

## Development Of A Media Training Model ZETRAS (Zenkutsudachi Training Speed) To Increase The Speed Of Forward Stance In The Sport Of Karate

Yenny Adelia<sup>1\*</sup>, Sabitha Rasendriya<sup>2</sup>, Kunjung Ashadi<sup>3</sup>, Wijono<sup>4</sup>, Rachman Widohardhono<sup>5</sup>, Dio Daulay<sup>6</sup>, Rizky Sidik<sup>7</sup>, Abdul Hafidz<sup>8</sup>, Fifit Wulandari<sup>9</sup>, Tri Utami<sup>10</sup>

<sup>1</sup>Universitas Negeri Surabaya, Surabaya, Indonesia

<sup>2</sup>Universitas Negeri Surabaya, Surabaya, Indonesia

<sup>3</sup>Universitas Negeri Surabaya, Surabaya, Indonesia

<sup>4</sup>Universitas Negeri Surabaya, Surabaya, Indonesia

<sup>5</sup>Universitas Negeri Surabaya, Surabaya, Indonesia

<sup>6</sup>Universitas Negeri Surabaya, Surabaya, Indonesia

<sup>7</sup>Universitas Negeri Surabaya, Surabaya, Indonesia

<sup>8</sup>Universitas Negeri Surabaya, Surabaya, Indonesia

<sup>9</sup>Universitas Negeri Surabaya, Surabaya, Indonesia

<sup>10</sup>Universitas Negeri Surabaya, Surabaya, Indonesia



### ABSTRACT

**Keywords:**  
ZETRAS  
Speed  
Karate

*The research aims to develop training aids to increase the speed of the heavy front stance in karate which can be called ZETRAS (Zenkutsudachi Training Speed). The method used in this research is R&D (Research and Development) using the five-stage method, namely ADDIE. The population in this study were Inkanas Banyuwangi karate athletes with a sample of 35 athletes. The results of pretest and posttest data analysis obtained  $\text{sig} = 0.000 < 0.05$ , while the results of the questionnaire on comfort of using the equipment were 57.1% "AGREE" and 37.1% "Strongly AGREE". Based on the results of the research above, it can be concluded that there is an influence of training to increase the speed of the heavy front karate stance and it has proven to be comfortable for Inkanas Banyuwangi karate athletes to use.*

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### INTRODUCTION

Karate is a sport that requires players to have good physical, technical, tactical and mental conditions (Hardiansyah et al., 2022). In The sport of karate has basic techniques that are mandatory mastered These are : stance technique ( dachi ), parry technique (uke), punch technique ( tsuke ), and kick ( geri ) (JB Sujoto, nd) . Aspect condition physique very important noticed remember Power endurance , speed , strength , agility , power and balance . Condition physique Alone is components that are important and those that are not Can ignored by everyone athlete For reach pretation the highest (Cahyadi, 2019) . Every athlete own condition different physiques , then from That must carry out an existing exercise program made by the trainer (Wulansari, 2018) . Condition physique This is something components that cannot simply be separated in improving maintenance. Condition physical requirements at the branch the dominant sport of karate is Power endurance , speed , strength , agility , power and balance (Irwansyah et al., 2022) .

Good training is training that has many variations of training models, therefore the task of a physical trainer or technical trainer is to create a training program that is as interesting as possible to create a pleasant situation. (Budi, 2021) . Exercise should be

done 3x a week, because after 48 hours Power stand someone will decline , training 4x per week has better results, training 5x per week has better results than 4x per week, maximum exercise 6x per week for specific goals while training every day per week is not recommended because it is not enough for recovery time, thus causing easy illness or injury (Aldapit, 2019) .

In observations made by researchers , he found problems experienced a karate athlete when in the field . Movement the front heavy stance technique is slow, this is because the trainer focuses the training only on punches and kicks. Meanwhile, technical horses are rarely trained specifically. The solution will be given is practice speed sawhorse heavy front karate use modification of used tires . Objective from Speed training sawhorse heavy front using used tires For give enhancement physique component biomotor speed and stance technique heavy front . Speed ability somebody in do movement continuous with the same shape in time in short (Mansur, Saifuddin, 2015) .

Technique zenkutsudachi that is sawhorse front that way do it with zig-zags and the shape is zig-zag, isn't it? One line (Rozi, 2021) . Loading body weight ( centre style weight ) on the horses This more less than 60% on the front legs , 40% on the back legs (Santi Septiyani et al., 2005) . Practice karate stances very well necessary and focused Because coordination between kicks and punches very required when perform complete karate movements .

Development is method research used For research so that produce product new and continued with test its effectiveness For know appropriateness from developed products (Sugiyono, 2016) . Development of a used tire media practice model This called ZETRAS ( Zenkutsudachi Speed Training). With created it *zetras* so athlete become more enthusiastic and able give maximum result in accordance with training goals . Exercise based media *zetras can be implemented as an exercise to increase the speed of the front heavy stance karate sport*. This exercise just focused on speed, because when the heavy front stance technique is not in sync with the speed of punching and kicking techniques, there is a lack of coordination between the combined techniques. the.

Practice is necessary exists enhancement performance athlete For get maximum training results . Peak performance athlete is something circumstances Where mind and muscle Work the same , both mentally and physical , so appearance athlete can increase ability normally (Lestari & Dewi, 2022) . When athletes own good performance so No close possibility in match achieving achievement targets . Performance Can achieved if fulfil a number of component such as : athletes potential , next coached and directed by a coach , for give a trial with do competition and try outs are good domestically or abroad with objective measure ability competing / competing and maturity as technical, physical and mental formation of competition (Handayani, 2019) .

Based on problems found in the field so in effort increase speed sawhorse heavy front on karate athletes , writer interested For do study Development of the ZETRAS ( Zenkutsudachi Speed Training) Media Training Model for Increase Speed Sawhorse Heavy Front Karate sport . Through the Zetras media speed training model expected can help internal karate athlete increase speed with more optimal. And can used and useful for coaches and many people as guidelines in do speed training .

## RESEARCH METHOD

Type research used in research This is study development of Research and Development, research activities are carried out For look for information about problems and needs users , while development is carried out For produce device as solution (Nusa Putra, 2015) . Stages in Research and Development in study in a way operational take ADDIE method consisting from : 1) Analysis, 2) Design , 3) Development, 4) Implementation, 5) Evaluation (Cahyadi, 2019) . Place study held at the Inkanas Karate Dojo Banyuwangi , Kab . Banyuwangi with time study One month . Population Inkanas karate athlete Banyuwangi with sample of 35 athletes aged 13-18 years . Data collection techniques use test measurement with method pretst and posttest and data collection instruments using test component 20m sprint physical . The data analysis technique uses the T Test with SPSS analysis and questionnaires were analyzed in a way descriptive .

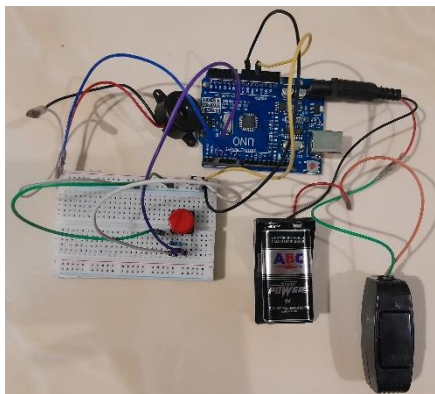
## RESULTS AND DISCUSSION

Results on research This that is Development of the ZETRAS ( Zenkutsudachi Speed Training) training model for increase speed sawhorse heavy front karate sport . Exercises that use instructions in a way automatic without instructions from trainer who makes it easy athlete along with coach For sawhorse heavy front of karate. The ZETRAS tool is also available book guide with title " Guidebook for Using the ZETRAS Zenkutsudachi Speed Training Improving Tool Speed Sawhorse Heavy Home Karate" to get it makes it easier user in operate tool the .

Material main used namely used tires , catheters and ankle straps, assisted with tool electronic supporter namely software, Arduino Uno, beard board, jumper cables , push button, resistor, buzzer, battery , battery holder and switch . tool electronic assembled in accordance support needs achieved tool zetras the one that can emit voice or as instructions automatic . The sound emitted Already programmed in the software with Instructions: 3 sets, 8 reps with a 10 second rest . Pause each set is different , p This aim For readiness athlete without must guess repetitions one and so on . When the circuit electronic Already So so attached to the part side in used tires . How to use it Enough push knob switch as on/off Then pressing the colored push button red so tool zetras Ready used .

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Picture 1. Electronic circuit  
Source : researcher



Picture 2. Zetras tool circuit  
Source : researcher



Picture 3. Wearing ankle straps  
Source : researcher



Picture 4. Turning on the device  
Source : researcher



Picture 5. Zetras training preparation  
Source : researcher



Picture 6. Zetras training preparation  
Source : researcher

**Table 1. Normality Test**

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro- Wilk		
	Statistics	df	Sig.	Statistic <sub>s</sub>	df	Sig.
PRETEST	.071	35	,200 *	,971	35	,466
POSTTEST	.117	35	,200 *	,965	35	,324

Kolmogoro v-Smirnov <sup>a</sup>	Shapiro- Wilk	Kolmogorov -Smirnov <sup>a</sup>	Shapiro - Wilk	Kolmogor ov- Smirnov <sup>a</sup>	Shapiro- Wilk
Statistics	df	Statistics	df	Statistics	df
PRETEST	.071	PRETEST	.071	PRETEST	.071
POSTTEST	.117				

Normality test Shapiro Wilk carried out on pretest and posttest speed data easel , and produce mark significance each of 0.466 and 0.324. With use level alpha significance of 0.05, second mark the show that No there is Enough proof For reject hypothesis zero , that the data is distributed normally . Therefore that , second pretest and posttest samples can be considered normally distributed at level significance >0.05.

**Table 2. Descriptive Statistics Paired Sample t-test**

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	PRETEST	4.6554	35	.35251	.05958
	POSTTEST	4.3726	35	.35052	.05925

**Table 3. Paired Samples Test**

	Paired Differences	Mean	Std. Deviation	Std. Error Mean	95% Confidence Intervals of the Difference		t	df	Sig. (2- tailed)
					Lower	Upper			
Pair 1	PRETEST - POSTTEST	.28286	.20897	.03532	.21107	.35464	8,008	34	,000

**Table 4. Summary of T Test Results**

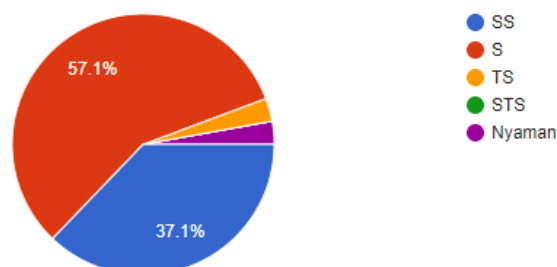
	Mean	<i>t-test for equality of means</i>			
		t	df	Sig. (2 tailed )	Mean difference
<i>Pre- test</i>	4.6554	8,008	34	0,000	4.6

Based on the output table of t test results, the value obtained is sig = 0.000 < 0.05. Thus, H<sub>0</sub> is rejected and H<sub>a</sub> is accepted. Then, based on the results of the descriptive analysis, the pretest mean value was obtained amounted to 4.6554 and on the posttest amounting to 2.3726. This means that there was an increase in the speed of the front heavy stance after receiving speed training in the front heavy stance using Zetras development media.

**Diagram 1. Questionnaire Results**

Penggunaan media "RIB-LUG TIRE" nyaman saat digunakan?

35 responses



The results of the comfort questionnaire for using tools given to Inkanas Banyuwangi karate athletes showed 57.1% "AGREE" and 37.1% " STRONGLY AGREE ". It is proven that there is comfort in using the Zetras tool.

**Table 5. Minimum Maximum**

	Pretest	Posttest
<b>Minimum</b>	4.09	3.66
<b>Maximum</b>	5.20	4.90
<b>Mean</b>	4,658	4,629

Pretest results The research showed a minimum value of 4.09, a maximum value of 5.20, and an average of 4.658. Meanwhile the results posttest shows a minimum value of 3.66, a maximum value of 4.90, and an average of 4.629.

## DISCUSSION

Training uses used tires as a medium which aims to make athletes more active in carrying out training, so that Chest pass skills will develop further so it will become better (Main et al., 2021) . Weight training is a great way to improve speed kick sickle, Where process with use n something just a load made as tool For add No only strength but also speed in reach objective (Kasmandana et al., 2019) . Speed refers on movement in do something Skills not only just speed in move. Moving member physique is quickly becoming the most important skill for a sportsman in maximizing his potential and must be improved according to the required sports skill area (Crish & Lodge, 2015) .

Pretest result data and posttest Inkanas Banyuwangi Karate athlete's 20 meter sprint What was obtained was: The hypothesis tested was that there was an increase in speed ability in performing the Zenkutsu Dachii stance or the heavy front stance of Inkanas Banyuwangi Karate athletes. From the results of data analysis, it was obtained that  $t_{count} (t_o) = 8.342$  with a probability level  $(P) = 0.00 < \alpha = 0.05$ ,  $p$  This means that  $H_0$  is rejected and  $H_1$  is accepted, meaning there is a good influence on increasing the speed ability of the Zenkutsu Dachii stance . or the heavy front stance of Inkanas Banyuwangi Karate athletes after being treated with Zetras modified speed training . Thus, it can be concluded that the Zetras modified media speed training treatment was provided have a significant effect towards improvement front heavy stance speed Inkanas Banyuwangi karate athlete.

Enhancement something ability speed sawhorse zenkutsu dachi or sawhorse heavy front of Inkanas Karate athletes Banyuwangi will succeed with Good if any training elements systematic , structured and measurable . Types of weight training other For increase speed is weight training explosive with burden light (Fossmo & van den Tillaar, 2022) . Speed training This Can added load that is not too heaviness in the legs or arms (Mintarto, 2019) . In study This relevant with framework think that has developed based on supporting theories study This . With thus Speed training sawhorse zenkutsu dachi or sawhorse heavy front using development media zetras there is enhancement ability speed sawhorse zenkutsu dachi or sawhorse heavy front of Inkanas Karate athletes Banyuwangi .

Based on Exercise Which used For increase speed Front heavy stances use Zetras media . When carrying out exercises using assistive devices, the main thing that needs to be

considered is comfort. This indicates that there is a need for knowledge and understanding of the elements comfort in training for athletes and coaches is a necessity (Sutrisna et al., 2018) . With thereby from discussion on Zenkutsu dachi stance speed training or front heavy stance using Zetras development media there is an increase ability speed Zenkutsu Dachi stance or the heavy front stance of Inkanas Banyuwangi Karate athletes. As well as the ZETRAS ( Zenkutsudachi Training Speed ) modification tool to increase the speed of the front heavy stance for comfort when used for training by athletes .

## CONCLUSION

Based on analysis results research and discussion can concluded that use the ZETRAS (Zenkutsudachi Training Speed) tool is effective in increase speed sawhorse heavy front karate athlete. Zetras media training model development tool later can used for all type karate stance. As well as the Zetras media development training model this can developed in components physique strength, due to research this only used for increase speed sawhorse heavy front of karate.

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