



Nurseries' Strategy for Athletes Since Early Through Sports-Specific Classes (KKO) Based on Sports Science

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Abstract. Professional athletes need to be formed from an early age through the nursery process. However, not many people see the importance of the early nursery process. Breeding athletes tend to be done through professional clubs under a very limited number of sports organizations. In addition, there is also a Student Sports Coaching and Training Centre (PPLP), whose number is still lacking. There are only 15 PPLPs throughout Indonesia. This study designs a sports science-based class management model to integrate all the components needed to nurture athletes from an early age (12 years old). This research uses the ADDIE development model by accommodating all data and information through FGDs, observations, interviews, documentation studies, and interactive analysis. This model will be generated for further testing in a limited environment before being applied in the broader scope. The results of this development research are that The Sports-Specific Classes model is one of the strategies that can be chosen to prepare athletes early age by combining physical and academic training. Synchronization between training activities (physical), academic (learning), life in a dormitory (character), as well as the intake that must meet nutritional standards and psychological services are essential. Synergy and synchronization of these elements can maximize sports, academic, and character achievements.

Keywords: Nurseries · Athletes from an early age · Sports science

1 Introduction

Sports nurseries are the initial place in developing athlete achievement in sports, resulting from talent development. Sports nurseries focus on children aged 14–16 years who have the potential to exercise in each region [1]. Nursery is one of the essential stages in developing sports achievements. Without a well-systematic sports nursery, the achievement is difficult to achieve. Therefore, the existence of a nursery system is vital, and this is the best way to form a strong foundation, leading to the next stage of high achievement [2].

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Nurseries are one of the efforts to capture talented athletes and efforts to find individuals who have the potential to achieve high sports achievements in the future [3]. School-age is a source of population and the most significant potential in sports problems and development, so the sports development system cannot be separated from the school path. Scoring potential athletes cannot be done instantly. However, tiered coaching, regular competitions, providing flight hours, availability of coaching funds, facilities, and attention from the government are essential factors in efforts to produce athlete seeds. Likewise, with the training center, athlete development can also be done through formal education, both junior and senior high school sports, and even joining regular classes that provide Sports-Specific Classes (KKO).

The implementation of schools with exceptional sports talent needs to have supporting facilities as determined, including (1) having sports equipment with a minimum proportion of 2:3 with the number of students during the teaching and learning process, (2) training center, (3) rehabilitation center, (4) assessment center. However, in reality, not all supporting tools have been appropriately fulfilled. Sports-Specific Classes are regular classes with additional burdens to foster students' talents and interests in sports. Sports-Specific Classes have weaknesses, such as not having a sufficiently representative field for student practice [4].

In addition, the availability of experts to train students is also limited to various sports. Because the local government organized it, it turned out that the assistance for Sports-Specific Classes was minimal. It was enough just to rent a field. Sports in Indonesia are still lagging due to the lack of sports facilities and exemplary educational programs. School sports include at least three categories of activities: physical education, participation in organized sports, and recreational sports activities [5]. In addition to being related to coaches and infrastructure, it turns out that there are still other obstacles to implementing Sports-Specific Classes, namely in instilling character. This is because students live in their own homes (not all Sports-Specific Classes have dormitories), so there is a tendency that they are not easy to manage. Moreover, sometimes, students tend to rebel, get tired quickly, get bored when taking class lessons; and are less concentrated when learning takes place.

The main components of the sports class are (1) empowering schools as centers of achievement sports development integrated with other educational services, and (2) empowering the education community, sports communities, and local governments to realize an integrated sports development center jointly [6]. With educational services in one school container, gifted students are combined in one or more sports classes. In other words, to carry out this sports class, students are still burdened with academic activities like regular students. To support the success of this class, the school still relies on the participation of the community and local government so that management from one region to another has a different pattern. From the activities of Sports-Specific Classes that have existed so far, it turns out that there are still some shortcomings.

The sports development system used in Indonesia is a pyramid system, which includes three stages, namely (1) mass production, (2) nurseries, and (3) performance improvement. Suppose this planning model is associated with the pyramid theory, which consists of (1) massing, (2) nurseries, and (3) performance improvement. In terms of

nursing efforts, it can be explained that nursing can be done by carrying out talent identification and proceeding to the talent development stage. In this way, it is hoped that the nursery process will be better. In line with this opinion, athletes' academic achievement was lower than regular students. This condition is a concern for them if, without adequate academic supplies, it is feared that they will have difficulty finding work if they are no longer athletes. However, they can work in other fields with their intellectual capital if they have sufficient academic resources [7].

It is not easy to organize a particular class for sports talent. Many obstacles are encountered, as revealed if the obstacle in the learning process for sports classes is that the number of academic learning hours is felt to be lacking due to sports training so that many students are less than optimal in the national exam [8]. In addition, the educators are still unaware of the character of the students in the sports class and the teacher when teaching in the sports class. The teacher treats the same as in the regular class. Another problem is the cost because students do not have school fees or other assistance money, causing obstacles in implementing sports classes which must have a high cost.

The budget for organizing Sports-Specific Classes still relies on the provincial Regional Revenue and Expenditure Budget, school operational costs, and school committees. They have limited equipment availability conditions. Field facilities owned by the school are still limited, and some facilities are still borrowing/renting from other parties. Besides that, some trainers do not have a trainer's license. The learning process to support academic achievement for students in Sports-Specific Classes uses a curriculum sourced from the Education Office [5].

Given the various shortcomings in implementing Sports-Specific Classes, this study aims to develop a sports-science-based class management model for sports. Sports science combines several interrelated and comprehensive scientific disciplines to improve athlete performance and assist in the training process for coaches [9]. With this research, sports science is the application of various sciences such as coaching, physiology, biomechanics, motor control and development, psychology, nutrition, and many more [10]. The sports science sciences include sports medicine, physiology, biomechanics, sports psychology, sports nutrition and anthropometry, coaching, sports intelligence, research, and sports gear [11]. Sports science is limited to physiology, psychology, nutrition, and sociology in this research. Sports-Specific Classes are still intended for junior high school children 12 to 15 years old.

2 Method

This research used a research and development approach (R&D) from ADDIE that consists of five stages, namely: (1) analysis, (2) design, (3) development, (4) implementation, and (5) evaluation (Fig. 1).

1. Analyze the correct problems and solutions and the competence of Sports-Specific Classes (KKO) graduates.
2. Design determines the components of Sports-Specific Classes (competence, methods, teaching materials, learning strategies, and character development) that must exist in designing Sports-Specific Classes.

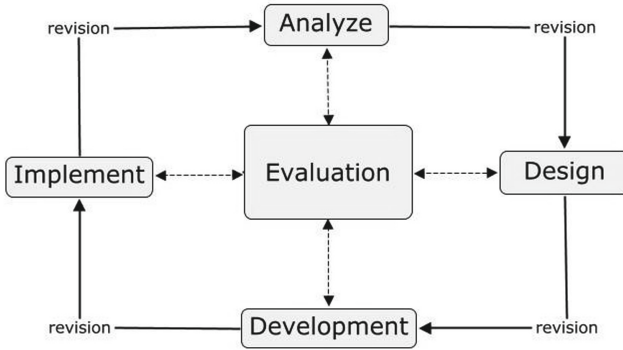


Fig. 1. ADDIE model

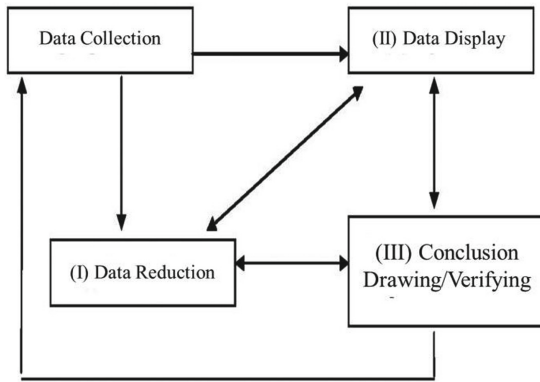


Fig. 2. Miles and Huberman's interactive analytical model

3. Development is to produce programs and learning materials in Sports-Specific Classes programs.
4. Implementation is implementing a learning program by applying the design or specification of a Sports-Specific Classes program in a limited class.
5. Evaluation is to evaluate learning programs and evaluating learning outcomes.

Data collection used questionnaires, focus group discussions (FGD), interviews, and observations, while data analysis used interactive analysis Fig. 2.

3 Results and Discussion

One of the efforts to produce a young generation who excels in all fields cannot be separated from the field of sports achievements. Optimal sports achievement can be achieved with good coaching and physical, technical and mental training. Regular, systematic, programmed, and exploratory coaching with a science and technology approach is applied

in training programs to improve quality. Exercise will support the desired achievement. Sports achievements will not be separated from several coaching programs.

Coaching is an effort, action, and activity carried out efficiently and effectively to obtain better results. Promoting increased sports achievements is a good result in the coaching in question. In coaching athletes, seeding efforts also need to be made. Nurseries are used to select potential athletes. However, in general, sports nurseries are still using the specialization method, not based on tests and measurements of the talent that exists in the child. Therefore, talented athletes should be the concern of every sport [12].

Breeding or identifying these interests and talents is very important to (1) find potential talented athletes, (2) select prospective athletes at this age, (3) monitor and integrate continuously, and (4) assist prospective athletes towards a high level of mastery. The emerging paradigm in sports talent breeding is, first, that every child has sports talent so that certain children have the potential to be developed and developed further. Second, every child has talent in a particular sport. This means children can train optimally in certain sports from the many existing sports [13].

Order to become a champion is a long process starting from finding athletes through the right talent scouting to getting quality athlete seeds, developing various potentials in various ways, and specialization stages until later entering peak performance (golden age).

Becoming a champion is a long process starting from finding athletes through the proper talent scouting in obtaining quality athlete seeds, developing various potentials in various ways, and specialization stages until later entering peak performance (golden age). The characteristics of children aged 6–12 years include (1) relatively stable growth; (2) the limbs proliferate; (3) balance is well developed (basic movement patterns improve); (4) strength and endurance continue to improve; (5) improvement in the eye and hand coordination and manipulative skills; (6) reach and attention increase; (7) requires practice improving skills, gaining social status, and developing endurance; (8) high adventurous spirit; (9) more mature socialization; (10) high curiosity; (11) have an interest in skills, a competitive spirit, and an idol [14].

This result from research states that the nursery of young athletes should be carried out to improve sports performance. Determining children's talents and interests does not need to be done conventionally but must involve science and technology to achieve results quickly and accurately. Providing fast information and making the right decisions are vital in identifying talent in sports. This is because the right decision will give the best results. Sports nurseries must be conducted with tests and pay attention to measuring the components of physical fitness used as references to children's talents and interests [15, 16].

Based on the results of the FGD and interviews, it is suspected that to obtain maximum results, Sports-Specific Classes as a strategy for nursing from an early age must pay attention to various things. Physical exercise is related to sports and pays attention to students' existence in the academic field and more to prepare for their physical and mental endurance. To conduct seeding and coaching from a young age in the Road to Olympic and Paralympic 2032 through the Sports-Specific Classes [17]. Several things must be considered with a system approach, including raw input, instrumental input, environmental input, and then related to the process and output. With this system approach,

all components in developing a nursery system must be considered and appropriately prepared. These components can be detailed (1) recruitment system for prospective participants, (2) curriculum development (sports and academic); (3) human resources competencies (trainers and educators); (4) training and learning methods; (5) psychological consulting services; (6) management of facilities and infrastructure; (7) budget availability; (8) practice and learning environment (indoor and outdoor); (9) the nursery process (training and learning, including dormitory living); (10) implementation of the evaluation (process and result).

One of the ways to optimize the nursery for early childhood athletes is through special sports classes based on sports science. This is reinforced by research that states that sports coaching for gifted children needs to be carried out continuously. This is in line with the statement that the best age to stimulate physical education in children is as early as possible. Physical education for children needs to be given as optimally as possible to balance the right and left brain. Movement development for children from an early age can give young athletes the physical and mental abilities to become champions. Sports coaching for children does not only target to become champions but also to train mentally to be confident that children can show their skills during practice. For that, at school, everyday children need to be invited to exercise simple exercises to strengthen their muscles. Sports-specific class programs are very important, especially if applied to athletes from an early age [18–20].

The existence of special sports classes is also reinforced by Law Number 3 of 2005 concerning the National Sports System, which states that students with talents and interests need to be facilitated to develop their potential. The sports special class program is a co-curricular activity expected to increase interest and serve as a forum for channeling students' talents to become athletes with high potential [21, 22].

One of the ways to optimize the nursery for early childhood athletes is through Sports-Specific Classes (KKO) based on sports science. In this model, synergy is needed between various components, starting from the recruitment of prospective students to graduation. It is centered on three basic concepts regarding the recruitment of prospective students using biometric measurements:

1. To find physical disorders that might limit the development of the candidate's skills,
 2. To determine the level of physical development of candidates,
 3. To detect movement potential, it is easy to direct specialization in certain sports.
- Besides that, tests related to giftedness in sports will be carried out so that it will be able to group students in sports based on the assessment.

In addition to giftedness, the socio-cultural background of prospective students is also considered so that they have a basis for treating them when they have become Sports-Specific Classes students. Currently, most talented athletes are obtained through competition because one of the problems faced by Indonesia is that there is no system for talent identification and development of prospective athletes based on the implementation of sports science as a whole.

Dormitory life and boarding rules are needed to avoid conflicts between students. In addition, coaching in character building is very necessary because the dormitory is a place for character building for students, especially those related to responsibility,

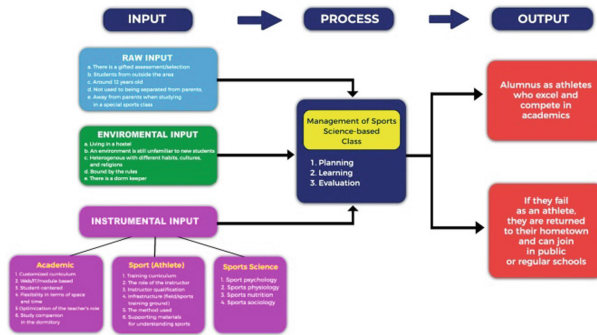


Fig. 3. The strategy for nurseries athletes early through Sports-Specific Classes (KKO) is based on sports

honesty, discipline, empathy, and cooperation. The education process consists of three aspects: academics, sports, and sports science. There is a synergy between these three aspects of academics: (1) customized curriculum; (2) web/IT/Module based; (3) student-centered; (4) not bound by space; (5) not time-bound; (6) optimization of the teacher's role; (7) study companion in the dormitory.

Aspects of sport (athletes) include: (a) training curriculum; (b) the role of the instructor; (c) instructor qualifications; (d) infrastructure (field/sports training ground); (e) The method used; (f) supporting materials for understanding sports. Meanwhile, Sport science includes sports psychology, sports physiology, sports nutrition, and sports sociology. In this process, paying attention to trying out activities is also necessary. The number of matches or sparring followed by athletes (students) will hone skills and further increase the athlete's confidence to excel. Assessment (output/results) with performance-based evaluation tools will be obtained by graduates as athletes who excel and succeed in academics. The tests developed include fitness tests, ability tests in various sports, and physical condition tests related to speed, strength, and agility. The academic test related to competence by applicable standards is no less important. Those who are declared pass mean that they can continue to the next level of education (from junior high school to high school, et cetera), so the preparation of these athletes is carried out in stages and continuously. However, if students fail as athletes, they will be returned to their hometown and can enter public/regular schools.

The strategy for nurseries athletes early through Sports-Specific Classes (KKO) based on sports science is as shown in Fig. 3.

4 Conclusion

The conclusion of The Sports-Specific Classes model is one of the strategies that can be chosen to prepare athletes early age by combining physical and academic training. Synchronization between training activities (physical), academic (learning), life in a dormitory (character), as well as the intake that must meet nutritional standards and psychological services are essential. Synergy and synchronization of these elements can maximize sports, academic, and character achievements.

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