

Research article

Development of a Basic Karate Training Model for Beginner Karateka

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Abstract: This study addresses the challenges faced by karate instructors in mastering kihon techniques, the lack of print resources systematically discussing basic techniques, and the limited variety of training models for beginner karateka. Using a research and development (R&D) method with both quantitative and qualitative descriptive analysis, the study aims to create a structured approach to karate training. The results highlight the creation of a training model that systematically organizes kihon techniques and offers various training methods for instructors to apply. Findings show high validation scores across several groups: the karate instructor validation in small groups scored 90.00%, confirming the content, presentation, and relevance to children's needs. The media expert validation in small groups was 87.05%, showing the clarity and usability of the media. The effectiveness test in small groups yielded a score of 85.66%, reflecting improved basic karate skills in children post-training. In larger groups, the karate expert validation scored 91.38%, ensuring technical and pedagogical consistency, while the media expert validation scored 91.16%, indicating ease of access and understanding. The large group effectiveness test yielded 90.00%, confirming the model's ability to improve basic karate motor skills across a wider population.

Keywords: Kihon, Training Model, Beginner Karateka, Martial Art

1. Introduction

Education is a deliberate and planned action aimed at creating conducive learning conditions and activities to enhance students' potential [1], [2]. It fosters enthusiasm in areas such as spiritual intellectualism, self-management, character, intelligence, morals, and personality development, all of which are essential for students' personal needs, society, and the state [3]. Sports education provides opportunities for humans to develop all their potential so that they are able to face every challenge resulting from advances in science and technology [4], [5]. It is during childhood that children gain more movement experience by playing both individually and in groups according to their age characteristics [6]. The appropriate application of various educational studies in the classroom is expected to become the basis for teaching and at the same time become a learning arena for students [7].

Recent studies and research explain that Fundamental Motor Skills (FMS) are an important element that must be mastered by every child from an early age to elementary school [8]. Early age is the most important and fundamental initial period throughout the growth and development of human life [9]. This period is marked by various fundamentally important periods in a child's life until the final period of development [10]. One of the efforts that can be made by the country to face global challenges is by preparing reliable Human Resources (HR). The reliable resources in question cannot simply be created in a short time, one effort is to pay attention to early childhood edu-

cation. This period is also known as the golden age in the stage of growth and development of children's basic movement abilities. Thus, motor skills are essential to children's development [11]. Motor development is the process of growth and development of a person's movement abilities [12]. Motor coordination and basic motor skills are important components that talented prospective athletes must have in the coaching process [13]. Thus, basic movements in children must be trained so that they are basic movements in the sport they are interested in. Thus, basic movements in children must be trained so that they are basic movements in the sport they are interested in.

Karate is a martial art that focuses on both physical and mental development, aiming to improve the individual's physical condition, personality, and character [14]. The sport has gained significant popularity, particularly in Indonesia, where it is governed by the Indonesian Karate Sports Federation (FORKI) and follows international competition regulations set by the World Karate Federation (WKF). Achievements in karate depend on various factors, including an athlete's physical fitness, technical skills, tactical awareness, and mental maturity. Karate is not just a physical discipline but also a means of developing self-discipline, spiritual strength, and mental resilience [15]. It emphasizes values such as honesty, performance enhancement, good manners, and self-control, all of which contribute to shaping a well-rounded individual [16]. The tradition of karate focuses on these core principles, which are important not only for competition but for personal growth. However, there are concerns regarding the current approach to karate training, especially for children aged 9-11. The traditional training methods often do not align with the developmental needs of young athletes, particularly in terms of basic motor skills and active participation [17]. Many children today are engaged in indoor activities, such as playing video games, leading to a lack of physical activity [18]. This underscores the need for more innovative, engaging, and child-friendly training models that combine fundamental skills with enjoyable activities.

A major challenge faced by karate trainers is the lack of variety in training methods and the insufficient use of assessment tools to monitor students' progress. Trainers also face difficulties in preparing training materials and adapting their techniques to the specific needs of young children. There is a need for a more diverse and adaptive approach to karate training that encourages both physical development and mental growth. Furthermore, the trainers themselves often come from varied backgrounds, which can affect their ability to deliver consistent and high-quality training. Some trainers are former athletes, while others may have limited experience or knowledge of the sport. Regardless of their background, it is essential for trainers to possess a deep understanding of the different styles of karate—such as Shotokan, Goju-ryu, Shito-ryu, and Wado-ryu—and to tailor their training methods accordingly. Mastery of the basic techniques is crucial, as it forms the foundation for more advanced skills.

To address these issues, there is a need for comprehensive training programs that focus on the fundamentals, incorporate a variety of movement patterns, and offer age-appropriate activities. Trainers should be well-versed in the latest training methodologies and assessment criteria to ensure they are providing the best guidance for their students. Additionally, more resources, such as reference books and video tutorials, should be made available to trainers to enhance their understanding of the basic techniques in various karate styles. By improving the quality and accessibility of training materials, we can ensure that young karate practitioners receive the proper guidance and attention needed to develop their skills and achieve success in the future.

This study aims to develop and test the feasibility and effectiveness of the karate kihon training model for beginners to overcome the limitations of learning basic karate movements in children. To strengthen the academic framework, this study is formulated through questions: (1) What is the level of feasibility of the karate kihon training model based on the assessment of karate trainers and media experts? and (2) how effective is training model in improving children's basic movement skills? Based on these

questions, the hypotheses are proposed that (H1) The kihon training model is considered feasible by experts in terms of content and media aspects, and (H2) The training model is effective in improving the basic karate skills of children aged 9-11 years.

2. Materials and methods

This research method is research and development (R&D), which aims to produce a product in the form of a karate kihon training model for beginners and test its effectiveness. This research uses a development model that refers to the Borg & Gall stages, which consist of: (1) research and initial data collection, (2) Planning, (3) Development of the initial product design, (4) Limited trials (small groups), (5) Product revision based on the trial result, (6) Field trials (Large groups), and (7) Final revision to produce the final product. Each stage is carried out systematically to ensure that the resulting product is valid, practical, and effective for use in learning basic karate movements for children aged 9-11 years..

This research aims to develop a basic technique (kihon) training model for beginners, adapting the syllabus, core materials, and training steps. The data used are both qualitative and quantitative. Qualitative data were obtained through interviews and written evaluations from five experts, consisting of three nationally certified karate trainers and two learning media experts. The experts provided input regarding material content, movement sequence, presentation methods, and visual aspects and media readability. The feedback provided, both verbally and in writing, was analyzed descriptively and used to revise the initial draft of the training model before further testing in a small group trial. Meanwhile, quantitative data were obtained from the results of assessing the effectiveness of the tool. Data analysis is a process of searching and compiling data systematically obtained from the results of interviews or questionnaires in the field, and other materials from the results of interviews are then arranged systematically so that the findings are easy to understand and can be communicated to others. A tool or the means used for the method of data collection as obtaining Research information, is called an instrument of research.

The Instrument was developed based on indicators relevant to the research objectives, then arranged in the form of statements using a likert scale. The likert scale used consists of 4 response options, namely: strongly disagree, disagree, agree, and strongly agree. Score interpretation was carried out by calculating the average value of all items, which were then categorized into the level of feasibility: very feasible (≥ 3.25), feasible (2.50-3.24), less feasible (1.75-2.49), and not feasible (< 1.75). the validity of the instrument content was obtained through expert judgment, while the effectiveness and feasibility of the model were evaluated through limited trials using percentage analysis for descriptive quantitative data [19]. With this approach, the instrument not only functions as a measuring tool, but also as a means to assess the extent to which the developed training model meets the expected feasibility and effectiveness criteria.

3. Results

Testing for model feasibility is carried out in several stages, namely model validation by experts, effectiveness testing through small-scale tests, and large-scale tests, effectiveness testing through large-scale tests for more details will be discussed as follows:

a. Expert Validation Results

1) Small Group Trial Karate Coach

The results of expert validation from karate trainers for the basic karate technique training model for beginner karateka were designed and then validated by validators. Validation was carried out by 5 experts in the field of karate in accordance with the knowledge required in developing the model. The following table displays data from

expert validation of the design for developing a training model for basic Inkanas Padang karate techniques.

Table 1. Description of Frequency of Questionnaire Data Processing from 5 Small Group Trainers

Aspect	Total Score	Average (%)	Rating Category
Conformity	91	92.00%	Very Good
Precision	88	88.00%	Very Good
Practical	45	90.00%	Very Good
Overall	270	90.00%	Very Good/Decent

It can be seen in the table above that from the results of processing the validation value of the questionnaire for 5 dojo trainers regarding the development of a basic kihon technique training model for the karate-do sport in Padang City, the value is (89.66%), it can be classified at 81% -100% with the category "Very Good/Decent". 80% of responses were in the excellent category, and although there was one outlier, the vast majority of trainers demonstrated excellent performance in practice. The overall score confirmed that the Dojo training system is robust and well-structured. Several lower scores highlighted specific areas that need attention, ensuring continuous improvement. This model can be replicated and standardized across trainers.

2) Small Group Media Expert

Media Expert Validation Results Small group trial of the basic karate technique training model for beginner karateka which was designed and then validated by the validator. In this activity, experts are asked to assess training models of basic beginner karate techniques starting from parrying, kicking, punching and stances that have been made and provide assessments and suggestions for improvements to the products made.

Table 2. Descriptive of Questionnaire Data Processing Frequency from 6 Small Group Media Expert

Aspect	Total Score	Average (%)	Rating
Conformity	54	90.8%	Very Good
Precision	122	81.3%	Very Good
Convenience	53	88.3%	Very Good
Practical	79	87.8%	Very Good
Overall	348.22	87.05%	Very Good/ Decent

It can be seen in the table above that from the results of processing the validation scores of the questionnaire of 6 Media Experts regarding the expert 6 with a score of (73.83%), in the "Good" category. Development of a basic kihon technique training model for the sport of karate-do in the city of Padang with a score of (86.86%), it can be classified at 81% -100% with "Very Good / Decent" category. With a total score from expert 1 with a score of (83.17%), in the "Very Good" category, a total score from expert 2 with a score of (98.00%), in the "Very Good" category. , expert 3 with a score of (70.83%), with the category "Good", expert 4 with a score of (98,00%), with the category "Very Good", expert 5 with a score of (97,33%), category "Very Good". The average shows that the validated model is very good and the content is very relevant to the training needs.

b. Description of Frequency of Questionnaire Data Processing from Validation of 12 Karate Expert Large Group

Results of large group trials on basic karate techniques for beginner karateka which were designed and then validated by validators. Validation was carried out by two 12 experts in the field of karate in accordance with the knowledge required in developing the model. In this activity, experts were asked to assess training models of basic beginner karate techniques starting from parries, kicks, punches and stances that had been made and provide assessments and suggestions for improvements to the products made. Validation is complete when the validator has stated that the designed model is valid and ready to be tested. In the following table:

Table 3. Description of Frequency of Questionnaire Data Processing from Validation of 12 Karate Experts Large Group

Aspect	Total Score	Average (%)	Rating
Conformity	222	92.5%	Very Good
Accuracy	220	91.6%	Very Good
Practical	108	90.0%	Very Good
Overall	550.16	91.38%	Very Good/ Decent

With a total score from expert 1 with a score of (96.67%), with the category "Very Good", expert 2 with a score of (83.33%), with the category "Very Good", expert 3 with a score of (100%), with category "Very Good", expert 4 with a score of (95.00%), with the category "Very Good" expert 5 with a score of (80.00%), with the category "Good", Expert 6 with a score of (100%), in the category "Very Good", expert 7 with a score of (80.00%), in the category "Good", expert 8 with a score of (100%), in the category "Very Good", 9 with a score of (80.00%), in the "Good" category, 10 experts with a score of (100%), in the "Very Good" category, 11 experts with a score of (86.67%), in the "Very Good" category, 12 experts with a score of (95.00%), in the "Very Good" category. This comprehensive validation confirms the karate training model is highly effective and well-structured, with only minor areas that could be refined for perfection. The consistent Very Good ratings across all aspects from multiple experts provide strong evidence of the model's quality and reliability.

c. Large Group Media Expert Validation

Media Expert Validation Results Large group trial of the basic karate technique training model for beginner karateka which was designed and then validated by validators. Validation was carried out by two 6 media experts in accordance with the knowledge required in developing the model. Validation is complete when the validator has stated that the designed model is valid and ready to be tested. The following table displays data from expert validation results on the design for developing a basic Karate technique training model:

Table 4. Description of Questionnaire Data Processing Frequency from 6 Large Groups of Media Experts

Aspect	Total Score	Average (%)	Rating
Conformity	56	93%	Very Good
Precision	132	88%	Very Good
Convenience	56	93%	Very Good
Practical	81	90%	Very Good
Overall	365	91.16%	Very Good/ Decent

Development of a basic kihon technique training model for the Inkanas karate sport in Padang City with a score of (91.16%), so it can be classified at 81% -100% in the "Very Good / Decent" category. With the total score from expert 1 with a score of (94.67%), with the category "Very Good", the total score from expert 2 with a score of (100%), with the category "Very Good", expert 3 with a score of (75.33%).), with the category "Good", expert 4 with a score of (99.00%), with the category "Very Good", expert 5 with a score of (100%), with the category "Very Good", expert 6 with a score of (78.00 %), in the "Good" category. So, in a small-scale research, the media expert's assessment as "Very Good/Decent".

d. Effectiveness of Beginner Karateka Basic Technique Training Model

This study applied descriptive validation to assess the effectiveness of the basic karate technique training model, without using pre-tests, post-tests, or control groups. This approach used was descriptive validation, which is commonly used in research and development (R&D) Evaluation was conducted through expert judgment of the developed training model, both in terms of content accuracy and practicality. The assessment was conducted in two stages: a small group test and a large group test. The evaluation process was divided into two stages: a small group test and a large group test. In each stages, two categories of validators karate trainers and media/learning expert. Each Likert score was then converted to a percentage, averaged, and interpreted into four effectiveness categories: 1) Very Good ($\geq 85\%$), 2) Good (70-84%), 3) Enough (55-69%), 4) Ineffective ($< 55\%$).

1) Small Group Effectiveness Test

Based on the research results above, it is possible to compare the effectiveness of beginner karateka basic technique training models in small-scale trials with large-scale trials, so a bar graph is used to illustrate the comparison of observations of the effectiveness of developing basic technique training models for the Zen Khutsu Dachi stance, punch training models. oi tzuki chudan, gedan barai parry training model, mae geri chudan kick training model in a small group test on the development of a basic kihon technique training model for the shotokan school of karate-do in the southern coastal district.

Table 5. Percentage Results of Small Group Effectiveness Tests

Aspect	Average (%)	Category
Karate Coaches (5 persons)	89.66	Very Good
Media Experts (6 persons)	86.86	Very Good
Overall Small Group Effectiveness	85.66	Very Effective

From the results of this research it can be concluded that Validation of small group Karate Trainers = 89.66% in the "Very Good" category. Validation of small group Media Experts = 86.86%, in the "Very Good" category. Small group effectiveness test = 85.66%. with the category "Very effective".

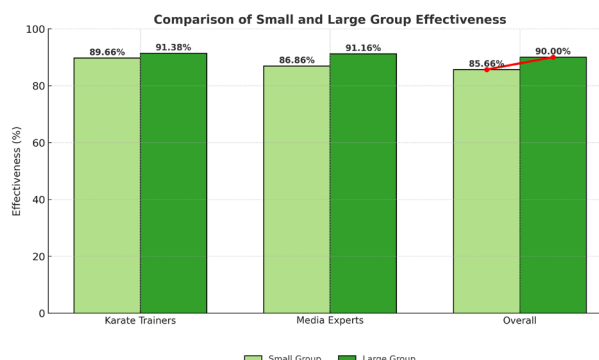
2) Large Group Effectiveness Test

Based on the results of the research above, a bar graph was used to illustrate the comparative observation of the effectiveness of the development of the basic Zen Khutsu Dachi stance technique training model, the Oi Tzuki Chudan punch training model, the Gedan Barai parry training model, the Mae Geri Chudan kick training model in large group tests on development of a basic kihon technique training model for the coastal district shotokan school of karate-do.

Table 6. Percentage Results of Large Group Effectiveness Tests

Aspect	Average (%)	Category
Karate Experts (12 persons)	91.38	Very Good
Media Experts (6 persons)	91.16	Very Good
Overall Large Group Effectiveness	90.00	Very Effective

From the results of this research it can be concluded that, Validation of Karate Experts in large groups = 91.38% in the "Very Good" category. Large group Media Expert Validation = 91.16% with the "Very Good" category. Large group effectiveness test = 90.00% with the category "Very effective". To see the comparison more clearly, can see the image below:

**Figure 1.** Group Comparison

4. Discussion

This research is crucial because it addresses a gap in the development of effective and age-appropriate training models for young karate practitioners, particularly those aged 9-11. At this stage of development, children are in their "golden years" for physical and motor skill growth, making it the ideal time to focus on fundamental techniques such as stances, punches, kicks, and blocks. By integrating basic motor skills with enjoyable and age-appropriate activities, this study provides a foundation for both physical and mental growth. Additionally, it aligns with the broader goal of fostering well-rounded athletes who are not only physically capable but also mentally disciplined and resilient.

This research reinforces existing literature on the importance of early-stage sports participation in motor development. The critical role of early sports involvement in enhancing fundamental movement skills, a concept that the current study also emphasizes by targeting children in their formative years [20]. This aligns with the model developed in this study, which aims to make karate training both effective and enjoyable for children. Structured sports education not only improves physical fitness but also cognitive and mental development [21]. This study concurs, as it views karate as a dual-purpose discipline that develops both physical and mental strength, further supporting the benefits of martial arts for children.

The implications of this research are significant for karate education and children's sports development. First, the study provides a model that can improve the quality and consistency of training in karate dojos, ensuring that young athletes receive developmentally appropriate instruction. Second, the study highlights the importance of training not just physical skills but also mental attributes like discipline, focus, and emotional regulation. Additionally, the research suggests that trainers need specialized education in child development to better support their students' needs. By providing a clear framework for training, the study contributes to the broader goal of fostering physical literacy and well-rounded development in young people.

This study also recommends the standardization of the training model across different dojos to ensure that all students receive a consistent and high-quality foundation in karate. Moreover, it is important to focus on training karate instructors, ensuring they are equipped with the skills to teach children effectively. The integration of media and technology, such as video tutorials and interactive tools, can further enhance the training experience, making it more engaging and accessible. Finally, the research suggests the need for long-term evaluation of the training model's effectiveness to assess its impact over time, particularly in terms of skill retention and overall athlete development.

For future research, it would be beneficial to conduct comparative studies that evaluate the effectiveness of this training model against traditional methods across a larger and more diverse sample. Additionally, exploring the psychological benefits of karate training, such as its impact on self-discipline and emotional regulation, would provide a deeper understanding of its holistic benefits. Lastly, the model developed in this study could be adapted to other martial arts disciplines, providing further insights into the broader applicability of this approach to children's sports education.

5. Conclusions

This research developed a basic karate technique training model for beginners in Padang City, which was deemed valid, practical, and effective based on expert validation and the results of small and large scale trials. The model encompasses basic techniques such as the zen khutsu Dhaci stance, The Oi Tsuki Chudan strike, the Gedan Barai block, and the Mae Geri Chudan kick. While this model shows potential for improving mastery of basic karate techniques among the target group, this study has limitations, including a sample size limited to beginners in Padang City and a relatively short duration. Therefore, further testing of the model in different contexts or groups is necessary to ensure its effectiveness and feasibility. Further research is recommended to test the model with a broader and more diverse sample and develop a refined model by adding training variables or more comprehensive evaluation methods to enhance its effectiveness and applicability.

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