the match.

This application can be used for someone who wants to learn table tennis either recreationally or as a starting point for achievement. After completing this product, it will be downloadable on the website and can be opened anytime offline on a laptop or PC. Thus, this article is entitled **Development of Table Tennis Autoplay Application as a Self-Study Media**.

B.   **Research Purposes**

The purpose of this research is to produce a product in the form of an autoplay application that contains all models of table tennis training independently. Then equipped with advice on choosing a good bet and a combination of bet used by professional players. The specifications of this product aim to solve research problems in the form of quality and complete table tennis learning media without spending internet quota.

METHOD

A. Development Design

The method used in this research is development research. This method was chosen because it was considered suitable for solving the problems in the background in the form of limited reliable learning resources that are complete and do not consume internet quota. Research and development is research that produces a product that is the answer to solving problems in research.

B. Development Procedures

Development research must have a systematic nature or have a clear sequence. Likewise, this research has a sequence, namely: (1) information gathering, (2) making assessment instruments, (3) making products, (4) validation by material experts and media experts, (5) product revision, (6) small group trials, (7) revision, (8) large group trials, (9) revision, and (10) product finalization.

Result and Discussion

A. Result

The result of this research is an autoplay product that can be played on a laptop or PC that has the Autoplay application installed. The resulting product can be played repeatedly without consuming quota, so it can be a guide to practice independently at home. In the application, several main menu buttons can be clicked according to the material to be studied. The main material in the application is a series of physical exercises that play a direct role in a player's table tennis performance. There is an additional menu in the form of advice on choosing a good bet along with the bet used by several professional players.

This product has gone through material expert and media expert validation. The material expert who has validated this product is a certified table tennis coach in Pacitan and has had experience that researchers feel is sufficient to be selected as an expert, namely Labib Zian Wildani, M. Pd. Validation from material experts resulted in a score of 92.5% (very good). As for the media expert chosen by the researcher, namely a programmer who is a colleague of the researcher named Hafidz Ilham Aji Permana. Validation from media experts resulted in a score of 87.5% (very good).

Furthermore, the product was tested on small groups and large groups. For small groups, researchers used a sample from one table tennis club, PTM Prima Gemilang, totaling 5 people. After seeing the response from them which resulted in a score of 77.5% (good), the researcher made revisions for testing in large groups. Large group trials were conducted at PTM Warnasari, PTM KB, PTM Prima Gemilang, and PTM Spinmax. The result of the large group trial was 78.3% (good). After going through a series of steps, researchers finalized the product.

B. Discussion

The products produced in this research are mostly table tennis physical exercises and focus on the attacking movement, namely top spin. With strong explosive power, the top spin shot will be a deadly main weapon in attack. This technique is a must-have technique for all table tennis players if they want to improve their playing quality at both amateur and professional levels. The forward spin

effect in this shot will provide downward pressure so that the ball will move like a curve over the net and into the opponent's area.

In addition to the above, by doing a series of physical exercises, other techniques will also improve such as service, chop, drive. This is because a number of muscles used for these movements are trained as a whole. The next thing to do is to try it out in an actual game.

Of the techniques mentioned, the stroke that will immediately improve is the drive technique. The drive technique is the basic technique before learning the top spin technique and no spin at all (Suisdareni & Tomoliyus, 2021). Therefore, if the top spin shot can be mastered, the drive technique will automatically be mastered more easily. This movement is strongly influenced by the upper arm and forearm muscles and can be done without friction like top spin so it is easier to do.

Forehand service movements that rely more on the power of the wrist and forearm are well trained. Likewise, the backhand service movement which relies more on the triceps and wrist muscles is also well trained. This will have an impact on improving the quality of the resulting serve, especially the faster ball rotation. Because the service in table tennis is one of the main effective weapons to get points because the player who will do the service has full control of the ball, it will be a good capital in getting points. This statement is in line with Iino, 2022 which states that a quality serve can confuse the opponent so that it is difficult to return it.

The chop, a defensive shot that may not be lethal, if it has a high spin will certainly make it difficult for the opponent to open the attack. By doing a series of physical exercises in this product, the wrist movement which is the key to making a chop shot will be significantly strengthened. The addition of power from these good wrist muscles will significantly improve the quality of spin in the chop spin, namely back spin. Chop shots are very often used by novice players, namely those who are not adept at attacking (Wang, 2021). By increasing the quality of chop shots, it will increase a player's defense and not be easily attacked.

CONCLUSION

From this discussion, it can be concluded that this product is a product that can be used to practice independently at home. Someone who wants a better quality table tennis shot but does not want to take part in club training or there is no club in the area where he lives can use this product as a guide in practicing. This product does not require the learners to follow the whole technique because each person has a specific technique difference, but rather emphasizes to train the muscles that are influential in each technique in table tennis. Thus, the videos can be modified independently in their application.

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