Artistic Swimming Helps the Intelligence Development

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Abstract—Artistic swimming is a branch of sport which has an element of swimming, gymnastics, ballet, and dance. There are two kinds of training; land training and pool training. The training which is done on the land to increase physical capacity. Moreover, the training done in pool to improve skills. Appearance presented is very complex, so it involves more than one intelligence in a performance of artistic swimming. This study aims to see the form of intelligence contained in the artistic swimming. The object of this study is the national artistic, during eight months in Yogyakarta. The method of the study which has been implemented is the investigation of the phenomenon record that happened in the field and the confirmation toward the object and the informant about the phenomenon. The results showed in a display of artistic swimming can involve eight forms of intelligence as well. The involved intelligence in it is musical-rhythmic, visual-spatial, verbal-linguistic, logical-mathematical, bodily-kinaesthetic, interpersonal, intrapersonal, and naturalistic. Some intelligence capabilities can sometimes be performed simultaneously at a time. Benefits of the research shows that the activity of artistic swimming is not just a physical activity, but has the advantage of helping children develop multiple intelligences.

Keywords—multiple intelligences, artistic swimming

1. INTRODUCTION

Artistic swimming are not as well as known with swimming, diving, and water polo. But it is unique compared to other aquatic sports, under the auspices of PRSI (Persatuan Renang Seluruh Indonesia). In the appearance of the artistic swimming displays the physical abilities and beauty of movement as well as the harmony of music. This sport is less popular than other sports under PRSI. So the number of available human resources is still limited. This is evident from the national team members set up to face the 29th Seagames in Malaysia, only 10 athletes from four provinces of DKI Jakarta, West Java, DI Yogyakarta and South Sulawesi.

This becomes a challenge - for the team of coaches to form an excellent team. To prepare the excellent team required several factors supporting the development of athletes. Exercise factors consist of physical exercise, technique, tactics and psychology, a unit used to achieve peak performance in sports (Bompa and Haff, 2009). The exercises prepared by the trainers for the swimmers consist of the type 2 exercises that are the exercises on land and in the pools. Land training encompasses gymnastics, ballet, yoga, and physical conditioning. Meanwhile, water training consists of classic swimming, basic techniques of artistic swimming, and routine set. This sort of training can form the better physical ability of the artistic swimmers than another kinds of swimmer [5].

In the artistic swimming competition is categorized in three forms of appearance that is solo, duet and team. The three categories are become into 10 competition numbers: solo free routine (FR), solo technique routine (TR), duet FR, duet TR, duet mix FR, duet mix TR, FR team, TR team, combo team, and team highlights. They have different conditions between Of the 10 competition numbers. There are different interactions between swimmers at different competition numbers.

The differences not only about the number of swimmers but also seen from the duration of the performance of athletes and choreography provisions are displayed. On an artistic swimming number requires companion music, choreography and physical abilities. The choice of good
Companion music has a diverse tempo. Choreography is a series of movements consisting of basic movements and creative movements. For companion music and choreography have alignment. While the physical ability is the main capital in displaying the perfection of the display. The complexity of the artistic swimming not only focuses on physical ability but there is an art factor in its appearance.

The elements of contained in a artistic swimming, demanding a swimmer must have the ability and skills are diverse. In persuasion of Piaget (Hergenhahn and Olson, 2008: 313-316) intelligence is a congenital innate trait that can change dynamically because of biological maturity and experience. While in the formation of knowledge Piaget introduces the scheme, assimilation and accommodation.

An individual can have seven different intelligences [8]. An individual not only has one kind of intelligence, will be able to have some intelligence in him. Intelligence is not solely about Classroom lessons, as people now know. Some intelligences can be developed simultaneously. Multiple intelligences are needed all the time from preparation to peak performance. The purpose of this study is to see the form of intelligence needed for artistic seater swimmers. The benefits of research show that seating activity is not physical expression. But it has advantages in helping children develop multiple intelligences.

II. METHOD

The study has been conducted in the training centre of national team for the artistic swimming which is held in Yogyakarta during eight months. The participant is the artistic swimming athletes including female swimmers of 12-24 years old. The method of collecting the data of this study is narrative method which means that finding the data through the interview toward the informants by taking a note and recording the information. The information is gained from the stories which have been delivered by the informants, with no treatment involved from the researchers. The technique of collecting the data is done by collecting the documentation, while the narrative note is gained from the subject of the study and narrative interview from the researchers [4]. Moreover, the observation was completed through the direct observation toward the training process which is done in the training centre. The researchers did not give any treatment toward the object of the study, but only seek for the information. The information were gained from the interview of some informants on the occurrences. The informants consist of the swimmers and the trainers.

III. RESULTS AND DISCUSSION

A. The terms competition of the artistic swimming

In the artistic swimming competition is categorized in three forms of appearance that is solo, duet and team. The three categories are divided into 10 race numbers: solo free routine (FR), solo technical routine (TR), duet FR, duet TR, duet mix FR, duet mix TR, FR team, TR team, combo team, and team highlights. Of the 10 competitions numbers have different conditions between one and the other. The differences of these provisions can be seen in the table 1:

<table>
<thead>
<tr>
<th>COMPETITION NUMBERS</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duet FR</td>
<td>The series of motion is composed of basic movement techniques freely. Added motion variations.</td>
</tr>
<tr>
<td>Duet TR</td>
<td>The series of motion is composed of basic movement techniques freely, including 5 compulsory movements that have been determined by FINA. More variation movements can be added to beautify the look.</td>
</tr>
<tr>
<td>Duet Mix FR</td>
<td>The number of races is done in pairs with different sex. The series of motion is composed of basic movement techniques freely. Compulsory to make movements with lifting techniques. Added motion variations</td>
</tr>
<tr>
<td>Duet Mix TR</td>
<td>The number of this race is done in pairs with the different sex. The series of motion is composed of basic movement techniques freely, including 5 compulsory movements that</td>
</tr>
</tbody>
</table>
Each of these competition numbers has different demands on the swimmer. Physically, the demands are the same for every swimmer for every competition number. The difference is seen in the psychological factors of swimmers. In this study we know the favorite race number of the ten swimmers. Here’s a table about the choice of competition numbers and the reasons they put forward.

### TABLE 2. FAVORIT COMPETITION NUMBERS

<table>
<thead>
<tr>
<th>Favorit numbers of competition</th>
<th>The reasons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Team FR</td>
<td>The FR team is considered to be more free in preparing the movement because it can design a more varied and attractive choreography. In addition they chose this number because it did together with many friends. The presence of friends makes more daring to appear and excited.</td>
</tr>
<tr>
<td>Team Combination</td>
<td>Their combination numbers judge that this number is more colorful because in a choreography it should display solo, duet and team numbers in one view. They also said that this team number has a performance value that can attract a lot of audience attention.</td>
</tr>
<tr>
<td>Duet FR</td>
<td>The reasons swimmer to choose duet FR are revealed that felt no confidence to perform solo. And less comfortable with people. They claim that with both of them they can build cooperation and more easily achieve cohesiveness.</td>
</tr>
<tr>
<td>Solo FR</td>
<td>Feeling to be yourself, and being able to present herself. Accept the risk of own error without having to pay attention to others. They do not want to be a burden to the team because of a mistake made.</td>
</tr>
</tbody>
</table>

Although swimmers have favorite numbers, not necessarily they will follow the race on that number. They will perform based on the coach’s assessment of their abilities. So there is a learning process in the swimmers, including social learning. The learning process undertaken indirectly increases the ability of the swimmers, beyond the artistic pooling capabilities.

#### B. Multiple intelligences in artistic swimming

Changes that occur in individuals can be caused by the process of habituation. Implicit in habituation exemplary [15]. Some research deliberately habituates to get a new attitude on the individual. A research states that the formation of character is done through planned habituation through activities outside of learning [9]. Then provision of reinforcement as a business habituation of fair play in physical education [10]. From this research is clearly seen a deliberate treatment. The habituation done in a artistic swimming is not a separate, structured effort. But it is a mandatory requirement but must be met in order for their appearance to be good.

In observations made it was found that the artistic pool influenced and influenced individual intelligence. The intelligence found in the beautiful pool includes 8 multiple intelligences from Gardner [2, 8]. Multiple intelligences are:

- Musical intelligence. The intelligence possessed by the individual in recognizing the type of sounds, recognizing the low-tone, recognize and enjoy the rhythm to be able to create and appreciate the tone. Music gives personality influences, different rhythms have different effects [12]. This intelligence is used by swimmers in making alignment of movement with music. Under the terms of the FINA assessment, music alignment with movement only contributes 10% of the value. There are two opinions of swimmers about the meaning of music. First they use music to lure count and form movements. The second opinion, they feel helpful in animating the movement with the presence of music. Manner in moving the body or motion with taste also has a weight of value. Intelligence gives the advantage to understand the tone and creates a harmony of motion [1].
• Kinesthetic Intelligence. Ability to control body movement in motion activity with special skills and specifically the intelligence of body movement. Certainly the artistic swimming is influenced and influenced by kinesthetic intelligence. Motion skills are not only a form of sport but also in the form of dance. It is a key ingenuity factor to be a good swimmer. Kinesthetic intelligence has support for the development of other intelligences [14].

• Logic-mathematical intelligence. Individuals with mathematical logic intelligence have the sensitivity and ability to distinguish between shape and space, logically recognizing mathematical or numerical patterns, the ability to handle long chains of reasoning. Swimmers should be able to measure the speed of movement and speed of swimming. In some obligatory movements on the TR, it must be done at different speeds. And must be able to do an estimate the amount of movement angle both on hands and feet. In addition must be able to understand the amount of angle in the direction of movement.

• Linguistic intelligence (language). Sound sensitivity (sound / pronunciation), structure, meaning, word function, sensitivity to the word as a function of language and mastery of language, is the ability of individuals who have linguistic intelligence. In this study the swimmers were forced to understand English. Foreign trainers use English to deliver programs and evaluation exercises. In addition the swimmers must be able to understand the innate language of their respective regions. The environment that communication ability. Learn to express opinions to other friends. Redefine and construct linguistic intelligence through four-factor linguistic knowledge, pedagogical knowledge, valuing linguistic and cultural diversity, and linguistically responsive teaching behaviors [17].

• Visual / spatial intelligence. This intelligence is characterized by sensitively perceiving the spatial-visual world accurately and transforming initial perceptions. In this intelligence is used so that children can take into account the direction of motion together so as not to happen a collision. Movements also changes the shape of the position pattern. Imagining movement can support improving performance (Parikh; 2015).

• Interpersonal intelligence. The capacity to differentiate and respond to the environment matches the mood, temperament, motivation, and desires of others. The ability to control oneself. Used to interact with teammates. This process is built in and out of practice. Togetherness makes the swimmer learn to understand others. They are an inseparable unity. Interacting in a team causes an artistic swimming of attraction, because it always interacts with a partner or other team members. Results of research conducted on a hockey team, interpersonal intelligence has a role that is specific and specific in team sports [7].

• Intrapersonal intelligence. Individuals with the ability to understand their own feelings and the ability to distinguish emotions, knowing about the strengths and weaknesses themselves are individuals who have intra-personal intelligence. This intelligence can be self-strengthening. It develops in swimmers. This ability also serves to understand the attitude of others to themselves. Intra-personal intelligence was determined as the highest intelligence area [18].

• Naturalist intelligence. Expertise in the recognition and classification of the numerous species the flora and fauna of an individual’s environment. This also includes sensitivity to other natural phenomena. This intelligence helps the swimmers punctuality, speed and energy used to perform lifting movements. They can apply physics theory in theirs performance. Naturalist intelligence will develop with direct experience as an effort to obtain information. Besides this intelligence the same thing happens in spatial intelligence and konestetik.

Artistic swim performance like a dance performance. Using the music accompaniment during the show, with beautiful movements, in harmony with music and costumes. Some swimmers reveal artistic swim is a fun activity. Concomitant with a study, represent are an activity involving multiple intelligence is a very fun activity. [13]. Other research, revealed that physical education can help the development of multiple intelligences [3]. Thus it can be said that artistic swimming is a physical activity that can help to improve intelligence in children. This activity involves 7 of 8 intelligences have Gardner in practice and appearance. So it is an ideal sport.
activity in stimulating the development of child intelligence.

IV. CONCLUSION

Artistic Swimming is a sport with high complexity. The advantages of practicing this sport are not just body fitness. There are advantages obtained that 7 multiple intelligences can be simultaneously developed. Exercise can have an impact on the practice of multiple intelligences. So it can be said that between multiple intelligences and artistic swimming give a reciprocal effect. Not only artistic swimming conditions that require multiple intelligences but multiple intelligences can develop exactly with the excitement given during the beautiful swimming exercise.

REFERENCE


