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Development Of the Step-Exercise Development Board (Sedbo) At The Happy Gym Aerobic Studio in Pare, Kediri

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Abstract
This study aims to develop a Step Exercise Development Board (SEDBO) as a stronger, safer, and more economical step aerobic exercise tool, and in accordance with the needs of users in the general public, especially at the Happy Gym Pare Kediri Gymnastics Studio. The research method used is Research and Development (R&D) with the Borg and Gall model, which includes needs analysis, planning, product development, expert validation, revision, and small group and large group trials. The product developed is a teak wood exercise board measuring 90 cm × 40 cm × 15 cm equipped with anti-slip features and a two-color design. The validation results by material experts, development media experts, and gymnastics practitioner experts show that the product is in the very feasible category. In the large group trial, the product obtained a feasibility level of 89.6% with a very good category. Based on the results of the study, SEDBO is declared very feasible to be used as a step aerobic exercise medium.

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1. INTRODUCTION

Sport is a physical activity that plays a vital role in maintaining and improving health and fitness. Besides maintaining physical fitness, sport can also be a means of developing individual abilities and achievements (Fabio & Kartiko, 2022). One sport that is widely popular among the public is gymnastics. Gymnastics is a systematic movement activity performed with the aim of improving physical abilities, such as strength, agility, speed, and endurance (Atmoko, 2022).

One type of exercise that is popular among the public is aerobics. Aerobics is a physical activity performed rhythmically and continuously to improve the function of the heart, lungs, and circulatory system (Supriady & Schiff, 2021). In addition to providing health benefits, aerobics also has a fun characteristic because it is performed with musical accompaniment, which can increase participants' motivation to move actively.

The development of aerobic exercise has given rise to various variations, one of which is step aerobics (step aerobics). Step aerobics is a cardio exercise that uses a platform or stepping board as the primary medium for rhythmic up-and-down movements (Watson, 2025). This exercise not only improves cardiorespiratory fitness but also helps strengthen leg muscles and increase calorie burning (Pingky, 2025). Therefore, the presence of a stepping board is an essential component in step aerobics.

Based on observations at the Happy Gym Pare Kediri Gymnastics Studio, several issues were identified related to the use of step-problem boards. The boards used were still made of wood with insufficient thickness, resulting in low sturdiness and potential damage during

use. Furthermore, the underside of the board tended to be slippery when in contact with the floor, increasing the risk of injury. Another issue was the board's size, which was not yet able to accommodate the needs of users with varying body weights. Furthermore, the step-problem boards available on the market were relatively expensive, making it difficult for the community and studio members to purchase their own.

Based on these problems, it is necessary to develop a stronger, safer, more comfortable, and more economical exercise board. This research develops the *Step Exercise Development Board* (SEDBO), a teak wood exercise board equipped with an anti-slip underside for increased safety. This product is designed as an alternative to step-boards, offering similar functionality to commercial products, but with a more affordable price and specifications tailored to user needs. Therefore, this study aims to develop and test the feasibility of this product. *Step Exercise Development Board* (SEDBO) as a medium for aerobic step gymnastics training in gymnastics studios *happy gym* Pare Kediri.

2. Research methods

This research uses the *Research and Development*(R&D) with the development model of *Borg and Gall, which* aims to develop and test the feasibility of products in the form of *Step Exercise Development Board* (SEDBO) as a medium for step aerobic exercise. The Borg and Gall model was chosen because it can produce valid and usable products through a series of development and evaluation stages (Research & Concepts, 2024).

The research was conducted at the Happy Gym Pare gymnastics studio, Kediri Regency, East Java. The development procedure used adapted the seven stages of the Borg and Gall model, namely: (1) preliminary research through literature studies, observation, and needs analysis; (2) product planning and design; (3) initial product development; (4) expert validation; (5) first product revision; (6) field trials; and (7) final product revision. The product developed was a SEDBO gymnastics board made of teak wood with dimensions of 90 cm long, 40 cm wide, 15 cm high, and 3 cm thick, equipped with an anti-slip feature on the bottom. The research subjects consisted of one gymnastics material expert, one development media expert, and one gymnastics practitioner expert as a product validator. The small group trial involved 10 gymnastics participants, while the large group trial involved 15 members of the gymnastics studio *Happy Gym* step aerobics class.

The data collection techniques used included observation, interviews, questionnaires, and expert validation. Observations and interviews were conducted during the needs analysis stage to identify problems with the use of the steprobic exercise board. The questionnaire was used to obtain product feasibility data from experts and users, while expert validation was conducted to assess the product's design, function, safety, and usability.

The research instruments consisted of an expert validation sheet and a user assessment questionnaire using a five-level Likert scale: very good, good, sufficient, less good, and poor. The research data were analyzed using quantitative and qualitative descriptive techniques (Angel et al., 2025). Quantitative data were obtained from the validator and user assessment scores, calculated using the following percentage formula:

$$P = (f/N) \times 100\%$$

Information:
P = percentage score
f = number of scores obtained
N = maximum number of scores

The percentage results are then converted into feasibility categories: 0–20% (poor), 21–40% (poor), 41–60% (adequate), 61–80% (good), and 81–100% (very good). A product

is considered feasible if it receives a good or very good rating based on expert validation and user testing.

3. Results and Discussion

The products produced in this research are *Step-Exercise Development Board* (SEDBO), namely a teak wood gymnastics exercise board developed to support the implementation of step aerobics in gymnastics studios *happy gym* Pare. The product consists of a step board, board legs, and a non-slip coating on the bottom for increased safety. SEDBO measures 90 cm long, 40 cm wide, 3 cm thick, and 15 cm high. Furthermore, the board's surface is designed in two different colors to make it easier for participants to identify their footing during training. Product specifications were developed based on needs analysis, expert input, and field trials.

Product development was conducted through expert validation and field trials. Validation involved gymnastics subject matter experts, media development experts, and gymnastics practitioners. The validation results were used as the basis for product revisions and refinements before the trial. After being declared feasible, the product was trialed in a small group at the Syanjaya gymnastics studio to obtain initial user feedback. This was followed by a large group trial of step aerobics class members at the studio *happy gym* Pare. The results of the two trial phases showed that the product was well-received by users and suitable for use as a step aerobics training tool. The trial data can be seen below.

Trial Data

Table. Scores of Test Data Results by Experts in Phase I and Phase II

No	Statement	Rating Scale	
		Level I	Level II
1	Expert Assessment of Gymnastics Material	84,8%	93,7%
2	Development Media Expert Evaluation	74,5%	86,3%
3	Expert Assessment of Gymnastics Practitioners	85%	95%
Category		Very good	Very good

Table. Scores of Small and Large Group Trial Data Results

No	Statement	Score	Category
1	Small Group Trial	89,9%	Very good
2	Large Group Trial	89,6%	Very good

Data analysis

The SEDBO product development process was conducted through expert validation and field trials. Validation involved gymnastics subject matter experts, development media experts, and gymnastics practitioners to assess the product's quality, safety, and feasibility. The validation results were used as the basis for revising and refining the product before being tested on users. Once deemed feasible, the product was tested through a small group

trial to obtain initial user feedback, followed by a large group trial on step aerobics class members at a gymnastics studio *happy gym*Pare. The results of the two trial phases were used to determine the level of feasibility and user acceptance, as well as to provide a basis for product refinement until a final product is ready for use. The results of the data analysis can be seen below.

Table. Data Analysis Scores by Experts Level I and Level II

No	Statement	Rating Scale	
		Level I	Level II
1	Expert Assessment of Gymnastics Material	84,8%	94,4%
2	Development Media Expert Evaluation	80%	86,3%
3	Expert Assessment of Gymnastics Practitioners	85%	95%
Category		Very good	Very good

Table. Small Group and Large Group Trial Data Analysis Scores

No	Statement	Score	Category
1	Small Group Trial	89,7%	Very good
2	Large Group Trial	89,6%	Very good

4. Discussion

The Development of Step-Exercise Development Board (SEDBO) was created as a solution to the limited number of aerobic step boards available at the Happy Gym Pare Kediri Gymnastics Studio, both in terms of safety, comfort, and procurement costs. The product was developed using strong and durable teak wood and is equipped with an anti-slip coating for increased safety during use. Furthermore, the two-tone design on the board's surface helps participants identify their footing during step aerobics exercises.

Validation results showed that the product received an excellent rating from material experts (94.4%), media experts (86.3%), and practitioner experts (95%). These results indicate that SEDBO has met the aspects of function, design quality, safety, and comfort of use. Furthermore, the results of small and large group trials obtained percentages of 89.7% and 89.6%, respectively, with an excellent rating. In the large group trial, the benefits and safety aspects received the highest scores, indicating that the product is able to support exercise implementation effectively and safely.

Based on validation and testing results, SEDBO was found to be highly suitable for use as a step aerobics training tool. This product boasts robust construction, safe use, and lower production costs compared to similar products on the market. However, further development is needed to produce a variety of sizes that better suit the characteristics of diverse users.

5. Discussion

This research successfully developed a Step Exercise Development Board (SEDBO) product made of teak wood as a means of aerobic step exercise at the Happy Gym Pare Kediri Gymnastics Studio. The validation results by material experts, media experts, and practitioner experts showed that the product was in the very good category with percentages of 94.4%, 86.3%, and 95%, respectively. In addition, the results of small group and large group trials obtained a feasibility percentage of 89.7% and 89.6%, which were included in the very good category. Based on these results, the SEDBO product was declared very suitable for use as a medium for aerobic step exercise because it has a good level of safety,

comfort, and function and is able to be a more economical alternative compared to similar products available on the market.

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