



Development of a Shorinji Kempo training model based on local dances from East Nusa Tenggara to improve basic technical and affective skills of kenshi aged 9-12 years

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Abstract: The integration of local cultural elements such as traditional dance into martial arts training offers a potential pathway to enhance both technical proficiency and affective learning among young practitioners. This study aimed to develop and test a feasible and practical Shorinji Kempo training model, based on local dances from East Nusa Tenggara (NTT), to improve basic techniques and affective aspects in kenshi aged 9–12 years. This study used a 10-step Borg and Gall research and development framework involved expert validation, small-scale trials (30 kenshi), and large-scale trials (100 kenshi) across five dojos in Yogyakarta. The subjects in this study were kenshi aged 9–12 years with a total of 130 kenshi. Data were collected through interviews, field notes, evaluation sheets, validation questionnaires, and a Kenshi assessment rubric. Three training models were developed: “Gotong Royong” (based on Lego-Lego dance), “Gembira” (Cakalele dance), and “Spirit” (Moko Nona dance). Results from expert validation showed high feasibility (100%). Paired t-test analysis revealed significant improvements in basic technical skills ($p = 0.000$) and affective aspects following the intervention. The intervention using the three training models resulted in an 87% improvement in basic technical skills and a 93% improvement in affective aspects among the kenshi. This study demonstrates that the Shorinji Kempo training model, grounded in the philosophical movements of East Nusa Tenggara traditional dances, effectively enhances both technical and affective competencies among young kenshi aged 9–12, offering a culturally grounded pedagogical approach that supports holistic development. The findings suggest that integrating local dance philosophies into martial arts training improves both motor and affective learning in young practitioners, providing an engaging and culturally relevant training alternative.

Keywords: exercise model, local dance, kenshi, affective aspect.

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INTRODUCTION

Martial arts training for children and adolescents has long been recognized not only as a means of physical development but also as a vehicle for cultivating discipline, respect, and psychosocial well-being. Shorinji Kempo, a Japanese martial art founded on Zen Buddhist principles, emphasizes the balanced development of "self-defense and self-cultivation," making it particularly suitable for youth education (Manihuruk et al., 2022). However, engaging young practitioners, especially those aged 9–12 years, remains a pedagogical challenge. Traditional training methods often rely on repetitive drills of basic techniques (kihon), which can lead to disengagement, monotony, and high dropout rates among beginners (Adnyana & Susila, 2020). This issue underscores a critical need for innovative, developmentally appropriate, and engaging training methodologies that preserve the art's technical rigor while enhancing motivation and holistic learning (Yun, et al., 2024). Preliminary field observations across five dojos in Yogyakarta (2024) revealed that approximately 60–70% of beginner kenshi in this age group reported feelings of monotony and disengagement during standard basic technique (kihon)



repetition drills. Furthermore, dropout rates within the first six months of training were observed to be as high as 40%, with lack of enjoyment and repetitive training structure cited as primary reasons by both instructors and parents. Traditional training methods often rely heavily on these repetitive drills, which can exacerbate disengagement, monotony, and high dropout rates among beginners.

In parallel, there is a growing academic and practical interest in integrating cultural elements into physical education and sports training (Dingmeixi, 2023, Fauzan et al., 2023). Such approaches can enrich the learning experience, foster cultural identity, and facilitate deeper connections to movement concepts. Traditional dance, in particular, offers a rich repository of structured movement patterns, rhythmic complexity, and embedded socio-affective values (Feng, 2023). In the Indonesian context, the diverse archipelago possesses a vast array of local dances, each containing unique philosophies and movement vocabularies that reflect the nation's rich cultural tapestry. These dances serve as living repositories of community values, historical narratives, and embodied knowledge systems that have been preserved across generations. East Nusa Tenggara (NTT), for instance, is home to culturally significant dances such as *Lego-lego*, *Cakalele*, and *Moko Nona*, which are traditionally performed in communal and ceremonial settings. The *Lego-lego* dance, originating from Alor Regency, embodies the philosophy of collective work and mutual assistance (*gotong royong*), where circular formations and synchronized movements reinforce social cohesion. The *Cakalele*, a traditional war dance from the Abui tribe, expresses vitality (*semangat*), courage, and spiritual preparedness through its dynamic jumping, spinning, and stomping movements. Meanwhile, the *Moko Nona* dance, inspired by dowry ceremonies, represents spiritual harmony, grace, and the celebration of cultural identity through more modern yet symbolically rich choreography (Bahri et al., 2024; Estiningtyas et al., 2023).

These dances are not merely artistic expressions but are also deeply encoded with socio-affective values that align remarkably well with the core tenets of Shorinji Kempo, creating a rich interdisciplinary foundation for pedagogical innovation. The principle of mutual welfare and cooperation (*kyōken*) in Shorinji Kempo resonates profoundly with the communal ethos of *Lego-lego*, where dancers move in synchronized circles, symbolizing unity and collective strength, a dynamic that can be translated into partner drills and *randori* (sparring) exercises that emphasize mutual respect and shared progress. Similarly, the disciplined energy, rhythmic intensity, and focused spirit required in *Cakalele*, with its assertive stomps and sharp directional changes, mirror the mental fortitude, explosive power, and *kime* (focus) cultivated in Kempo's striking and kicking techniques, offering a culturally embedded method to develop both physical potency and strategic alertness. Furthermore, the balance, grace, controlled gesture, and mindful presence emphasized in *Moko Nona* parallel the holistic integration of body and mind central to Shorinji Kempo practice, echoing the martial art's emphasis on *zanshin* (awareness) and efficient, fluid movement even under tension (Latuapo, 2023).

This philosophical and kinetic synergy suggests that the structured movement patterns of these dances, particularly their foundational footwork, rhythmic timing, weight transfer, and spatial awareness, can be strategically adapted and sequenced to teach and refine fundamental Kempo techniques (Cynarski & Johnson, 2023). For instance, the lateral steps and pivots of *Cakalele* can scaffold *tai sabaki* (evasive body movement), the grounded stances of *Lego-lego* can reinforce proper *kamae* (postures), and the rhythmic accents of *Moko Nona* can instill timing for blocks and counterstrikes (Stepanyuk, et al., 2022, dos Santos, et al., 2024). This integrated approach does more than develop technical competency; it simultaneously fosters the affective qualities, such as respect, discipline, shared purpose, and cultural pride, that both the martial art and the traditional dances aim to instill. This methodology directly addresses the gap and motivational decline often observed in conventional, repetition-heavy training methods for young practitioners, proposing a more holistic, meaningful, and culturally resonant path to mastery.

The potential of integrating local dance forms into martial arts pedagogy remains largely untapped. Current training models in Shorinji Kempo, both in Indonesia and internationally, have not yet formally incorporated NTT's dance philosophies and movement structures into a structured, replicable, and testable curriculum for beginners. Existing research on martial arts pedagogy has extensively explored methods like game-based approaches, circuit training, and psychological motivational techniques. In other hand, studies on traditional dance have examined its role in cultural education and physical literacy. However, there is an absence of interdisciplinary research that develops and validates a concrete training model fusing the technical framework of a martial art with the

philosophical and motional elements of specific local dances, especially for young learners, where engagement and cultural relevance are crucial for long-term adherence and holistic development.

This study sought to address the problem by undertaking a research and development (R&D) project aimed at creating, validating, and testing a Shorinji Kempo training model for kenshi aged 9–12 years. This model was grounded in the movement philosophies and patterns of three selected NTT traditional dances: Lego-lego, Cakalele, and Moko Nona. The research was guided by the Borg and Gall R&D model, ensuring a systematic process from need analysis to product dissemination. The primary objective was to develop a training model that was not only feasible and practical for coaches to implement but also effective in enhancing two key learning domains: (1) the psychomotor domain, through improved proficiency in basic Shorinji Kempo techniques (e.g., strikes, kicks, and parries), and (2) the affective domain, encompassing attitudes, cooperation, respect, and enjoyment derived from the training process. By translating the values of Lego-lego, Cakalele, and Moko Nona into a martial arts context, this study proposes a culturally-grounded pedagogical innovation. It was aimed to contribute a more engaging, meaningful, and effective training alternative that supports the holistic development of young kenshi by offering a framework for preserving and revitalizing intangible cultural heritage.

METHODS

Study Design

This study employed the research and development (R&D) method, following the systematic 10-step model by Borg and Gall. This model encompasses stages from preliminary research and planning to product development, validation, testing, revision, and final dissemination. The media used to develop the Shorinji Kempo training model were the Lego, Cakalele, and Moko Nona dances. The movements of the three dances served as the primary basis for developing the shorinji kempo martial arts training model.



Figure 1. a) Moko Nona dance movement, b) Lego-lego, c) Cakalele, d) Hidari Kamae technique, e) Minggu Kamae, f) Shoto Uci.

Figure 1 shows a picture of the movements of the three dances that be implemented for kenshi aged 9-12 years. The three dances served as a medium in produced training models specifically designed for beginner kenshi to improve the basic technical skills and affective aspects of kenshi.

Participant

A total of 130 kenshi (martial arts practitioners) aged 9–12 years from five dojos in Yogyakarta participated in this study. All participants had at least one year of prior training in Shorinji Kempo, ensuring baseline familiarity with basic dojo etiquette and fundamental movements. The sample was divided into two groups: 30 kenshi for the small-scale trial and 100 kenshi for the large-scale field test. Expert validation was conducted by a panel of five experts, each with distinguished backgrounds in their respective fields: two academic experts in sports pedagogy and coaching, both hold doctoral degrees (Ph.D.) in Sports Science, with over 15 years of experience in curriculum development and motor learning research; two Shorinji Kempo training experts, both hold master's degrees (M.Pd.) in Sports Coaching and were senior instructors (5th Dan and 4th Dan) with over 12 years of teaching and coaching experience at the national level, officially certified by PERKEMI (Indonesian Shorinji Kempo Brotherhood); and one cultural expert in East Nusa Tenggara (NTT) traditional dance, holds a doctoral degree (Ph.D.) in Cultural Anthropology and was a recognized practitioner and researcher of NTT performing arts, with 20 years of experience documenting and teaching regional dances.

Procedure

The research was done according to the Borg and Gall R&D model, comprising ten systematic stages. It commenced with Stage 1: Field Information Gathering, in which semi-structured interviews were conducted with Shorinji Kempo trainers across Yogyakarta to identify prevalent training methods and uncover gaps in the current pedagogy for kenshi aged 9–12 years. This needs analysis confirmed the limited use of modified or culturally integrated training models. Stage 2: Planning involved the design of a structured framework for three distinct training models, conceptualized as an integrated guidebook that merges basic Shorinji Kempo techniques with the movement philosophies of selected East Nusa Tenggara (NTT) dances. Stage 3: Initial Product Development followed, wherein the preliminary training modules were drafted based on theoretical synthesis and then subjected to validation by a panel of five experts: two in sports pedagogy, two in Shorinji Kempo instruction, and one specialist in NTT traditional dance. Stage 4: Expert Validation and Initial Field Trial consisted of a formal evaluation of the model's content validity, feasibility, and age-appropriateness, after which a small-scale trial was implemented with 30 kenshi to assess practicality and engagement. Stage 5: Revision of Product Trial Results involved refining the model based on feedback from both experts and the initial trial, ensuring its suitability for broader application. Stage 6: Main Product Field Test comprised a large-scale trial conducted across five dojos with 100 kenshi, where pre- and post-intervention data on technical and affective outcomes were collected. Stage 7: Operational Product Revision entailed further adjustments based on large-scale outcomes and observational notes. Stage 8: Operational Product Trial included a final round of expert review to certify the model's operational readiness. Stage 9: Final Product Revision incorporated this feedback to produce the definitive version of the training model. Finally, Stage 10: Dissemination and Implementation outlined strategies for distributing the validated model to dojos throughout Indonesia, aiming to promote its adoption as a culturally enriched pedagogical tool in Shorinji Kempo training.

Instruments

This study employed a multi-instrument approach designed to measure both the technical and affective outcomes of the training intervention. The primary instruments included expert validation questionnaires, a performance assessment rubric for basic technical skills, and an observational checklist for the affective domain. The expert validation instrument utilized a 5-point Likert scale to evaluate the feasibility, relevance, clarity, and safety of the proposed training model. For assessing technical proficiency in fundamental Shorinji Kempo techniques, specifically punches (tsuki), kicks (keri), and parries (uke), a standardized analytical rubric adapted from the PERKEMI grading syllabus was implemented, scoring execution, form, power, and balance on a scale of 1–10. Concurrently, affective attributes such as cooperation, discipline, enthusiasm, and respect were measured using a structured observational checklist completed by trainers, rating the frequency of target behaviors during sessions. The instruments were valid with the technical rubric achieving a content validity index (CVI) of 0.89, while their reliability was confirmed via inter-rater agreement analysis for the rubric (Cohen's Kappa = 0.82) and internal consistency for the affective checklist (Cronbach's Alpha = 0.78).

Data Collection and Analysis

Data collection was conducted in alignment with the procedural stages of the Borg and Gall R&D model. During the initial needs analysis, qualitative data were gathered via semi-structured interviews with five Shorinji Kempo trainers and direct observation sessions across three dojos to identify gaps in conventional training practices. The product development stage employed expert validation sheets, where quantitative ratings and qualitative feedback from the five-validator panel were compiled to assess content validity and feasibility. The core intervention data were collected during the testing stages: a pre-test was administered before implementing the developed training model, followed by a post-test after the completion of the 6-week intervention cycle (18 sessions). This yielded quantitative scores from the performance rubric for basic techniques and the observational checklist for affective behavior. For analysis, quantitative data from the pre-test and post-test were processed using descriptive statistics (mean, standard deviation, and percentage improvement) to summarize score distributions. A paired-sample t-test was then conducted to determine the statistical significance of the differences between the pre- and post-intervention scores for both technical and affective variables, with the alpha level set at 0.05.

RESULTS AND DISCUSSION

The validation of the NTT local dance-based training model is a process that demonstrates the feasibility of creating a training model that integrates basic techniques and affective aspects of Shorinji Kempo martial arts, based on the local dances of NTT. The content validity coefficient is the theory that researchers use to determine the validation results from the five experts in this study.

Table 1. Expert Validation Results

Indicator	Academic Expert		Expert Martial Artist		Dance Expert		Average Indicator
	Score	%	Score	%	Score	%	
Attractive NTT local dance-based exercise model	5	100	5	100	5	100	100
The material for the shorinji kempo training model based on local NTT dances is interesting	4	80	4	80	4	80	80
Easy practice instructions Practice basic techniques and affective aspects of shorinji martial arts	5	100	5	100	5	100	100
Simplicity of Material in NTT's local dance-based training model	5	100	5	100	5	100	100
The process of practicing basic techniques and affective aspects in accordance with the rules and kenshi aged 9-12 years	4	80	4	80	4	80	100
Score	23	460	23	460	23	460	100

Table 1 shows that the overall average percentage of expert validation is 100%, which is then presented in the form of a histogram in Figure 3.

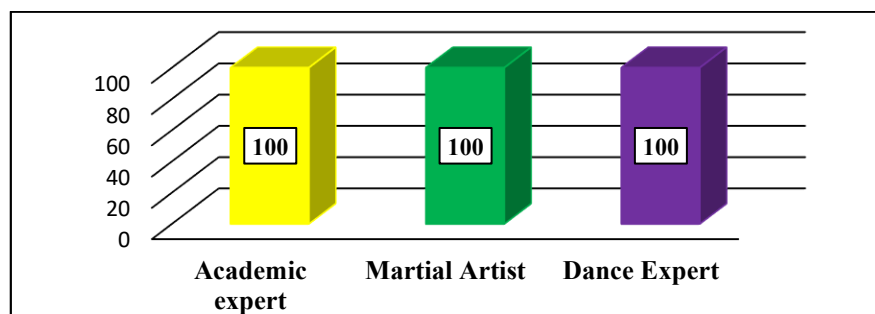


Figure 3. Expert Validation Assessment Percentage

Based on the assessment results by five experts in three different fields, namely academic experts, Shorinji Kempo martial arts experts, and NTT regional dance experts, the score percentage was 100%.

The results of this study are also presented in the histogram in Figure 3. Thus, the Shorinji Kempo martial arts training model based on NTT regional dance is feasible and meets the requirements to proceed to the next stage, namely the pre-test and post-test.

Feasibility Test

After the feasibility test of the exercise model by the experts, who declared it feasible, the model is tested in the field, conducting a preliminary test and a final test.

Table 2. The results of the initial trial of the NTT local dance-based training model

	Subject	Rep.	Test	Performing basic local dance-based techniques	kenshi movement change
Initial Trial	Kenshi shorinji kempo martial arts at two practice sites, Yogyakarta, Indonesia	1-3	For 5 days	40 minutes	NTT's local dance-based exercises are quite good, with a single technique pattern

As explained in Table 2, the results of the initial 5-day trial, with 1-3 repetitions and a duration of 30 minutes, when performing basic techniques based on NTT local dances, showed less than optimal results. This was evidenced by the lack of structure and inappropriate timing. The kenshi perform basic techniques and are only able to perform them singly, in the sense that a kenshi cannot perform two techniques simultaneously. However, Kenshi experienced significant changes in basic technical skills and affective aspects during the initial test.

Table 3. The results of the final test of the NTT local dance-based exercise model

	Subject	Rep.	Test	Performing basic local dance- based techniques	kenshi movement change
Final stage trial	Kenshi shorinji kempo martial arts at five practice sites, Yogyakarta, Indonesia	1-3	16 days	60 Minutes	NTT's local dance-based practice is very good, with varied patterns of technique performed by the kenshi
		2-4	10 days	30 Minutes	
		3-5	6 days	15 Minutes	
	Total		32 days	105 Minutes	

Based on the results of the final test in Table 3, it is evident that the local dance-based training model of East Nusa Tenggara, Lego-lego, Cakalele, and Moko Nona has an effect and can improve kenshi skills in 9-12 year olds regarding basic techniques and affective aspects of shorinji kempo martial arts. Table 3 shows that the training model based on local East Nusa Tenggara dances, Lego-lego, Cakalele, and Moko Nona was effective and can improve the skills of 9-12 year olds in basic techniques and affective aspects of Shorinji Kempo self-defence. This finding is also supported by the results of the t-test presented in Table 4 below.

Table 4. Results of the Paired samples test

Comparison	Mean Difference	Std. Dev.	Std. Error Mean	95% CI Lower	95% CI Upper	t	df	Sig. (2-tailed)
Pre-test – Post-test	-46.13	13.65	3.53	-53.69	-38.57	-13.09	14	.000

Based on the results of the t-test in this study, the differences between the pretest and posttest were analysed using a t-test, yielding a p-value of 0.000 (<0.05), indicating a significant difference before and after training using the local dance-based training model of East Nusa Tenggara. Based on the results of the validation test conducted by experts on the NTT local dance-based training model, the findings met the requirements and were deemed feasible for implementation with kenshi aged 9-12 years or kenshi beginners. The researcher then conducted a suitability test in this study. The results of the reliability test showed that the NTT local dance-based training model was consistent in improving the basic techniques and affective aspects of kenshi. This training model serves as a medium to help

trainers/kenshi provide training specifically for kenshi aged 9-12 years or in the beginner category. The results of this study align with previous research, which suggests that a traditional-based training model can enhance the fundamental techniques of shorinji kempo martial arts (Wali & Widiyanto, 2021). Other relevant research also suggests that developing a traditional game-based martial arts training model is beneficial for early childhood, as it enhances the development of affective aspects and movement skills (Wali et al., 2021). Thus, the shorinji kempo martial arts training process can also be carried out based on local dances or traditional games (Wali et al., 2021). This is confirmed by another study, which states that more coaches direct their athletes to practice based on local wisdom, so athletes do not only practice technical skills. Basics of a sport but also learn about the values of its ancestors (Khongprasert, 2019). The results of other studies suggest that incorporating an exercise model rooted in local wisdom can enhance the training process for beginner athletes aged 6-12 years, making it more enjoyable, effective, and successful, ultimately leading to a high-quality training experience.

Other research suggests that the use of a local wisdom-based training model can make the training process for beginner athletes aged 6-12 more enjoyable, effective, and successful, leading to good, high-quality training. This aligns with the World Health Organization (WHO) recommendation that all school-age children should be taught basic swimming, water safety, and rescue skills (Rahayu et al., 2024). In accordance with the results of this study, the training process based on local NTT dances, as evidenced by the initial and final tests, demonstrates that the model can improve both basic technical skills and affective aspects of kenshi. Local wisdom-based training models are also used to enhance cognitive and affective psychomotor skills in early childhood, providing deeper insights into strengths and areas that require improvement (Cynarski & Niewczas, 2017; Kusuma et al., 2025). Another study also said that training based on the local game of gobak sodor can increase the speed of the taisabaki technique/body movement of a kenshi (Manihuruk et al., 2022). However, the shorinji kempo martial arts training model developed by the researcher is not without its shortcomings. In addition, this research also did not reach the stage of mass production, because it requires a large enough cost. Another drawback is that the model developed is specifically tailored for beginner kenshi, and the development of the NTT traditional dance-based Shorinji Kempo martial arts training model is minimal. To the researcher's knowledge, this study is the first to use NTT local dances in the practice process to improve kenshi skills.

CONCLUSION

Modification-based training models must continue to be implemented to align with increasingly modern developments. This means that the training model used in each training activity must truly have effective and efficient values for the kenshi. This research also produced three training models based on local dances from East Nusa Tenggara. The three products are 1). Gotong Royong, 2). Gembira and 3). Spirit. The names of these three training models are derived from the philosophy of the three local dances in East Nusa Tenggara. The three training modalities each contain three basic techniques in the Shorinji Kempo martial art. The novelty of this training model lies in its use of dance movements and values in the dance as the primary elements, a concept first introduced in the Shorinji Kempo martial art. This study also includes movement learning related to sports pedagogy. Sports pedagogy is a discipline that not only discusses the teaching and learning process of sports techniques but also how people learn, their movement skills, and the behaviour of students and teachers in sports learning situations. In this study, the kenshi are not only discussing the basic techniques of Shorinji Kempo, but also understanding the stages of these basic movements. Not only in terms of movement, but also in the affective aspect, sports pedagogy can be applied to kenshi because the goal of sports pedagogy is to educate students to develop physically, mentally, and socially through sports, as well as to be able to live independently and contribute to society.

CONFLIC OF INTEREST

There are no conflicts of interest related to this research or the publication of this manuscript

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