

The BMB3 Approach in Tarung Derajat Martial Arts Training: Mastery of BMB3, Basic Technical Skills, and Good Character

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Received November 26, 2022; Revised January 7, 2023; Accepted February 10, 2023

Cite This Paper in the Following Citation Styles

(a): [1]Alnedral, Mohad Anizu Mohd Noor, Umar, Nurul Ihsan, Anton Komaini, Deby Tri Mario, Desi Purnama Sari, Nissa Aldani, "The BMB3 Approach in Tarung Derajat Martial Arts Training: Mastery of BMB3, Basic Technical Skills, and Good Character," *International Journal of Human Movement and Sports Sciences*, Vol. 11, No. 1, pp. 241 - 252, 2023. DOI: 10.13189/saj.2023.110128.

(b):Alnedral, Mohad Anizu Mohd Noor, Umar, Nurul Ihsan, Anton Komaini, Deby Tri Mario, Desi Purnama Sari, Nissa Aldani (2023). *The BMB3 Approach in Tarung Derajat Martial Arts Training: Mastery of BMB3, Basic Technical Skills, and Good Character*. *International Journal of Human Movement and Sports Sciences*, 11(1), 241 - 252. DOI: 10.13189/saj.2023.110128.

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Abstract Basic technical skills and psychological factors are important indicators in the *Tarung Derajat* martial arts. These factors must be trained in an effective approach so that the athlete's performance during the match increases. Therefore, this study aims to analyze the effectiveness of the BMB3 approach in *Tarung Derajat* martial arts training in relation to mastery of BMB3, basic technical skills, and good character of athletes. The basic principle of this approach is that athletes are asked to analyze each activity (think), believe what they think (feel), do what is conceptualized (act), and understand what is being done (responsibility). This research is a true experiment with a two-group pretest-post-test control group design. A total of 80 male athletes from *Tarung Derajat* in West Sumatra, Indonesia were recruited for the study sample. 40 of them were for the experimental group (BMB3 approach), and the other 40 were for the control group (without BMB3/conventional approach). The data were obtained through tests of basic technical skills in punches and kicks, then a questionnaire for BMB3 mastery and good character. Data were analyzed using multivariable analysis of variance. The results showed that the experimental group was better than the control group,

in mastering BMB3, improving basic technical skills, and building good character ($p < 0.05$). The difference between the post-test averages of the two-groups was 19.60 for mastering BMB3, 1.72 for basic technical skills, and 17.53 for good character athlete. In conclusion, the BMB3 approach is very effective in mastering BMB3, improving basic technical skills, and building good character for *Tarung Derajat* martial arts athletes. This approach is expected to be useful as an alternative for coaches to provide effective training, so that athlete performance during matches increases. Future research is needed to test the effectiveness of the BMB3 approach with other types of approaches in different martial arts and larger sample sizes.

Keywords *Tarung Derajat* Martial Arts, BMB3 Approach, BMB3 Mastery, Basic Techniques, Good Character

1. Introduction

Tarung Derajat martial arts is a sport that is quite

popular among the people of Indonesia, as well as in the Southeast Asian region in general. This is marked by the rapid development of training units in districts/cities from all provinces in Indonesia, as well as in all Southeast Asian countries since 2011 at the Sea Games in Jakarta. This sport was created by a native Indonesian son “Guru H. Achmad Dradjat”. This sport is known to be quite tough, prioritizes a sense of brotherhood, and teaches all members/athletes to train “moral and mental”, which is commonly called “Mortal Ghada” [1]–[3]. The development of *Tarung Derajat* martial arts is not only limited to obtaining medals/achievement levels, but also on the psychological development of athletes with good character. A good way to foster moral growth and moral education is through the formation of morals in martial arts [4]. In addition, sports in education are also beneficial for mental health of students/athletes, reducing stress and feelings of happiness, and increasing brain power, and self-confidence [5]. People with good character will find it easy to apply moral values in any situation [6]–[8]. The content of the values of good character is directed to five focuses, namely faith and piety, honest, intelligence, toughness, and care [9].

BMB3 is a philosophical concept proposed by Prayitno in viewing the dynamics of human life. This thinking is based on the belief that human life from time to time is not monotonous, or on the same wave, but varies and is dynamic in five dimensions, namely: “Thinking, Feeling, Attitude, Acting, and Responsible” [10]. The elements of BMB3 are always dynamic in humans, sometimes they concentrate on only one or two elements, sometimes all elements are dynamic as a whole, and they can even be integrated [11]. The elements of BMB3 place great importance on the role of the trainer in the training process. Coaches must be able to instill and be a good example for their athletes. Athletes are given awareness and motivated, about how they Thinking, Feeling, Attitude, Acting, and Responsible. Therefore, it is acceptable to refer to BMB3 as the “mother of life”. Philosophy is often referred to as the “mother of knowledge”, but BMB3 is also sometimes referred to as the “mother of life” or “the mother of civilization” [9].

The approach used in *Tarung Derajat* martial arts training generally uses a conventional approach, without any opportunity for athletes to process BMB3. Because they have little control over this situation, students and athletes who are being taught via the conventional method are forced to prove their understanding of and mastery of the subject matter through a test [12]. The feedback given to students and athletes indicated that this strategy was considered as knowledge that students or athletes received to help them perform better [13]. Feedback can be given to students or athletes in a variety of ways, such as by observing how they feel or react to a movement (knowledge of how to perform an action). The results of the movement and external instructional feedback they receive from the teacher or trainer are aimed at improving

their skills [14]. In addition, the conventional approach is very difficult to provide feedback in accordance with learning objectives (training). This is because students/athletes listen more to coaches' explanations, which are marked by lectures followed by division of tasks and exercises, without the BMB3 process.

The basic technical skills of *Tarung Derajat* martial arts and the formation of good character must be taught by coaches to improve their performance during competitions. These techniques are very diverse, developed since 2011, including fast punches, inner circle punches, outer circle punches, hand drops, inner circle kicks, side kicks, back circle kicks, front hook kicks, back kicks, back hook kicks, and drop feet [1]–[3]. All of these techniques have a role and are used to win a competition in *Tarung Derajat* martial arts, so they need to be trained with an effective approach.

Several studies discuss the training approach that is associated with psychological elements, as well as basic technical skills in martial arts, such as the effect of training methods and good character on the basic technical skills of *Tarung Derajat* [15], the effectiveness of BMB3 learning strategies and good-characteristics on the basic technical skills of *Tarung Derajat* [16], a strategy for enhancing the combat prowess and moral fiber of *Tarung Derajat* martial arts [2], increasing the ability of thinking, feeling, attitude, action, and responsibility in *Tarung Derajat* martial arts athletes [1], an analysis of self-concept and self-efficacy in Iranian martial arts and non-martial arts sports [17], employing the philosophical technique of logical reasoning, the importance of martial arts to moral growth, and the explanation of numerous moral techniques used in martial arts [4], regular martial arts training that takes into account cognitive and personality characteristics. This study explores the effects of frequent martial arts training on personality and cognitive traits including attention, creativity, and academic achievement, as well as self-esteem, self-efficacy, and aggressiveness [18], psycho-physiologist martial arts sportsman [19], specifics of the psycho-physiological responses of many talented athletes, including those who practice MMA, Karate, Taekwondo, and hand-to-hand fighting [20]. A thorough analysis of the combat sport literature is directed at identifying the physiological traits that effective mixed martial arts players share [21], and comparative investigation of the functional condition of martial arts during the execution of controlled activity [22]. However, to date very few studies have discussed the BMB3 approach to mastery of BMB3, basic technical skills, and good character of athletes in martial arts training.

This study aims to examine the effectiveness of the BMB3 approach on the mastery of BMB3, basic technical skills, and good character of athletes in *Tarung Derajat* martial arts training. The basic principle of this approach is that athletes are asked to analyze each activity (think), believe what they think (feel), do what is conceptualized (act), and understand what is done (responsibly). This

research is expected to be useful for coaches as an alternative to provide an effective approach to training, so as to improve athlete performance during competition.

2. Materials and Methods

2.1. Study Design

This research is a true experiment with a two group pretest-post-test control group design. This design consists of two groups, namely the experimental group and the control group. The experimental group is the group given the BMB3 approach, while the control group is the group without being given training on the BMB3 approach (conventional) (Table 1).

Table 1. Study design

Group	Variable		
	B_1	B_2	B_3
A1 (Exsperiment)	A_1B_1	A_1B_2	A_1B_3
A2 (Control)	A_2B_1	A_2B_2	A_2B_3

Note.*- A_1 is the BMB3 approach (experimental), A_2 is the conventional approach (control), B_1 is the mastery of BMB3, B_2 is the basic technical skills, and B_3 is the good character.

2.2. Participant

A total of 80 *Tarung Derajat* athletes in West Sumatra,

Indonesia were used as research samples, which were randomly recruited. 40 participants were used for the experimental group (BMB3 approach), and 40 participants for the control group or without the BMB3 approach (conventional). Participants were males with an average age of 20.8 years, height of 167.2 cm, and weight of 59.3 kg. Another consideration is based on the activeness of the participants in the training process in order to prepare for selection at the West Sumatra provincial sports week.

2.3. Procedure

2.3.1. Stage 1 (Pretest)

At this stage, the pretest data were collected for the division of the study groups, which aims that the two groups do not have a significant average difference. The pretest is carried out on mastery of BMB3, tests of basic technical skills, and athlete's good character. Then, 40 participants were used for the experimental group (BMB3 approach), and 40 participants for the control group or without the BMB3 approach (conventional).

2.3.2. Stage 2 (Treatment)

The treatment was given for ± 3 weeks (10 meetings) with a frequency of 3 times a week. During the treatment an evaluation will be held by observing the training process for improvements for the next training. Assessment is given to the athlete's training results related to attitude (affective), and understanding of the concept of motion (psychomotor) (Figure 1).

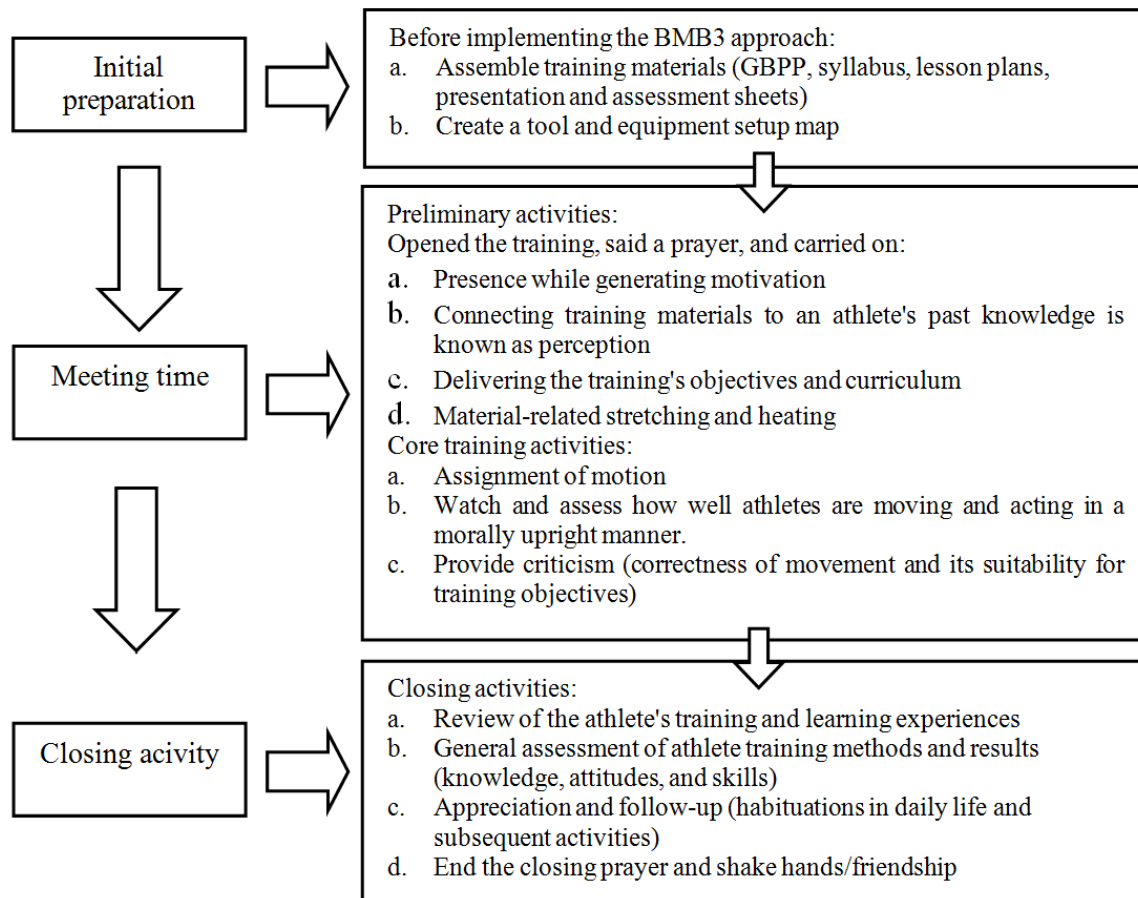


Figure 1. The procedure for the BMB3 approach in *Tarung Derajat* martial arts training

Figure 1 explains that the experimental group with the BMB3 approach in the *Tarung Derajat* training consisted of initial preparation, meeting, and closing activities. This activity is a development of the results of Prayitno research on BMB3 which has been modified by researchers [1]–[3]. Whereas the control group or without the BMB3 approach (conventional), the presentation of the training process was not regulated by the researcher or without focusing on the approach used.

2.3.3. Stage 3 (Post-test)

After the treatment is given, the next step is to carry out a post-test to compare the state of the sample before treatment and after treatment, namely the effectiveness of the BMB3 approach in *Tarung Derajat* martial arts training on BMB3 mastery, basic technical skills, and good character of the athlete.

2.4. Instruments and Data Collection

The instrument in this study consisted of: (1) the results of developing the BMB3 mastery instrument using a questionnaire, which was based on a matrix between the BMB3 dimension and the dimensions of the moral power of *Tarung Derajat* martial arts, namely strength, speed, accuracy, courage, and tenacity [1], [3], [15], and (2) The good character of the athlete uses a questionnaire based on indicators of faith and piety (religious), intelligence, honest, toughness, and care (Table 2). Then, (3) basic technical skills using tests based on the material provided, namely: (a) referring to the construct of a test according to the rules of the *Tarung Derajat* martial arts competition [23], the test material is carried out on punches, namely fast punch, inner circle punch, and outer circle punch (Figure 2 and Table 3). As for kicks, there are side kicks, inner circle kicks, back circle kicks, and back kicks (Figure 3 and Table 3).

Table 2. Instruments of mastery of BMB3 and good character of *Tarung Derajat* martial arts athletes

Variable	Dimension	Indicators
BMB3 Mastery	Thinking Feeling Attitude Acting Responsible	Strength
		Speed
		Accuracy
		Courage
		Tenacity
Good character	Faithful and pious (religious)	Believe and love God
		Commandment of truth and prohibition
		Trustworthy
		Be grateful
		Sincere
	Intelligent	Active/dynamic
		Think logically
		Analytical and objective
		Able to solve problems and find solutions
		Creative
		Forward thinking
		Consistent/control emotions
		Think positively
		Open
		Honest
	Act on the truth	
	To defend the truth	
	Responsible	
	Duties and rights	
	Relieved	
	Exactly promise	
	Toughness	Be careful
		Be patient/control yourself
		Discipline
		Tenacious/not desperate
		Work hard
		Skilled
		Productive
		Oriented
		Dare to sacrifice
		Hold test
		Dare to take risks
		Maintain completeness, health and safety at work
		Care
	Courtesy/ethics	
	Loyalty	
	Democratic	
	Family attitude	
	Mutual cooperation	
	Tolerance likes to help	
Discussion		
Keeping order		
Peaceful/non-violent		
Forgiving		
Keeping secrecy		

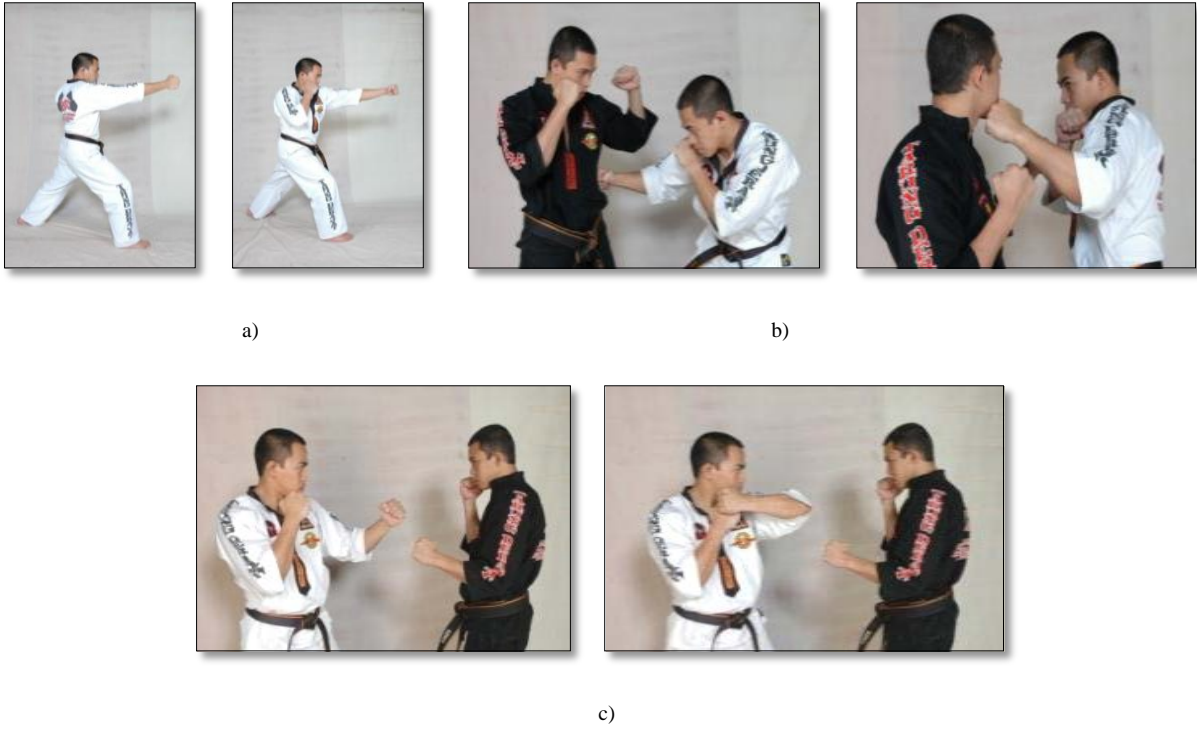


Figure 2. a) Fast punch, b) Inner circle punch, c) Outer circle punch



Figure 3. a) Side kick, b) Inner circle kick, c) Back circle kick, d) Back kick

Table 3. Basic technical skills of *Tarung Derajat* martial arts athletes

Variable	Indicators	
	<i>Punches (fast punches, inner circle punches, and outer circle punches)</i>	<i>Kicks (side kicks, inner circle kicks, back circle kicks, and back kicks)</i>
The basic skills of <i>Tarung Derajat</i> martial arts	Position ready to fight (initial preparation)	Position ready to fight (initial preparation)
	The position of the hands in front of the chest to strike one in front, and the other behind in a relaxed form	Knees lifted first ($\pm 100^\circ$)
	Balanced body position when releasing hand punches	Balanced body position when lifting one leg
	Release arm the top with a straight state	Release foot bottom with straight
	Balanced body position when releasing arms and pulling back arms	Balanced body position when releasing the legs
	The position of the two hands, one closes to protect the face and one is released alternately	Position both hands close to the body (standby)
	Pulling the arm with the elbow in the same trajectory when releasing a tight punch ($\pm 90^\circ$)	Pulling legs with knees together ($\pm 100^\circ$)
	Balance the body position when the arms are released, and pull the arms back into combat standby.	When the knees are close together, the body position is balanced
	Position both hands in front of the chest, and look at the target	Position both hands in front of the chest, and look at the target
	Return to combat alert in a balanced state	Return to combat alert in a balanced state

2.5. Statistical Analysis

Descriptive statistics and multi-variable analysis of variance were used to evaluate the data in order to assess the study hypothesis. All these stages were analyzed using the statistical program IBM SPSS.

3. Result

Descriptive statistics were used to characterize the pretest and post-test data in the experimental and control groups. Table 4 is the result of the descriptive analysis for mastering BMB3, improving basic technical skills, and building good character in *Tarung Derajat* martial arts athletes.

As shown in Table 4, the experimental group is superior to the control group in terms of average scores, in mastering BMB3 (268.65>249.05), improving basic technical skills (68.63>66.91), and building good character (326.18>308.65) (Figure 4). The normality and homogeneity tests show that the data for the two groups are normally distributed and homogeneous ($p>0.05$) (Table 5).

Then, the results of hypothesis testing also showed that there were differences between the experimental group (BMB3 approach) and the control group or without the BMB3 approach (conventional) on mastery of BMB3, basic technical skills, and good character building ($p<0.05$) (Tables 6 and 7). The experimental group (BMB3 approach) was better than the control group from these three aspects. This can also be seen from the difference in average values in Table 4 and Figure 4.

Table 4. Descriptive statistics of the experimental group and the control group

Data	Experiment (n=40)		Control (n=40)		Difference in post-test means
	Pretest	Post-test	Pretest	Post-test	
Mastery of BMB3	247.88	268.65	248.80	249.05	19.60
Basic technical skills	63.96	68.63	63.13	66.91	1.72
Good character	307.35	326.18	301.95	308.65	17.53

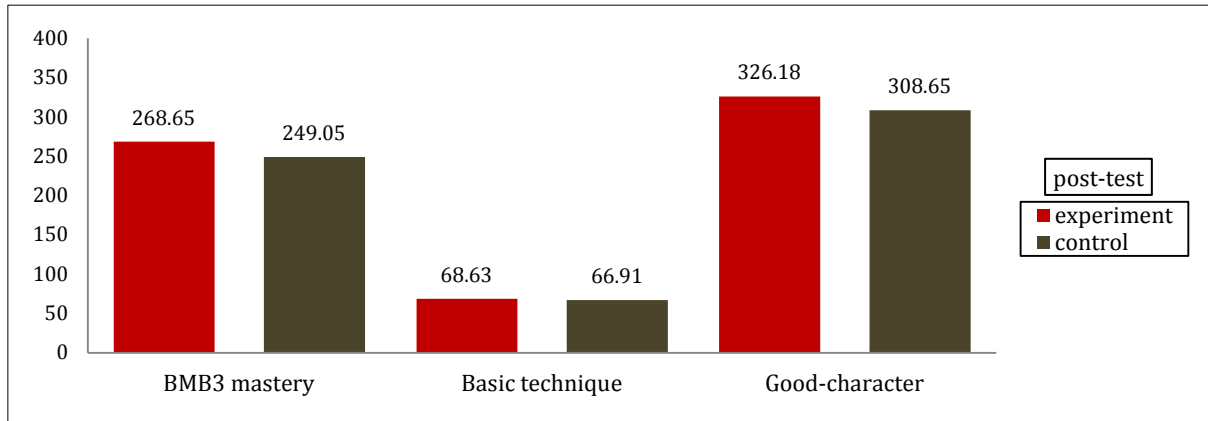


Figure 4. The difference in the mean value of the post-test data between the experimental group and the control group

Table 5. Tests for normality and homogeneity

Group	N	Data	Normality test		Homogeneity test
			Pretest	Post-test	Pretest-post-test
Experiment	40	BMB3 Mastery	.780	.790	.750
	40	Basic technique	.770	.810	.440
	40	Good character	.240	.353	.230
Control	40	BMB3 Mastery	.070	.132	.130
	40	Basic technique	.080	.145	.141
	40	Good character	.450	.697	.332

Note.*- Data are normally distributed and homogeneous ($p > 0.05$)

Table 6. Multivariate tests

Effect		p^*
Intercept	Pillai's Trace	.000
	Wilk's Lambda	.000
	Hotelling's Trace	.000
	Roy's Largest Root	.000
Approach	Pillai's Trace	.044
	Wilk's Lambda	.000
	Hotelling's Trace	.000
	Roy's Largest Root	.000

Note.*- The difference is significant ($p < 0.05$)

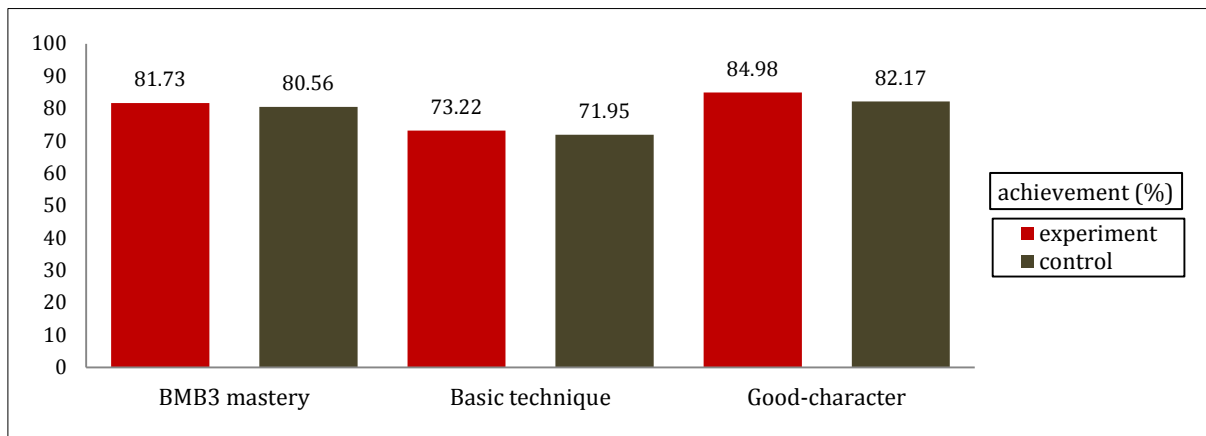
Table 7. Tests of between-subjects effects

Data	<i>p</i> *
Mastery of BMB3	.037
Basic technical skills	.032
Good character	.044

Note.*- The difference is significant ($p < 0.05$)

Table 8. Differences in achievement scores from the BMB3 approach (experiment) and the conventional approach (control)

Data	Group	
	Experiment (n=40)	Control (n=40)
Mastery of BMB3	81.73%	80.56%
Basic technical skills	73.22%	71.95%
Good character	84.98%	82.17%

**Figure 5.** Differences in achievement scores between the experimental group and the control group

The results of the comparison of the achievement scores of the three aspects are mastery of BMB3 81.73% > 80.56%, improvement of basic technical skills 73.22% > 71.95%, and good character building 84.98% > 82.17% (Table 8 and Figure 5).

4. Discussion

From these findings, that the BMB3 approach is effective for mastering BMB3, improving basic technical skills, and building good character in *Tarung Derajat* martial arts athletes ($p < 0.05$). The experimental group that was given the BMB3 approach was better than the control group (conventional), both in terms of average scores and achievement scores. The BMB3 element in the *Tarung Derajat* martial arts training is considered a reflection in improving the athlete's performance because it can touch human dignity as a whole. The results of this study are in accordance with previous research, that BMB3 can help athletes improve their mental toughness, so coaches can use it in the training process [15]. It is believed that the

BMB3 approach can significantly improve the basic technical skills of athletes in *Tarung Derajat* martial arts training [16]. Previous studies also reported that the BMB3 approach was very effective in *Tarung Derajat* martial arts training [1], [15]. The main purpose of martial arts is not only to develop technical and psychological aspects [24], but also to cultivate moral behavior, develop benevolence, respectful behavior [25]–[27], self-control, self-discipline, perseverance, and responsibility [28]. Therefore, when creating interventions aimed at improving coach performance, emotional intelligence and emotional skills should be a fundamental consideration [29].

Martial arts are part of the culture, including the values of the ethos, a set of technical skills, teaching methodologies, methods of psychophysical training and so on [30]. Martial arts are also oriented toward "self-defense" educational goals, not strictly in the realm of physical culture, as general philosophy and theory suggests [31]–[34]. They are part of the cultural (spiritual) heritage of various countries and peoples [30]. As a system of education and self-realization, martial arts provide an attractive alternative to various forms of sport. The

programs of many martial arts schools also contain aspects of practical psychological and medical knowledge. In addition, teaching and training in martial arts is part of personal safety [30]. Therefore, martial arts pedagogy has enormous potential value. This is an emphasis on the educational process, not on combat and effectiveness in combat, but to a greater extent on the formation of better morals and personality [30], [35].

The BMB3 approach in *Tarung Derajat* martial arts training has the principle of changing from an old condition to a new condition, which is called transformational learning [9]. The results of this study are in accordance with previous research, that the transformation of BMB3 is an important element in the process of forming moral character and improving the fighting skills of athletes [2]. Most of the studies related to coaches, that use a theoretical framework have not considered recent research on components of coach leadership, such as transformational leadership [36]. The situation here is the custom of the training process which only receives instructions from the coach. This kind of approach (conventional), is an approach that still uses the old way, without any instructions and materials that are arranged in a planned and systematic way from the coach. Therefore, a well-planned program will make it possible to get the desired results [37], [38].

According to previous research, conventional teaching can hinder the potential of students [39]. In other words, the athlete simply follows every instruction without any chance of continuing on BMB3. The way a coach assesses and reacts to an athlete's performance can have a significant effect. A number of studies have shown that interactions between coaches and athletes can influence this relationship [40], [41]. The dynamics of this relationship can be influenced by the success of athletes' achievements. Certain skills can be added to provide a more accurate picture of a successful trainer, such as planning, programming, creativity, vision, and evaluator [42]. Therefore, a coach must believe that he has positive abilities that influence learning/training to improve the performance of his athletes [43]. BMB3 contains the dimensions, "Thinking, Feeling, Attitude, Acting, and Responsibility". The basic principle of this approach is that athletes are asked to analyze each activity (think), believe what they think (feel), do what is conceptualized (act), and understand what is being done (responsibility). Thus, athletes are given directions in the training process, so that all elements of BMB3 affect the results of the training given.

The BMB3 approach used in this study still has several limitations, in terms of the training approach used as a comparison, the specific type of martial arts sport, and the number of samples. We used a control group (conventional approach) to test the effectiveness of the BMB3 approach, thus not fully validating the results of the study. This is because there are still many other training approaches that have not been tested with this approach. Future studies are

also needed for this. This approach is used only for *Tarung Derajat* martial arts, so it cannot be generalized for other types of martial arts. In addition, the sample used was *Tarung Derajat* martial arts athletes, West Sumatra, Indonesia, totaling 80 people, so a larger sample size is needed to validate the results of this study.

5. Conclusions

From these findings it can be concluded that the BMB3 approach is effective for mastering BMB3, improving basic technical skills, and building good character in *Tarung Derajat* martial arts athletes ($p < 0.05$). The experimental group that was given the BMB3 approach was better than the control group (conventional), both in terms of average scores and achievement scores. It is hoped that this approach can be useful as an alternative for *Tarung Derajat* martial arts coaches to provide effective training, so that athletes' performance when competing can increase. Future research is needed to test the effectiveness of the BMB3 approach with other types of approaches in different martial arts, as well as a larger sample size.

Acknowledgements

The authors would like to thank the coaches and athletes of the *Tarung Derajat* martial arts in West Sumatra, Indonesia. Lecturers, staff at the Faculty and assistant staff who have contributed in the field.

Conflict of Interest

No potential conflicts of interest.

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