

## **Principles Component Analysis for Evaluation Swimming Program in Sleman District**



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**ABSTRACT:** The purpose of this study is to evaluating implementation effectiveness aspects principle components of swimming training program. The benefit of this research is that it can provide information for coaches to analyze and evaluate how the principles of training, situations and conditions of the training process can be carried out better. The results of the research can be summarized as follows: 1) The quality of coaches in carrying out swimming club coaching in Sleman Swimming Federation shows the results of the category Very Good. 2) The ability of the coaches in preparation training programs shows the results of the category Good. 3) The ability of the coaches in the implementation of conditioning exercises shows the results of the category Enough. 4) The ability of the coaches in the implementation of the training program shows the results of the category Good. 5) The ability of the coaches in the use of training methods shows the results of the category Very Good. 6) The ability of the coaches to use swimming equipment and facilities shows the results of the category Enough. 7) The ability of the coaches in evaluating the training programs shows the results of the category Good. 8) The most important inhibiting factors in the implementation of swimming training programs at Sleman Swimming Federation include: limited equipment and training facilities, the use of swimming pools that are not able to practice freely due to joining public visitors. 9) The main supporting factors that make the smooth running of swimming training programs in swimming pools in Sleman District are: high motivation of swimmers to train intensively, the ability of trainers in an effort to improve the swimmers' performance, and the role of parents in helping to improve their children's achievement .

**KEYWORDS:** principal component, evaluation, swimming, training program

### **INTRODUCTION**

There were three reasons to start coaching swimming were: been asked to coach by the federation, club, parents, coaches, etc.; to contribute to athletes' learning and development; and wanting to give back to their sport (Chroni et al., 2018). Swimming clubs are a fostering forum that trains athletes from the most basic level up to guidance towards improving achievement. The main principles of the program include the integration of physical training, techniques, tactics and mental preparation of the champions, as well as the implementation of a performance monitoring system and mastery analysis of athlete skill in a programmable manner (Sutiyono B et al., 2018). Coaches and athlete used verbal and non-verbal feedback which are positive, affirmative, and constructive this enhancing self-esteem, self-confidence. And self-efficacy of the athletes (Blegur J, 2018).

Development of sport has to do with the collaboration of some important components of sports towards achieving a high-level performance in such sport (Gunawan I et al., 2018). Positive Pedagogy for individual sports is a recent innovation that possibly faces greater challenges than game-based approaches to coaching due to the central role of skill and technique assumed in them and the hegemony of direct instruction in coaching individual sports (Razak et al., 2018). The trainers selected here are the athletes who have a great achievement in either regional or national level, have the dedication to train, have lots of free time, and have a license (Fernando H et al., 2018). Good coaches conduct better programs and help athletes achieve their best results (Pyke F, 2009).

This is done in order to ascertain. The actual conditions in the field whether it is true that during this time the decline in achievement occurred due to the foundation of guidance at the association level was not solid and was not properly fostered (Triyasari A et al., 2016). The paper also takes the opportunity to juxtapose the life courses and class attitudes of those who organized and administered British sport with the very different experiences and perspectives of the men and women they employed as coaches (Day D, 2018). Selection of coaches, the success of a sport cannot be separated from the role of the existing coach. It is very important to have coaches who have technical and non-technical skills. One of the criteria for being a coach at the club has the dedication to train. It is very important to have a coach who has both technical and non-technical abilities (Hana PS et al., 2017).

Swimming is often seen as a teenage sport where you're supposed succeed at a young age and if you don't start early or don't practise huge amounts, you might get categorized as being too old or not having potential (Mattila, 2018). Therefore, the accomplishment of top achievement needs to be elaborated in a comprehensive concept in a tiered coaching pattern. In this case,

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the accomplishment of the top national sport achievement is pursued through a national sport coaching pattern which refers to pyramid system (Adzalika AR et al., 2019).

In sport, performing the best is an absolute price which must be achieved by an athlete (Ardani H et al., 2019). The training program functions as a control of the achievement improvements achieved by the athlete (Imbroda OJ et al., 2015). Since this type of loading is low in volume with most swimming programs, the implementation of a dryland resistance training program becomes increasingly important to increase both peak forces and rate of force development in the lower body to enhance swim start performance (Shiqi Thng el al., 2018). Values obtained on the stress and recovery scale changed during the season, with stress indexes increased, while recovery values reduced, indicating susceptibility to injuries and overtire (Zanini et al., 2018).

Well-planned training was an important factor in advancing athletes (Aang A et al., 2019). Service quality represents a sport club's service evaluation of staff, programme, and installation by its members (Schijns Jos MC et al., 2016). It is important that we educate our coaches on the effects that injury has on athletes and their possible role in either helping or hindering the process (Harshaw et al., 2018). Optimizing the role of stakeholders in fostering swimming sports can be seen from the various efforts made by stakeholders, starting from the formation of an organization that houses swimming, empowering athletes and coaches, as well as providing various facilities and infrastructure and supporting facilities for swimming activities (Imtihansyahi et al., 2019). This study will be carried out by taking the object of swimming clubs which have been actively implementing the training program.

### METHOD

This study uses the subjects of coaches in swimming clubs. The swimming clubs studied were members of the Sleman Swimming Federation Yogyakarta Special Region. The study population is the coaches who are members of Swimming Federation in Sleman District, as many as 11 coaches. Determination of samples using purposive sampling technique. This technique was chosen because researchers already know the properties of the population, so that proportional samples are needed that are in accordance with the purpose of this study.

The data studied are about the components of the principle of training in the training program that are prepared and carried out by the coaches. There are 1.) quality of coaches, 2.) preparation of training programs, 3.) implementation of conditioning exercises, 4.) implementation of training programs, 5.) use of training methods, 6.) use of equipment and facilities, 7.) how to evaluate training programs. Questionnaires are arranged based on the assessment criteria model, where scores 1, answer Very Less criteria, score 2, answers criteria Less, score 3, answers Enough criteria, score 4, answers good criteria, and score 5, answers e criteria Very good. Data analysis techniques using a computational. Validity test using total statistical items. Reliability test with the Cronbach's Alpha scale. Methods of collecting data through observation and interview through the questionnaire filling method. Observation as a systematic observation and recording of the elements that appear in a symptom on the object of research. (Widoyoko, 2012)

**Table 1. Amount of Subject**

No	Swimming Club	Amount of Coach
1.	Yuso SC	1
2.	Dolpin SC	1
3.	Jakarta Aquatik SC	3
4.	Dash SC	1
5.	Tirta Amanda SC	1
6.	Satria Mataram Aquatk SC	4
	Total	11

### RESULT AND DISCUSSION

The validity test of result for factor analysis with item total statistical coefficient value is  $> 0,30$ . And the result of item reliability test with reliability scale Cronbach (alpha) for each variable is  $> 0,634$ . Based on swimming clubs which actively foster swimmers, there are 11 coaches of swimming club as research subjects. Sampling is done to equalize the conditions of each swimming club to:

- Number of swimmers trained as many as 20 to 30 swimmers according to regulatory requirements for swimming association members of the Indonesian Swimming Federation (PRSI) The training program refers to the improvement of swimmers' performance.
- Swimming Club that has been registered as a member of PRSI in Sleman District.
- Has been actively routinely participating in swimming event activities starting at the regional and national level.
- Have adequate training facilities and support tools.
- Has an organization of active pool association management organizations.
- Got several coaches.

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**Table 2. Frequency distribution and percentage of assessment result score**

Components assessed	Score												Amount of value	Amount (%)	Amount of sample
	0		1		2		3		4		5				
	f	%	f	%	f	%	f	%	f	%	f	%			
Quality of Coaches	1	0,6	89	56,6	62	35,2	20	11,4	2	1,1	2	1,1	176	100	11
Preparation of Training Programs	2	1,1	43	24,4	46	26,1	13	7,4	6	3,4	0	0	110	100	11
Implementation of Conditioning exercise	0	0	38	21,6	26	14,8	11	6,3	2	1,1	0	0	77	100	11
Implementastion of Training Programs	0	0	34	19,3	28	15,9	12	6,8	2	1,1	1	0,6	77	100	11
Use of Training Methods	1	0,6	13	7,4	21	11,9	7	4	2	1,1	0	0	44	100	11
Use of Equipment and Facilities	0	0	60	34,1	16	9,1	0	0	1	0,6	0	0	77	100	11
How to Evaluate Training Programs	0	0	39	22,2	22	12,5	0	0	5	2,8	0	0	66	100	11

**Table 3. Data Quality of Coaches**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	1	,6	,6
	1	89	50,6	51,1
	2	62	35,2	86,4
	3	20	11,4	97,7
	4	2	1,1	98,9
	5	2	1,1	100,0
Total	176		100,0	

**Table 4. Data Preparation of Training Programs**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	2	1,8	1,8
	1	43	39,1	40,9
	2	46	41,8	82,7
	3	13	11,8	94,5
	4	6	5,5	100,0
Total	110		100,0	

**Table 5. Data Implementation of Conditioning Exercise**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	38	49,4	49,4
	2	26	33,8	83,1
	3	11	14,3	97,4
	4	2	2,6	100,0
Total	77		100,0	

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**Table 6. Data Implementation of Training Programs**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	34	44,2	44,2	44,2
	2	28	36,4	36,4	80,5
	3	12	15,6	15,6	96,1
	4	2	2,6	2,6	98,7
	5	1	1,3	1,3	100,0
	Total	77	100,0	100,0	

**Table 7. Data Use of Training Methods**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	1	2,3	2,3	2,3
	1	13	29,5	29,5	31,8
	2	21	47,7	47,7	79,5
	3	7	15,9	15,9	95,5
	4	2	4,5	4,5	100,0
	Total	44	100,0	100,0	

**Table 8. Data Use of Equipment and Facilities**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	60	77,9	77,9	77,9
	2	16	20,8	20,8	98,7
	4	1	1,3	1,3	100,0
	Total	77	100,0	100,0	

**Table 9. Data How to evaluate Training Programs**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	39	59,1	59,1	59,1
	2	22	33,3	33,3	92,4
	3	5	7,6	7,6	100,0
	Total	66	100,0	100,0	

**Table 10. Category of Evaluation Result Quality of Coaches**

Category		%
Very Good	6	54,55%
Good	5	45,45%
Total	11	100%

Based on the answers from 16 questions in the research instrument: questionnaire, it can be known that from 11 swimming coaches showed the results of 6 coaches in a percentage of 54.55% indicating that the level of quality was very good, 5 coaches in percentage of 45.45% showing good quality level.

**Table 11. Category of Evaluation Result Preparation of Training Programs**

Category		%
Enough	4	36,36%
Good	7	63,64%
Total	11	100%

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Based on the answers from 10 questions in the research instrument questionnaire, it can be seen that from 11 swimming coaches showed the results of 4 coaches in a percentage of 36.36% indicating that at the level of quality enough, 7 coaches as a percentage of 63.64% showing good quality level.

**Table 12. Category of Evaluation Result Implementation of Conditioning Exercise**

Category	%	
Enough	11	100%

Based on the answers of 7 questions in the research instrument: questionnaire, it can be seen that from 11 swimming coaches showed the results of 11 coaches in a percentage of 100% indicating that the quality level is enough.

**Table 13. Category of Evaluation Result Implementation of Training Programs**

Category	%	
Very Good	1	9,09%
Good	5	45,45%
Enough	5	45,45%
Total	11	100%

Based on the answers of 7 questions in the research instrument: questionnaire, it can be known that from 11 swimming association coaches showed the results of 1 coach in a percentage of 9.09% indicating that the level of quality was very good, 5 coaches as a percentage of 45.45% showed on the quality level is good, 5 coaches as a percentage of 45.45% show that the quality is enough.

**Table 14. Category of Evaluation Result Use of Training Methods**

Category	%	
Very Good	4	36,36%
Good	4	36,36%
Enough	3	27,27%
Total	11	100%

Based on the answers from 6 questions in the research instrument: questionnaire, it can be known that from 11 swimming coaches showed the results of 4 coaches in a percentage of 36.35 % showing a very good level of quality, 4 coaches in a percentage of 36.36% showing at a good level of quality, 3 coaches as a percentage of 27.27% indicate that the quality is enough.

**Table 15. Category of Evaluation Result Use of Equipment and Facilities**

Category	%	
Very Good	3	27,27%
Enough	4	36,36%
Less	4	36,36%
Total	11	100%

Based on the answers of 7 questions in the research instrument: questionnaire, it can be seen that from 11 swimming coaches showed the results of 3 coaches in a percentage of 27, 27% showed that the level of quality was very good, 4 coaches as much as 36.36% showed on the level of quality is sufficient, 4 coaches as a percentage 36.36% indicate that the quality level is less.

**Table 16. Category of Evaluation Result How to Evaluate Training Program**

Category	%	
Very Good	2	18,18%
Enough	9	81,82%
Total	11	100%

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Based on the answers of 6 questions in the research instrument: questionnaire can be seen that from 11 swimming coaches showed the results of 2 coaches in a percentage of 18.18% indicating that the quality level was very good, 9 coaches as a percentage of 81.81% indicating the level of quality is enough.

### CONCLUSION

The results of the research can be summarized as follows: 1) The quality of coaches in carrying out swimming club coaching in Sleman Swimming Federation shows the results of the category Very Good. 2) The ability of the coaches in preparation training programs shows the results of the category Good. 3) The ability of the coaches in the implementation of conditioning exercises shows the results of the category Enough. 4) The ability of the coaches in the implementation of the training program shows the results of the category Good. 5) The ability of the coaches in the use of training methods shows the results of the category Very Good. 6) The ability of the coaches to use swimming equipment and facilities shows the results of the category Enough. 7) The ability of the coaches in evaluating the training programs shows the results of the category Good. 8) The most important inhibiting factors in the implementation of swimming training programs at Sleman Swimming Federation include: limited equipment and training facilities, the use of swimming pools that are not able to practice freely due to joining public visitors. 9) The main supporting factors that make the smooth running of swimming training programs in swimming pools in Sleman District are: high motivation of swimmers to train intensively, the ability of trainers in an effort to improve the swimmers' performance, and the role of parents in helping to improve their children's achievement .

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