

# DEVELOPMENT OF BASIC SKILLS TEST INSTRUMENT FOR MAEGERI BASED ON CGFU-PM 515

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**Abstract:** Play activities are necessary in training children in karate to change the image that karate is a tough sport. The concept of Coaching Game for Upgrading Performance Model 515 (CGFU PM-515) is very relevant for training children because with this concept children think that they are playing but actually the child is practicing karate techniques. The importance of conducting research to develop a CGFU-PM 515-based maegeri basic technique skill test instrument consisting of skill, soft skill, and performance assessment elements because there has been no previous research related to the preparation of these instruments. This research is development research, conducted with quantitative and qualitative approaches. This research was conducted in three stages, the first was by conducting a literature review, the second was by conducting validity and reliability tests, and the third was validity data analysis using the V-Aiken formulation and reliability testing with the intraclass correlation coefficient (ICC). Based on the results of the validity test and reliability test of the maegeri basic technical skill test instrument has a high level of validity and has a good level of reliability, the results of the validity test results using V-Aiken obtained the results of 0.99 and the reliability test using the intraclass correlation coefficient test showed a score of 0.801. Thus, the CGFU-PM 515-based maegeri basic technical skill test instrument which includes three aspects, namely soft skills, skills, and performance can be used.

**Keywords:** CGFU-PM 515, Test Instrument, Karate, Maegeri, Validity and Reliability.

## INTRODUCTION

Karate sport consists of kata and kumite matches, a kata match is a match that shows a series of techniques or movements that are demonstrated, kumite is a fighting match between players using techniques that are allowed according to the rules of the World Karate Federation (WKF) (Danardono et al., 2022). Play activities are needed in training children when practicing karate, this is done to change the image that karate is a hard sport. The CGFU-PM 515 concept is very relevant for training children because with this concept children think that they are playing but actually the child is practicing karate techniques. The sport of karate is growing very rapidly, one indicator that the sport of karate is very developed is karate is in great demand and involvement is dominated by children (H. Chaabene et al., 2015) (N. Koropanovski et al., 2011). The concept of CGFU-PM 515 is needed because karate is a physical contact sport. The CGFU-PM 515 concept is expected to change the mindset of children that karate sports are fun activities and not coach oriented because the category of success rates with coach oriented is low 11.3%, training children become passive and less able to explore the potential that exists in themselves (W. Crossan, M. Bednar, and R. Quinn, 2021).

The CGFU-PM 515 concept is a training model with a play approach. Play is the main choice chosen by children because play is a fun activity. Play is a vital activity for children because it can provide a positive relationship for children, play is a bridge for the development of physical, mental aspects and a means of exploration to strengthen things to find new things (O.Johan, S. Rasmus, K. Ellen, and B. Hansen, 2021). Play is a comprehensively integrated activity that makes a person skillful, agile, and can improve physical components better. When playing a person uses basic motor skills such as running, jumping, throwing, climbing, crawling, turning, done regularly, thus stimulating physical development (C. T. Dao, 2021). CGFU PM -515 is a new concept in the field of sports coaching with creative, innovative, not boring, and futuristic training patterns by utilizing the development of information technology to lead to an educational model in the industrial era 4.0. The CGFU-PM 515 concept is a high order thinking skills (HOTS), namely remembering, understanding, applying, analyzing, evaluating, and creating. The concept of CGFU-PM 515 is based on the concept of teaching games for understanding (TGfU) which has developed in physical education (J. L.

Arias-Estero et al., 2020)( A. Gil-Arias, S et al., 2021)( S. Nopembri et al., 2022). The stages of the CGFU-PM 515 concept consist of four stages, namely innovation games, natural games action, coaching approach, and performance & skill assessment (N. B. S. Siswantoyo et al., 2020)(M. Z. Zaini and N. Salimin, 2020)(C. F. Sriwahyuniati, 2020) (W. Srianto et al., 2020).

This research will focus on developing a CGFU-PM 515-based maegeri basic technique skill test instrument. The maegeri basic technique skill test instrument is very important because the maegeri technique is a prefix technique that is trained to people who start karate (M. Błaszczyzyn et al., 2019). Knowledge and understanding of motion must be considered thoroughly so that children can improve the efficiency of technical motion patterns during training. Therefore, it is very important to conduct research to compile a CGFU-PM 515-based maegeri basic technique skill test instrument consisting of skill, soft skill, and performance assessment elements because there has been no previous research related to the preparation of these instruments.

**MATERIALS AND METHODS**

This research is a development research, conducted with quantitative and qualitative approaches in the hope of obtaining complete and valid data results (R. L. Harrison, T. M. Reilly, and J. W. Creswell, 2020). This validity and reliability uses three stages, the first is by conducting a literature review, namely collecting relevant research sources, and conducting a preliminary participatory observation study to develop tests through articles, journals, and textbooks related to instruments and maegeri techniques (A. Gör, A. Kabakulak, A. K., 2022)(R. Ferrari, 2015). The second stage is the validity test and reliability test carried out by expert judgment consisting of 4 academic expert judgment, namely karate sports lecturers and 5 practitioner expert judgment, namely 5 coaches who have a national coach license, then the expert judgment fills in the instrument with the delphi technique (A. Saud, 2019). The third stage is to analyze the data obtained in the form of quantitative and qualitative results, quantitative data is generated from the results of expert judgment assessments while qualitative data is generated from expert judgment input and suggestions on the instrument developed.

**Data Analysis Technique**

The validation of the instrument content is analyzed using the V-Aiken formulation, the range of V-Aiken values is 0 to 1, if the V value <0.6 in the low category, if the V value is between 0.6 - 0.8 in the medium category, if the V value > 0.8 in the high category (R. Arthur et al., 2019).

*Table 1. V-Aiken Formula*

$$V = \frac{\sum s}{n(c-1)}$$

$$s = r - lo$$

- V is the Aiken scale for which the value will be sought
- S is the result of reducing the validator’s score with the lowest score
- N is the number of validators
- C is the highest validity value
- Lo is the lowest validity value

The reliability of the instrument is analyzed using the Intraclass Correlation Coefficient (ICC), following the classification of the interpretation category of the analysis results (M. P. Portney, L. G., & Watkins. 2009).

*Table 2. Classification of interpretation categories of ICC analysis results*

ICC Value	Intepretation
0.00 – 0.50	Poor
0.51 – 0.75	Moderate
0.76 – 0.90	Good
0.91 – 1.00	Excellent

Data collection uses a Likert scale questionnaire with 4 answer options, namely strongly agree score 4, agree score 3, disagree score 2, and strongly disagree score 1 [21] [22], analysis data obtained from expert judgment and qualitative data in the form of input on the instrument developed.

### RESULTS

The assessment results were then analyzed using V-Aiken to see the validity of the instrument developed, and using ICC analysis to see the reliability results.

*Table 3. Results of instrument validation using V-Aiken*

Grain	Assessment																		Σs	n(c-1)	V	Description
	Expert									s												
	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9				
1	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	27	27	1.00	Tall
2	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	27	27	1.00	Tall
3	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	27	27	1.00	Tall
4	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	27	27	1.00	Tall
5	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	27	27	1.00	Tall
6	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	27	27	1.00	Tall
7	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	27	27	1.00	Tall
8	4	4	3	4	4	4	4	4	4	4	3	3	2	3	3	3	3	3	26	27	0.96	Tall
9	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	27	27	1.00	Tall
10	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	27	27	1.00	Tall
11	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	27	27	1.00	Tall
12	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	27	27	1.00	Tall
13	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	27	27	1.00	Tall
14	4	4	4	3	4	3	4	4	4	4	3	3	3	2	3	2	3	3	25	27	0.93	Tall
15	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	27	27	1.00	Tall
16	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	27	27	1.00	Tall
17	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	27	27	1.00	Tall
18	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	27	27	1.00	Tall
19	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	27	27	1.00	Tall
20	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	27	27	1.00	Tall
21	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	27	27	1.00	Tall
22	4	3	3	3	4	4	4	4	4	4	3	2	2	2	3	3	3	3	24	27	0.89	Tall

*Table 4. V-Aiken average results*

V	Description
0.99	Tall

Based on this data, the average value of V count is 0.99, when using 9 raters with a scale of 1 to 4, the V table is 0.81. These results indicate that the content validity of the instrument developed is valid and can be used.

**Table 5.** Reliabilitas dengan intraclass correlation coefficient (ICC)

	Intraclass Correlation <sup>b</sup>	95% Confidence Interval		F Test with True Value 0			
		Lower Bound	Upper Bound	Value	df1	df2	Sig
Single Measures	.310a	.171	.514	5.099	21	168	.000
Average Measures	.801c	.650	.905	5.099	21	168	.000

The table shows that the results of the reliability test with ICC show the average measures point shows a score of 0.801. This score if interpreted in the interpretation of the value of the ICC test results is classified as good. Based on data collection and the results of expert judgment, the CGFU-PM 515-based maegeri basic technical skill test instrument is obtained in terms of three aspects of assessment, namely soft skills, skills, and performance.

**Table 6.** Aspects of soft skill assessment

Aspects assessed	Criteria Asseement
Communication	Verbal expressive Non-verbal expressive Actively responds Actively argues
Leadership	Be a role model Responsible Able to resolve conflicts or differences Able to cooperate
Cooperation	Social interaction Unselfish Helping each other Able to discuss

(Source: M. A. H. Hazman et al., 2020)

**Table 7.** Aspects of skill assessment

Assessment Aspects	Description
Good shape	A technique that has characteristics that match the effectiveness possible within the framework of traditional karate concepts.
Sportsmanship	A component of good form and refers to an attitude of no malice or vengeance, reflected through high concentration to produce high techniques
Strong spirit	Describes the power and speed of the technique and the desire to succeed.
Vigilance	Vigilance (zanshin) is a continuous state of commitment where the participant maintains total concentration, observation, and awareness of the opponent’s potential/possibility to counterattack.
Good timing	Executing a technique at the moment when it will be effective produces a large potential effect
Correct distance	Executing a technique at the right distance so as to produce maximum potency effect

(Source: W. K. Federation, 2020)

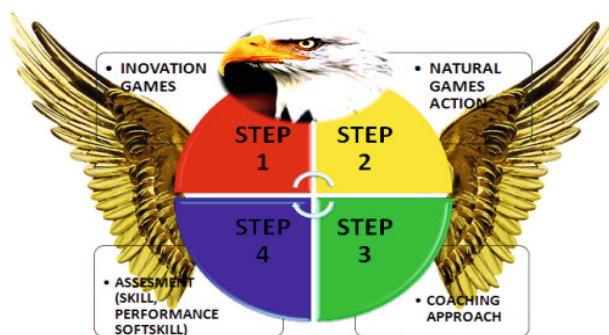
**Table 8.** Aspects of performance assessment

Assessment Aspect
Chudan-no-kamae (one hand is in front, and one hand protects the body area).
Lifting the knee to the front of the body
Pushing the hips and then pushing the legs forward
Pulling quickly to the Chudan-no-kamae position

(Source: M. Blaszczyzyn, et al., 2019)

## DISCUSSION

The basic concept of developing CGFU-PM is based on the concept of Teaching Games for Understanding (TGfU) which has developed in the field of physical education (J. L. Arias-Estero, et al., 2020) (A. Gil-Arias, S et al., 2021). The results of the study between learning in the context of physical education and training in sports coaching there are fundamental differences in principle, namely in physical education learning the subject is the teacher, the object is the student, the goal is to improve ability, know how to implement, measurement by process assessment, and implemented in formal school education. Whereas in training the subject is the coach, the object is the athlete, aims to make the trainee more skillful, measurement through the process and achievement of results, and in a non-formal environment. There are six stages in doing activities with the TGfU concept, namely: playing games, game appreciation, tactical awareness, making appreciate decisions, skill executions, and performance. The results of the study found that the third stage, namely tactical awareness, is the starting point in the coaching process, and the sixth stage, namely performance, is the result of a process carried out. Thus it was agreed that starting from the tactical awareness stage to be explored and studied in depth with a coaching approach. CGFU-PM 515 is the concept of training stages consisting of four stages, namely innovation games, natural games action, coaching approach, and assessment of soft skills, skill performance. (N. B. S. Siswantoyo et al., 2020).



Picture: CGFU-PM515 (Siswantoyo,dkk, 2019)

Figure 1. Tahapan CGFU-PM 515 [10]

This research focuses on the soft skill assessment stage, skill performance, which is the stage of developing an instrument to assess basic maegeri techniques based on CGFU-PM 515 which consists of three aspects of soft skill, skill and performance assessment. This instrument is very important to be developed as the basis for assessing the basic maegeri technique skills test because the maegeri technique is a kicking technique that is trained to children at the beginning of training (M. Błaszczyszyn, et al., 2019). The three aspects were validated by 9 expert judgments consisting of 4 expert judgments in academics and 5 expert judgments in practitioners. After the data is assessed, instrument validation is carried out and intraclass correlation coefficient reliability is carried out so that the instrument developed has a high level of feasibility. The results of the validity test of the average V calculated value is 0.99, when using 9 raters with a scale of 1 to 4 obtained V table is 0.81 thus the validity of the instrument content is declared valid, while the results of the reliability test with intraclass correlation coefficient (ICC) average measures points show a score of 0.801, the score if interpreted is classified as good.

## CONCLUSION

This study concluded that the validity test and reliability test of the basic maegeri technical skills test have a high level of validity and have a good level of reliability, the results of the validity test results using V-Aiken obtained the results of 0.99 and the reliability test using ICC showed a score of 0.801. The product is in the form of a CGFU-PM 515-based maegeri basic technical skill test instrument which includes three aspects, namely soft skills, skills, and performance.

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