Development of Exercise Program Application

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Abstract. The purpose of this research is to create a sports training program application so that it can make it easier for sports coaches to create a structured and systematic exercise program. In addition, this application is also a student media to improve skills in making and planning sports training programs, so that FIK UNIMED graduates can compete in the world of coaching, especially in North Sumatra. The research method used is research and development (R & D) with a development research design proposed by: Borg and Gall. The instruments used in this research and development is form review the experts (expert judgment). The resulting application in this study is named “SIPRENPOL”. This application can be accessed through the page http://siprenpol.ilmukolahragaan.com. Validation from material experts shows the results of the assessment of 81% and 87% which means that the application development is feasible. Validation from material experts showed the results of the assessment were 77% and 83%, which means it is feasible. The results of the research on the development of exercise program application is feasible to be used as a means to make it easier for trainers to create and compile training programs.

1. Introduction

It must be admitted that the development of Science and Technology (IPTEK) is currently developing very rapidly. This is evidenced by the emergence of various kinds of sophisticated technology to assist activities in everyday life. Likewise in the world of sports. One important aspect of supporting the success of sports achievement is the existence of a good training program. Exercise means engaging in activities to improve performance and fitness; this is best achieved by understanding the principles of general sports training: overload, reversibility, development, individualization, periodization, and specificity [1].

The use of technology in designing training programs is indispensable. Exercise planning is intended to direct the exercise with a very specific goal. In other words, training planning is a training guide that is planned for the best performance in a competition. The peak performance is expected to increase the performance or performance of an athlete by maximizing physiological adaptations, techniques and strategies as well as psychological factors.

Exercises must be well organized and planned so as to ensure the achievement of training objectives. So the training planning process shows something that is well organized, methodologically and according to scientific procedures so that it can help athletes to achieve better results based on their training or performance. Planning is therefore a very important tool that a trainer uses in an effort to direct a well-organized training program. The trainer becomes more efficient as long as he is able to organize the exercises properly as well [2].
If you look at the condition of trainers in Indonesia from the regional to the national level, it turns out that there are still many trainers who have difficulties in compiling and making training programs. This certainly has an impact on the goals to be achieved in a competition. To support the success of increasing achievement, especially the understanding of the trainer in designing an exercise program, it is necessary to carry out trainings for program development or through formal channels.

To make planning efforts a trainer must have professional skills and experience at a high level. The preparation of a training program plan reflects the knowledge and experience possessed by the coaching sciences and the consideration of the athlete's potential, accelerated development of achievement, advice, and available infrastructure. The more development of science and technology, the more promising potential to become a professional trainer [2].

For this reason, a breakthrough is needed to accelerate the achievement of a reliable quality coach who can compete in the world of coaching. One way to accelerate the improvement of the quality of graduates is to equip students to be able to create training programs and apply them to the athletes they accompany later.

Based on the explanation above, this research departs from the potential and problems. For this reason, students of FIK Unimed Sports Education and Coaching must be equipped with the use of technology in designing training programs. Based on this, an application is needed to be able to produce capable and skilled coaches in training athletes so as to improve performance.

2. Methods

2.1. Subjects

The subjects in this study were students of the Department of Sport Science, Medan State University, who assessed 60 people. The research subjects were randomly divided into 2 groups. Group 1 for the small group trial and group 2 for the large group trial. This research will be conducted at the Faculty of Sport Sciences, State University of Medan.

2.2. Procedures

The design of the Sports Exercise Program Planning Application Development is quoted from Luther's model in Sutopo with six stages of multimedia product development, namely concept, design, material collecting, assembly, testing, distribution [3].

2.3. Instruments

The instruments used in this research and development are a) Expert judgment; b) Testing on small groups (small group try-out) and c) Field trials (field try-out) [4].

2.4. Statistic analysis

This research and development uses a qualitative approach.

3. Results And Discussion

Based on the results of the needs analysis, of the 60 respondents who were sampled, all respondents stated that they needed an application to compile an exercise program. Furthermore, the application design required for the training program is carried out.

Application planning is done using the website by taking steps in planning an exercise program from book sources. This application is designed to have a simple interface with features that are easy for the user to understand so that it is easy to use. The application product for this sports training program is named "SIPRENPOL". This application can be accessed through the page http://siprenpol.ilmukeolahragaan.com

The front view of the application can be seen in the image below:
The other data obtained is the result of due diligence of the feasibility test from material and media experts, the results of the application for planning this training program are feasible to use as shown in table 1.

Table 1. Eligibility Value Results

| Expert | Material | Media |
|--------|----------|-------|
|        | 81%      | 77%   |
|        | 87%      | 83%   |

Planning a training program is the process of planning and compiling materials, weights, targets and training methods at each stage to be carried out by every sportsman [5]. Every training process in sports always requires a good physical and skill training program doing stretching exercises done regularly has been proven to be very effective in reducing the chance of injury, such as tension in muscles (spasms), muscle pain. The tension in the muscles can also limit and inhibit the range of motion in the joints. Stretching training programs can help prevent tension in muscle groups, maintain joint flexibility, and help warm up before doing core exercises.

That as happens in most efforts made by humans, training must be well organized and planned so that it can guarantee the achievement of exercise goals [2]. So the training planning process shows something that is well organized, methodologically and according to scientific procedures so that it can help athletes to achieve better results based on their training or performance. Planning is therefore a very
important tool that a trainer uses in an effort to direct a well-organized training program. The trainer will be more efficient as long as he is able to organize the exercises properly too.

This training program arrangement application is very helpful in planning the training. One of them happened to the Lacrosse team club. The lacrosse team training program is changed throughout the macro cycle to maintain adaptation in line with various pre-season, in-season and off-season objectives [6]. Constant cycling of training variables (activity, rest, frequency, intensity, duration) within a training program each day, week, and month aims to maintain optimal training stimulus, address changing goals and individual variability, and avoid overtraining, injury, and burnout; this is often implemented using micro cycles, meso cycles, and macro cycles (training cycles within training cycles of increasing duration) as a framework [7,8,9].

The final product of this research is a program planning application for sports. This development will support the quality of trainers, especially physical trainers in sports to design and design an exercise program. Furthermore, if this research has been improved from the results of input and evaluation, this product can be provided for related parties, both KONI and provincial administrators of sports.

4. Conclusion
The results of the research on the development of exercise program application is feasible to be used as a means to make it easier for trainers to create and compile training programs.

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