

Model Development of Classification of Homogeneous Class Learning in Aquatic

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Abstract. Grouping is based on the view that in addition to these students have in common, also have differences. Grouping is the convergence of teaching classical system and individual system. Rapid development so that students do not interfere with a slow student and vice versa (students who do not interfere with rapid slow), then perform the grouping students. The purpose of this study was to determine whether the use of grouping students in learning strategies aquatic activities have an effect on student learning outcomes. Data analysis make two different test Mean Dependents (t test difference average Group Two pairs). RnD research methods with the length of study for 3 years. Participants in this study were students FPOK UPI that follows the course of learning aquatic. Results (year 1), with peer teaching methods to increase the participation and cooperation grouping (affective), mutual learning (cognitive) and skills (psychomotor) students.

1. Introduction

The earliest and/or optimal ages at which aquatic skills should be introduced within structured swim lessons has continued to be a persistent and controversial issue in the aquatic and medical fields for over four decades. The controversy in part stems from differing theoretical perspectives underlying the nature of skill acquisition as well as the practical purposes for which swim lessons are offered. One developmental theory, maturation, assumes that all behaviors including aquatic skills change over time in a regular, ordered pattern as a result of internal, hereditary-based processes mainly dependent upon a person's chronologic age [1]. A contrasting theory, learning, presumes that behavioral changes primarily depend upon specific environmental experiences or sometimes the interaction of those experiences with age. Finally, a new contemporary theory, dynamical systems, sees behavioral change as possessing inherent emergent characteristics strongly associated with the elements of complex systems as well as dynamic, physical, and psychological principles. Theoretical perspectives strongly influence how persons or organizations understand why and how behaviors such as aquatic skills change over time [2]. The water would come as an only way for the accomplishment of exercises, and some answers to the exercise in the water would be better than those in earth for individuals [3]. During the light and moderate dynamic exercise in the water, the metabolism would be basically aerobic promoting an improvement in the breathing, with the water in the chest's level, there would be an increase of the pressure hydrostatic in the walls of the chest and abdominal during the breathing [4]. The water makes resistance breathing, mainly in patients with low vital capacity, among others. Aquatic activities allied



to breathing exercises as breathing in the water (to do bubbles) are beneficial to the patients that have breathing problems [3].

Swimming and aquatic exercises are often recommended for children with disabilities, since they are recognized as part of paramedical treatment programs [5]. The specific advantageous features of aquatic activities for children with disabilities include: (a) water buoyancy, which favours the initiation of movement even if the neuromuscular system is unable to move against gravity, (b) increased viscosity of water, which provides gradual resistance (braking force) and together with the amplitude of movement makes very demanding exercises almost impossible, (c) heat transfer in the water is much faster than in the air, water reaching 32°C or more decreases spasticity and leads to the lack of involuntary movement, (d) hydrostatic pressure provides extensive stimulation of exteroceptors and proprioceptors, increased pressure on the lungs and other internal organs, as well as pressure on the respiratory muscles [6]. These are assumed to improve coordination, breathing and associated functions such as feeding and speech [7-9].

Learning aquatic activity is one of the sports that exist in the physical education program implemented in schools. In the study of aquatic activity is expected in addition to transform and improve physical fitness as well as to instill discipline, character educate, train cognition in understanding the material and to improve sports performance through a learning process pool aquatic activity [10]. The selection and use of appropriate learning strategies in the learning process of aquatic activities with the aim of learning outcomes motor skills can be mastered well, an effort must be made by each teacher. For it is necessary to develop learning approaches are more effective and efficient in accordance with the demands and characteristics of students who are learning. Because it is related to the characteristics of the level of complexity of motion contained in the learning of aquatic activity itself. Children often learn to swim by first building water confidence in orientation, entering and exiting the water. Then, they aim for a horizontal body position in flotation skills to help with safe submersion and recovery. In addition, teachers might introduce stroke specific skills on land before practicing them in the water [11].

Development of children's water safety skills is achieved using a learning framework that provides active assistance from adults and peers who have greater knowledge and skills. These adults and peers provide the support that helps to facilitate learning, so that the child achieves the desired outcome; the support is slowly withdrawn as the child improves. This approach is often called "scaffolding," that is, a structure is put in place to help learners achieve learning outcomes [12][13]. Children who learn to swim at an early age show advanced development in motor skills, reaction time, power of concentration, intelligence, social behaviour, social interaction, self-confidence, independence, and disentanglement in new and unknown situations [14]. Children are better adapted than those who do not participate in swimming programs early and increased self-confidence and independence are due to swim programs.

The advantages of using flotation aids in a learn-to-swim program for beginners seem to relate to their effectiveness, although such claims are unsupported by evidence. For instance, The Dries Essen Swim School in The Netherlands (www.drie-essen.nl) claims that children are more confident wearing a flotation vest and thus are more willing to try more challenging learning exercises. Secondly, a flotation vest is claimed to give children a jump-start, making it possible to start earlier with instruction of propulsive movements, regardless of their FFA. Furthermore, the vest makes safety a lesser challenge in deep water, which means that beginner swimmers can do more exercises independent of the instructor or other support [15].

Therefore a teacher should be able to accommodate differences in students by using the strategy of grouping students by ability level of the students in the learning of aquatic activities to improve learning outcomes, especially for students who are learning reach low in aquatic activities. The finding of zero effects of grouping for all ability levels contradicts earlier findings from studies comparing students in high, average, and low ability groups which had suggested that ability grouping was beneficial to students in high groups and detrimental to those in low groups. Several explanations are advanced to account for this discrepancy [16].

2. Methods

The approach used in this study is the research and development, or research and development (R & D). Research and development is the process used to develop and validate a product. The steps of this process is usually referred to as the R & D cycle, which consists of studying the research findings related to the product that will be developed, develop the product, use the product, and repair of the product so that it can be implemented to the subject of research. As the name implies, research and development is understood as the research activities that began with research and continued with development. Research activities conducted to obtain information about the user's needs (needs assessment). The research used a descriptive method of analysis that aims to determine the psychological characteristics of athletes so as to identify the differences between students in order to grouping into their respective groups. Once identified, and know the group of students are expected to be followed by the design of a model of learning-oriented groups. While the development activities carried out to produce a group-oriented learning model that can be applied in learning aquatic FPOK UPI. Data analysis make two different test Mean Dependents (t test difference average Group Two pairs). The purpose of this test is to test the mean difference between the 2 group dependent data, which means that samples with the same subject but have two different treatments or measurements.

3. Instrument

3.1. Measurement of Affective

In general, the attitude object that needs to be assessed in the process of learning various subjects are as follows Discipline, Bravery, and Cleanliness:

- a. The attitude towards the subject matter.
- b. Attitudes toward teachers.
- c. The attitude towards the learning process.
- d. Attitudes related to values or norms related to a particular subject matter.
- e. The attitude associated with affective competencies across the curriculum relevant.

3.2. Cognitive Measurement Instruments

Essay tests were items form of a question or a task that must be done by way of test-takers speak your mind in a narrative. This test in the form of 10 questions about the form of essay regarding aquatic activities

3.3. Psychomotor Measurement Instruments

Research instrument (year 1) are Body Position, Legs, Arms, The Position of The Body (Freestyle), Movement of The Leg (Freestyle), Breathing (Freestyle), Arm (Freestyle). Scoring 1-4 point [17].

4. Result

Table 1. Results Mean and Standard Deviation

Group	N	Mean	SD
Group A (high ability)	12	74	4,70
a. Pre Test	12	84,24	3,63
b. Post Test			

Table 1. Cont.

Group B and C (a low ability)

a. Preliminary Test Results	12	58,42	5,88
b. Final Test Results	12	74,19	6,54

The table above can be explained that the average value of learning outcomes aquatic research with student grouping strategies have increased at the end of the treatment period, from the above table group A obtaining initial results with an average of 74 and a standard deviation of 4.70 at the end the results obtained treatment period has risen by an average of 84.23 and a standard deviation of 3.63. In group B gained early test results with an average of 58.41 and a standard deviation of 5.88, and the end of the treatment period has increased by an average of 74.19 and a standard deviation of 6.54.

Table 2. Dependent Variable Groups A, B, and C

	Kelompok-Smirnov		
	Statistic	SD	Sig.
Pre-test			
Group A	0,216	0,204	0,128
Group B and C	0,172	0,0019	0,200
Post-test			
Group A	0,138	0,0025	0,200
Group B and C	0,1116	0,0018	0,200

Thus from the test results, it can be seen that all the data in the two sample groups get from normal distribution because of both groups p value (sig.) > A (0.05)

Table 3. Hypothesis Test Results: Mean Two Different Test Results Dependent Learning Aquatics Group A, B, and C Before and After Grouping Students

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	A Pre-test - A Post-test	-10,167	3,057	,882	-12,109	-8,224	-11,521	11	,000

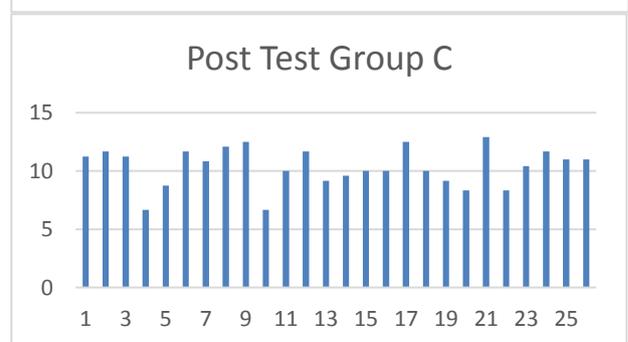
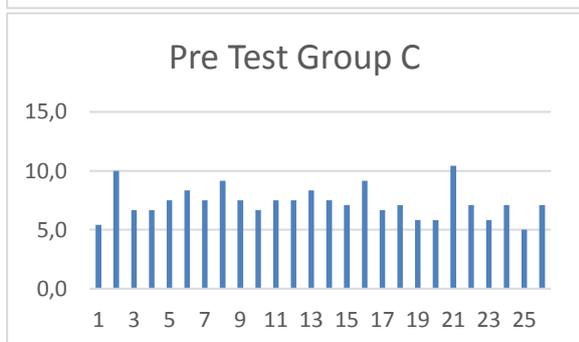
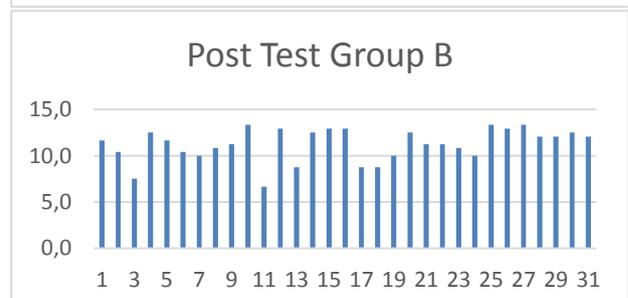
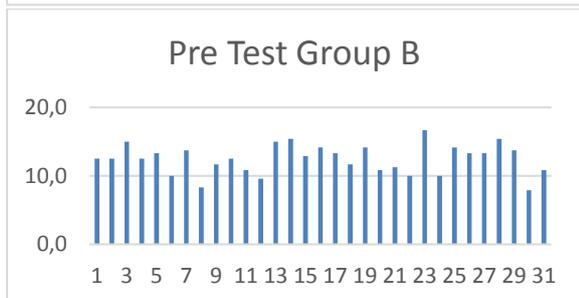
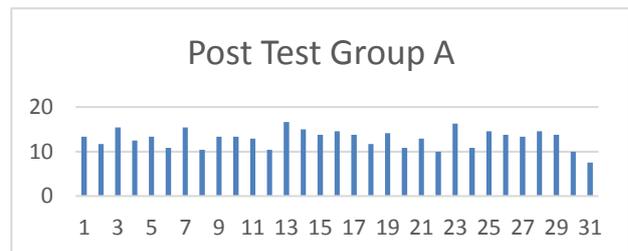
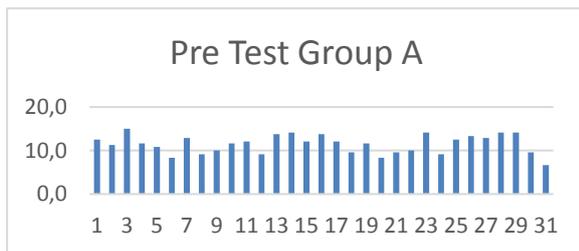
Table 3. Cont.

Paired Samples Test Group B and C

		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 1	Group learning outcomes B and C before Grouping Students - learning outcomes Group B after Grouping students	-15,817	3,179	,918	-17,836	-13,797	-17,237	11	,000

Can be summarized in table 4.4 above explains because sig. (2-tailed) both the dependent variable in group A and B $< \alpha$ (0.05) as well as by looking at the basic decisions in hypothesis testing, then H_0 is rejected. Rejection H_0 This, in turn, gave a conclusion that, there is the effect of grouping students in learning activities aquatic towards learning outcomes from before and after the treatment.. Based on calculations and conclusions as has been described, it is thus, the research hypothesis that reads "There is the influence of grouping students in the learning of aquatic activities for learning outcomes", proven and acceptable.

Table 4. Result Psychomotor Instrument



5. Conclusion

In group A of students tend to be able to understand the learning material well, both in terms of affective, cognitive and psychomotor, while in group B and C students are still less able to understand the area with good learning materials. Once divided into groups and then do the procedure research that has been collated. During the study, researchers looked at two groups can master the material well, although in a different learning process. In Group A (which has a high ability) students may receive materials from the teacher directly in mastering the skills of its motion, while for group B and C (which have low skill levels) teachers put forward the thinking process for students prior to movement skills with the stimulus of teachers and provide media support for students to support the learning process. Based on the calculation and analysis of data, the authors obtained results show that the strategy of grouping students in group A and group B have a significant influence on the results of learning activities of aquatic (swimming), it happens because the learning process with a strategy of grouping students are able to facilitate students in improving learning outcomes affective, cognitive and psychomotor. A significant effect can be seen by the students who are able to show skill activity aquatic (swimming) properly at the end of the study, was able to answer questions about the activities of aquatic (swimming) and the students were able to work together in learning motor skills, although there are still some of students who are not growing significantly.

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