



ORIGINAL SCIENTIFIC ARTICLE

THE IMPACT OF JAVANESE DANCE ON IMPROVING RHYTHMIC SKILLS AND CRITICAL THINKING

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Abstract

Study purpose. The low rhythmic skills of students are caused by the complexity of rhythmic movements. This study aims to determine the impact of Javanese dance on rhythmic skills and critical thinking.

Materials and methods. The study used a one group pretest-posttest experimental design. Fourth grade students of 66 people were used as research subjects who were taken through cluster random sampling. Rhythmic skill data collection was using Rhythmic Test and critical thinking data collection was using a questionnaire. Data analysis was used to determine the impact of Javanese dance using paired samples t-tests, while proving the difference in impact was using independent samples t-tests.

Results. The results show that the paired samples t-test in rhythmic skills is known to have $t\text{-test} > t\text{-table}$ or $7.540 > 1.980$, $p = 0.00$. In critical thinking $t\text{-test} > t\text{-table}$ or $4.631 > 1.980$, $p = 0.00$. That is, there is an impact of Javanese dance on improving students' rhythmic skills and critical thinking ($t = 6.575$, $p = 0.00 < 0.005$).

Conclusions. The applied Javanese dance has an impact on improving rhythmic skills (psychomotor aspects) and critical thinking (cognitive aspects).

Keywords: rhythmic skills, physical education, critical thinking, traditional, Javanese dance.

Introduction

Rhythmic activity has the meaning of human movement with rhythmic patterns that are adapted to body expressions that follow musical accompaniment or beats other than music. The function of rhythmic activity is to increase rhythm sensitivity and provide the experience of dance movements as a means of expression (Vazou et al., 2020). In addition, the function of rhythmic activity is also as a means of training critical thinking skills through memorizing movements, collaboratively through togetherness movements, and discipline through seriousness in carrying out movements (Ismail et al., 2021). Rhythmic activity is part of the art of rhythmic movement as well as developing relevant aspects of positive values for students such as sincerity, discipline, collaboration, creativity, and critical thinking

(Asmawi, 2020). In the context of the learning process, this is called rhythmic learning, namely learning that focuses on the process of mastering movement including the suitability and accuracy between movement and rhythm. The development of rhythmic learning in elementary schools can be grouped into two main activities, namely standard structured and free structured rhythmic activities (Prima et al., 2018).

One of the rhythmic learning developed as a vehicle to help students learn rhythmic activities more easily is the Javanese dance, which is a rhythmic activity based on the Angguk dance. The Angguk dance is a traditional dance from Kulonprogo which has the same characteristics as rhythmic activity (Alfianti et al., 2019). This dance has been developed and successfully implemented in several elementary schools in Kulonprogo. Rhythmic learning in elementary schools aims to improve rhythmic skills in addition to training students' discipline and critical thinking (Zhao et al., 2021). The elements contained in rhythmic learning are flexibility, continuity of movement, flexibility, accuracy of movement with the rhythm of music (Ardiansyah, 2018).

However, the results of previous studies showed that many teachers still had difficulties in implementing rhythmic learning, even some of them annulled the rhythmic activity material because it was too difficult to teach (Utami & Utina, 2019). Another fact shows that the ability of teachers to develop learning is relatively low. There are several learning obstacles; 1) incomplete rhythmic equipment, 2) rhythmic activities in the form of general dance so that students find it difficult to imitate the movement, 3) Rhythmic learning in schools does not contain elements of art, culture and students' critical thinking skills.

Rhythmic activity has characteristics as a creative movement that is closer to the art of dance (Kurniawan et al., 2020). Rhythmic activities in elementary schools aim to increase the accuracy of rhythm and provide flexibility of movement as a means of self-expression, as well as the experience of dance movements (Brakel-Papenhuijzen, 2021). Dance is a rhythmic activity performed with musical accompaniment. Sometimes seen as a tool to express a particular culture. In its development it is also used as entertainment and pleasure. Another function of dance is as a form of social communication and as a cultural activity. There are at least three forms of dance that can be given by teachers in learning to students, namely, singing dances, folk dances, and creative dances (Farida et al., 2022). Where each of these dance forms has different challenges for students. Song dances and folk dances provide a less expressive experience of rhythmic movement, while creative dances provide a more expressive experience of rhythmic movement (Singh & Devi, 2021).

Fun rhythmic learning in elementary schools can involve several approaches that involve students actively and incorporate elements of play. Moreover, there are some rhythmic learning whose movements are based on elements of regional culture. The culture that develops in Java is rich in various kinds of traditional dances (Mujriah et al., 2022). Dance is the art of combining body movements with music to match. Through a combination of movements coordinated with the rhythm of the music, dance creates beautiful harmony and expresses emotions and stories. Javanese Dance has characteristics as a rhythmic activity as well as cultural preservation that is often encountered, especially in Kulonprogo (Supeni & Harini, 2021). In order for Javanese dance to remain sustainable, modifications are needed in the form of rhythmic learning in schools. This is intended to anticipate the phenomenon of today's society which prefers modern things and tries to leave traditional culture (Susanto et al., 2023). Dance can contain various meanings and purposes, such as expressing traditions and culture, depicting stories or narratives, expressing feelings, or providing entertainment to the audience. In some cultures, dance is also used in religious ceremonies, celebrations or social rituals.

Javanese dance grows and develops in the Javanese tribe which is a cultural property and is still maintained today. In other words, the dance is still appropriate and recognized by the population (Nurindiyani et al., 2019). Angguk, Gambyong, Jathilan, and Bedaya dance are some of the traditional dances that were born as folk dances as a result of processing various aspects, namely, social, cultural, and historical aspects that grew in Javanese society (Ismail et al., 2021; Brakel-Papenhuijzen, 2021). Dance can

communicate messages and tell stories without using words. Body movements that match the music can create a powerful and engaging artistic experience for the audience. It was also born as a response to various elements that existed at that time, so that a folk dance was formed as one of Javanese cultural identities (Alfianti et al., 2019).

Javanese dance is a type of traditional dance originating from Java, Indonesia. Javanese dance is an important part of Javanese culture and is usually performed in various events and celebrations, such as traditional ceremonies, weddings, festivals and art performances. This dance can be performed by anyone who has interest and skills in the dance. Javanese dance is also suitable for elementary school students based on the characteristics of easy, simple and happy movements (Nurindiyani et al., 2019; Healy, 2019). Rhythmic skills in Javanese dance can be considered as a multidimensional skill set, which can explore relationships in school children aged 6-11 years (Ismail et al., 2021). Javanese dance can be a valuable source of learning, both for individuals and groups. Javanese dance involves coordinated and precise body movements. In the process of learning to dance Javanese dance, students can develop their motor skills, such as balance, strength and flexibility. In the Javanese dance, messages from the community are implied in the form of knowledge, ideas, beliefs, values, and norms (Davidson, 2021). Javanese dance also provides opportunities for students to express themselves through body movements and facial expressions. This can help them develop creativity, confidence and the ability to communicate nonverbally. Javanese dance can be integrated into the school curriculum as part of art, history, or culture lessons.

Characteristics of students at the age of 6-11 years is the phase of the body experiencing very rapid growth and development both in the physical, cognitive, emotional and social aspects that determine further development (Susanto et al., 2021). Teachers should provide good physical activity facilities. The growth and development experienced by elementary school students includes physical development, cognitive development, language development, moral development, emotional development, and social development (Bhaskar et al., 2021). Therefore, teachers can develop learning that contains elements of moving or moving, learning in groups, and providing opportunities to be directly involved so that learning can take place in an interesting and not boring way (Sawitri, 2016).

In learning movement especially rhythmic movement, a component of thinking is needed including lower order thinking and higher order thinking skills. Critical thinking is one of the higher-order thinking processes that can be used in the formation of students' conceptual systems (Huang & Ning, 2021). Critical thinking is reasonable and reflective thinking that focuses on deciding what students should believe or do (Uzunöz & Demirhan, 2017). In reasoning, critical thinking skills are needed or in other words, critical thinking skills are part of reasoning. Schools should teach children the right way of thinking because it plays a very important role in mastering rhythmic movements. Critical thinking also means considering carefully about a knowledge received from various angles of reasons that support and conclude it (Noviyanti, 2020). In the context of learning motion or learning rhythmic activities, critical thinking skills are very helpful in mastering rhythmic movements

that require memorizing movements and accuracy of movements (Fajari & Chumdari, 2021).

Materials and methods

Participants

The sample of this study was fourth grade with a total of 66 students selected by cluster random sampling. They are elementary school students spread across Kulonprogo Regency. Subject selection is based on the availability of students who carry out rhythmic learning on a regular basis.

Research design

This research is using experimental method. The independent variable (X1) is the Javanese dance and the dependent variable is rhythmic skills (X2) and critical thinking (X3). This study used the One-Group Pretest Posttest design. The technique of collecting data on the rhythmic skill variable is by using a rhythmic skill test. The aspects of motion that are assessed are sequence, accuracy, flexibility, and sincerity. Collecting critical thinking data using a critical thinking questionnaire. The number of critical thinking questionnaire items is 28 items (validity 0.57, reliability 0.93).

Data Collection

The research on the impact of Javanese dance was carried out for 12 sessions. Table 1 below shows the practice schedule for Javanese dance which was used as a treatment in finding out its impact on students' rhythmic and critical thinking skills. The treatment intervention given focused on aspects of sequence, accuracy, flexibility, and sincerity. The treatment begins with a pretest and post-test of rhythmic skills and critical thinking skills.

Data analysis

The data analysis used was paired sample t-test to find out the difference between the initial score and the final score.

The significance value is expressed by t-test. Prerequisite test in the form of normality test, homogeneity and hypothesis.

Results

The results of both the independent and dependent variables were taken based on the pretest and posttest. The results of the pre-test calculation show that the average impact of Javanese dance is 2.378 and the standard deviation is 0.632. The average post test result for the impact of Javanese dance is 2.931 and the standard deviation is 0.597. The difference between the average pretest and posttest is 0.553, and the standard deviation is 0.271 (Table 2). To find out the impact of Javanese dance, a paired sample t test was carried out, while to prove differences in the impact of treatments, an independent sample t test was carried out.

Table 2. Differences in pretest and posttest scores

Pretest score	Posttest score	Differences Pretest-posttest
$\bar{x} = 2.378$	$\bar{x} = 2.931$	$\bar{x} = 0.553$
N = 66	N = 66	N = 66
SD = 0.632	SD = 0.597	SD = 0.271

The data analysis used was a paired sample t-test to prove the impact of Javanese dance on improving critical thinking and rhythmic skills. The analysis used a two-tailed test and a significance level of 0.05. A two-tailed test was used with a significance level of 0.05. The results of data analysis showed that there was a significant impact of Javanese dance on improving students' rhythmic skills and critical thinking ($t = 6.575$, $p = 0.00 < 0.005$), so that Javanese dance was said to be effective in improving rhythmic skills and critical thinking skills (Table 3).

Table 3. Impact value of Javanese Dance

Variable	t	Sig. (2-tailed)	df
Javanese Dance	6.575	0.000	65

Table 1. Content Listing and Schedule

Session	Schedule	Javanese Dance Material	Activity
1		Pre-test	
2	Practice 1	Basic Javanese Dance	Movement of arm without rhythm
3	Practice 2	Basic Javanese Dance	Movement of feet without rhythm
4	Practice 3	Basic Javanese Dance	Change Movement without rhythm
5	Practice 4	Basic Javanese Dance	Movement of arm with rhythm
6	Practice 5	Basic Javanese Dance	Movement of feet with rhythm
7	Practice 6	Basic Javanese Dance	Change Movement with rhythm
8	Practice 7	Advance Javanese Dance	Warming-up
9	Practice 8	Advance Javanese Dance	Main Training
10	Practice 9	Advance Javanese Dance	Main Training
11	Practice 10	Advance Javanese Dance	Cooling-down
12		Post-test	

Prerequisite Test

To determine the normality and homogeneity, a prerequisite test was carried out. The prerequisite test is used to determine the normal distribution of the data. Based on the normality test, it is known that the results of the pretest and posttest of the variables of rhythmic skills and critical thinking are normally distributed (Table 4). Homogeneity test is needed to see the level of data homogeneity. The results show that the pretest and posttest of rhythmic skills and critical thinking show a homogeneous distribution.

Table 4. Results of Normality and Homogeneity Test Data Processing

Experimental Data Group		Kolmogorov Smirnov	Distribution	P-value
Rhythmic Skills	Pretest	0.437	Normal	> 0.05
	Posttest	0.450	Normal	> 0.05
Critical Thinking	Pretest	0.726	Normal	> 0.05
	Posttest	0.981	Normal	> 0.05
Experimental Data Group		Levene	Distribution	P-value
Rhythmic Skills	Pretest	0.424	Homogeneous	> 0.05
	Posttest	0.349	Homogeneous	> 0.05
Critical Thinking	Pretest	0.628	Homogeneous	> 0.05
	Posttest	0.914	Homogeneous	> 0.05

Hypothesis testing

After carrying out the pretest and posttest tests of the two variables, it is known that the results of the hypothesis testing (Table 5).

Table 5. Hypothesis Test Results for Rhythmic & Critical Thinking Skills

Variable	Pair Diff.			t	df	Sig. (2-tailed)
	Mean	SD	SEM			
Pair 1 Pretest-posttest Rhythmic Skills	7.248	5.385	0.983	6.372	65	0.000
Pair 1 Pretest-posttest Critical Thinking	8.432	9.352	1.707	5.754	65	0.000

Notes: SD = Standard Deviasi, SEM = Standard Error of Mean

The Impact of Javanese Dance on Rhythmic Skills

Based on the results of the paired sample t-test on the rhythmic skill variable, the t test (6.372) is greater than t-table (1.980) with a significance level of 0.05 (Table 5). There is a significant difference between the pretest and posttest average scores for the rhythmic skill variable. The mean t-test value is 7.248. Thus, the average value of the posttest (after being treated with Javanese dance) is higher than the average value of the pretest (before being treated with Javanese dance). Based on the number of male students who took the rhythmic skills test, it was found that there were 6 highly skilled, 10 skilled, 12 moderately skilled, 5 less skilled, and 3 unskilled. For female students, it is known that there are 8 highly skilled, 10 skilled, 8 moderately skilled,

3 less skilled, and 1 unskilled. Therefore, the conclusion is that Javanese dance has a significant impact on rhythmic skills. The impact of the Javanese dance is seen in changes in student skills in aspects of sequence, accuracy, flexibility, and sincerity.



Fig. 1. Number of students with rhythmic skill level pretest-posttest treatment

The Impact of Javanese Dance on Critical Thinking

Based on the results of the paired sample t-test for critical thinking variables, the t-count (5.754) is greater than t-table (1.980) with a significance level of 0.05. These results indicate that there is a difference between the pretest and posttest scores on critical thinking skills. This result is supported by a t-test score of 8.432. This shows that the posttest average score (after being given critical thinking treatment) is higher than the pretest average score (before critical thinking treatment). Based on male respondents who have filled out a critical thinking questionnaire after receiving Javanese dance treatment, it was found that there were 8 students who were very critical, 8 students were critical, 10 students were moderate critical, 6 students were less critical, and 4 students were not critical. For female students, it is known that there are 9 students who are very critical, 10 students are critical, 6 students are moderate critical, 4 students are less critical, and 1 student is not critical. So it can be concluded that Javanese dance has a strong impact on critical thinking skills. The measurement of critical thinking skills that is applied consists of aspects of basic clarification, basic decision making, conclusions, further clarification, and strategies & tactics.

Observation of the rhythmic learning process through Javanese dance is carried out as supporting evidence for the results of the research that has been done. The Javanese

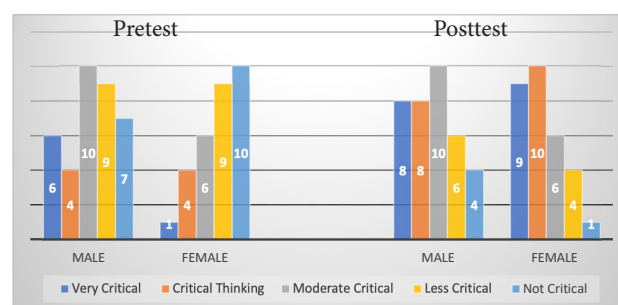


Fig. 2. Number of students with critical thinking level after treatment

dance intervention used in the experimental group showed an increase in rhythmic skills which could be seen from the elements of movement learned. In the intervention process, students showed significant skill changes. There was an increase in skills during tests and treatments which showed that students memorized more, had precise movements, were more flexible, and were more serious in their movements. Another indicator is that students show discipline, are actively involved in the rhythmic learning process, and help each other in difficult movements. This shows that rhythmic activities based on the Javanese dance are easy to do in rhythmic learning for elementary school students.

Discussion

The results mentioned earlier by looking at the characteristics of rhythmic learning through Javanese dance show that students participating in rhythmic learning are less active, have difficulty moving, are not happy, lack attention and more than half experience obstacles in rhythmic skills. Teachers need a rhythmic learning model with the aim of improving rhythmic skills and critical thinking skills. The Javanese dance used as a research treatment showed a large influence on the results of students' rhythmic and critical thinking skills. This is in accordance with several theories which state that there is a relationship between rhythmic activity and critical thinking skills in students (Taghinezhad & Javad, 2020; Kurniawan, 2020; Noviyanti, 2020).

The Impact of Javanese Dance on Rhythmic Skills

From the results found it is known that Javanese dance has an impact on rhythmic skills. This can happen because this model contains rhythmic activities based on the Javanese dance which are close in characteristics to rhythmic skills. According to the results of previous studies, rhythmic skills are influenced by rhythmic components, both in the form of dance and rhythmic movements (Cicchella, 2009; Ismail et al., 2021; Kurniawan, 2020). When participating in rhythmic activities, students must be required to think for themselves about developing their skills. It is undeniable that critical thinking skills can be improved through regular practice of rhythmic skills. Learning rhythmic skills makes a huge contribution in improving rhythmic skills. This can happen because rhythmic activities provide many experiences where students are able to control their bodies with confidence and a high success rate, thus enabling them to help form positive concepts (Botti & Nascimento, 2011).

The importance of rhythmic movements such as singing, dancing, and playing musical instruments are activities that are expected in learning rhythmic movements (Prima et al., 2018). While the concept of rhythmic motion comes from one of the components in the Dalcroze Eurhythmics approach (Daly, 2022; van der Merwe & Habron, 2020). The rhythmic philosophy put forward by Dalcroze has an emphasis on providing rhythmic activities so that students feel the elements of rhythm, music, tone and melody. Dalcroze's idea of using movement in musical activities can stimulate students' mental strength to learn skills (Wentink & Van der Merwe, 2020).

There are two basic elements used to connect movement and rhythm. Rhythmic movement is naturally embedded in

a person which makes it the strongest and closest musical element in human life, meaning that movement and rhythm must be in harmony (Daly, 2022). Movement is also reflected in other fields, including the association and degree of conformity with the movement of the human body, which is expressed by the flexibility of motion (de Oliveira et al., 2021). In rhythm, the interaction between the body and the brain can be increased more optimally. The function of the brain is to receive information and analyze stimuli which then give instructions to the body to move. Students tend to repeat the same movement because they feel comfortable with the movement (Cicchella, 2009).

Rhythmic activity is a gymnastic movement performed using music, or free exercise performed rhythmically (Farida et al., 2022). Gymnastics that use music must be matched between movements and the type of music. The stresses given to rhythmic gymnastics are rhythm, flexibility of the body in movement, and uninterrupted continuity of movement (Ivanov & Bardina, 2021). Thus, it can be concluded that rhythmic skills for elementary school are categorized into 3 domains, namely cognitive, psychomotor, and affective. Motion memorization is included in critical thinking skills which is a cognitive aspect, while the accuracy of rhythm with movement and flexibility of motion is a psychomotor aspect, and the affective aspect can be seen from the enthusiasm and discipline of students in performing rhythmic movements (Terekhina et al., 2021). In order for rhythmic activities to be carried out properly, students must have good motor skills (Irmansyah et al., 2021). The motor process is a movement that directly involves the muscles to move and the innervation process that is able to move the limbs (Prima et al., 2018). The process of motion maturity which involves the muscles to move makes a person able to move his limbs well. In this context, motor learning is realized through muscle responses that are expressed in a specific body movement or body part to improve the quality of body movement (Šrám & Velemínský, 2018).

In developing the Javanese dance, it is necessary to pay attention to the creativity of children in performing rhythmic movements (Ismail et al., 2021). Moreover, the Angguk dance, which is the basis of this model, has a strong characteristic of movement which is a reflection of everyday life such as walking, sitting, squatting, turning, twisting, and nodding (Supeni & Harini, 2021). In this context students should be able to utilize motion skills to improve critical thinking skills. The rhythmic activities in the Javanese dance provide many experiences where students are able to control their bodies with confidence and a high level of success, allowing them to help form positive concepts (Sawitri et al., 2016).

The Javanese dance is a rhythmic activity which in its expression uses the Angguk dance or traditional dance from Java. To be a good dancer, a dancer is required to master the aspects of wiraga, wirama, and wirasa (Utami & Utina, 2019). Angguk Dance is a form of cultural performance art. The Angguk dance which was adopted as Javanese dance can be understood as a form of rhythmic motion as well as a combination of artistic and cultural elements in society (Mursih, 2018). The dance that has become Javanese dance is a beautiful movement and is born from a body that moves to the accompaniment of the rhythm of music. Some opinions state that Javanese dance is a rhythmic activity that conveys

messages through body language accompanied by music or rhythm.

The Impact of Javanese Dance on Critical Thinking

According to the results, it is found that Javanese dance has an impact on critical thinking skills. This can happen considering that in the Javanese dance there are movements that must be memorized and understood well by students. This is why students are required to have critical thinking skills in mastering rhythmic skills (Terekhina et al., 2021; Zhao et al., 2021). This Javanese dance is an activity based on the Angguk dance which consists of elements of sequence, accuracy, flexibility, and sincerity. It takes critical thinking skills in mastering it. Rhythmic and dance activities have something in common, namely both activities that combine movement with music (Darwati et al., 2021). Javanese dance contains messages about ideas, knowledge, beliefs, values and norms. In terms of movement, clothing and accompaniment, it shows that this dance work is simple but full of values. Dance skills or techniques are not difficult but the expression of the soul is really prioritized to maximize the message that will be conveyed. For rhythmic activities, students are required to have good critical thinking skills (Ardiansyah, 2018). Given this ability is very supportive of the mastery of rhythmic skills which include memorization of movements, accuracy of movements, flexibility of movements, and seriousness of movements.

For fourth grade students, the Javanese dance, apart from being a free rhythmic activity according to the wishes of the students, can also be used as a vehicle for teaching critical thinking skills, meaning that rhythmic activity movements train students to think critically (Vieira & Tenreiro, 2016). Age between 7 to 12 years is often considered as an important period in seeking knowledge as much as possible. At this stage, children are usually at the primary level of education, such as elementary school or junior high school. This period is considered crucial because at this age children have high cognitive abilities and comprehension. Children at this age are very curious and very easy to absorb new knowledge. Apart from formal education at school, children can also broaden their knowledge through extracurricular activities, such as sports, art, music or community activities. In a supportive environment, they can develop their interests and talents in various fields. However, it is also important to strike a balance between learning and play. Children at this age also need time for social interaction, play, and outdoor exploration. Through play, they can develop social skills, creativity and problem solving. Upper class students are individuals who are very active in doing physical activities and filling their spare time (Rollings & Wells, 2018). Age 7 to 12 years is an important period in seeking knowledge as much as possible. Formal education in schools and activities outside of school can provide opportunities for children to broaden their knowledge and develop interests and talents in various fields.

One of the growth experienced by elementary school students is the ability to think. The ability to think is characterized by mental activities such as remembering, understanding, and solving problems (Susanto et al., 2022). This is in accordance with the concept that physical education including rhythmic learning can help students practice

critical thinking skills (Ramos & Gómez, 2021). Students are able to group different objects. As stated by Piaget that cognitive development of students is a period that is at the stage of concrete operations, which is characterized by the ability to classify objects based on similar characteristics, associate numbers, and solve simple problems (Barrouillet, 2015). To develop the power of reasoning and creativity, students need to be given the opportunity to ask questions, have opinions and assess various things related to their environment. This characteristic is in accordance with the theory of rhythmic motion learning that leads to critical thinking skills (Trigueros & Navarro, 2019).

The problem encountered at the beginning of conducting the experiment was finally proven, namely the lack of teacher ability in providing learning rhythmic activities in the learning process in elementary schools (Hastuti et al., 2020). Teacher courage is needed in applying learning models with rhythmic activities. One way is by providing appropriate training and support for teachers, including training in implementing learning models that involve rhythmic activities. The results of the treatment in the experiment also confirmed that there were not many physical education teachers who used local traditional dances as a vehicle for learning rhythmic activities (Saregar, 2021). This is reflected in the absence of traditional dance as a local curriculum that needs to be developed (Rahmadhani et al., 2020).

The results of the treatment of this model also confirm that the Javanese dance in addition to having an impact on critical thinking skills also has an impact on high social values. These social values are in accordance with social cognitive theory, which is a theory that emphasizes the idea that most human learning occurs in a social environment (Sun et al., 2022). By observing other people, humans acquire knowledge, rules, skills, beliefs, and attitudes (Sapsağlam & Ömeroğlu, 2016). Individuals also look at models or examples to study the usefulness and appropriateness of behaviors as a result of the behavior being modeled, then they act according to beliefs about their abilities and the expected results of their actions (Stewart & Krivan, 2021). Another distinctive characteristic is that critical thinking is a major role in the function of self-regulation. Most of their behavior is motivated and governed by internal standards and reactions to their own actions related to self-assessment (Escriva-Boulley, 2018).

Dance-based learning models or rhythmic activities can be an interesting alternative in learning. Including proven to improve rhythmic skills and critical thinking. There are several learning models to develop rhythmic skills (Lasma & Rachman, 2019). Generally, rhythmic activity models are used in game or dance type materials that promote teamwork between teams so that it is easy to assess rhythmic and critical thinking skills (Eun, 2019). In implementing Javanese dance it is important to consider the needs and characteristics of students, as well as provide a safe space and appropriate support. Teachers can combine elements of dance with a variety of other learning strategies to create diverse learning experiences for students. Thus, critical thinking in rhythmic activities is a way of thinking for students to respond by analyzing facts to form an assessment of the rhythmic motion function performed. Javanese dances often contain complex messages and stories. Students are faced with the task of interpreting dance movements, symbolic meanings,

and the cultural context behind them. This process involves analytical abilities and interpretation skills, which are important components of critical thinking.

Conclusion

The conclusions from the results and discussion above are the Javanese dance treatment had an impact on rhythmic skills and critical thinking. The influence of the Javanese dance on rhythmic skills is seen in changes in the skills of sequence, accuracy, flexibility, and sincerity. The influence of the Javanese dance on critical thinking can be seen in aspects of basic clarification, basic decision making, conclusions, further clarification, and strategies & tactics as outlined in rhythmic motion. With Javanese dance showing the impact in improving rhythmic skills and critical thinking. This is in accordance with previous research that rhythmic learning models can improve rhythmic skills and critical thinking.

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Conflict of interest

No conflict of interest was reported by the authors.

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ВПЛИВ ЯВАНСЬКОГО ТАНЦЮ НА ВДОСКОНАЛЕННЯ РИТМІЧНИХ НАВИЧОК І КРИТИЧНОГО МИСЛЕННЯ

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Авторський вклад: А – дизайн дослідження; В – збір даних; С – статаналіз; D – підготовка рукопису; Е – збір коштів

Реферат. Стаття: 9 с., 4 табл., 4 рис., 20 джерел.

Мета дослідження. Низький рівень розвитку ритмічних навичок учнів зумовлений складністю ритмічних рухів. Метою цього дослідження є визначення впливу яванського танцю на ритмічні навички та критичне мислення.

Матеріали та методи. У цьому дослідженні використовували експериментальний план із попереднім і підсумковим тестуванням на одній групі. Учасниками дослідження стали 66 учнів четвертих класів, які були відібрані шляхом класової випадкової вибірки. Збір даних про ритмічні навички здійснювали за допомогою Ритмічного тесту, а збір даних про критичне мислення здійснювали за допомогою анкети. Аналіз даних для визначення впливу яванського танцю проводили за допомогою t-критерію Стюдента для парних вибірок, а для підтвердження різниці у впливі використовували t-критерій Стюдента для незалежних вибірок.

Результати. Результати показують, що t-критерій для парних вибірок у тестуванні ритмічних навичок має значення t-критерію > табличне значення t-критерію, або $7,540 > 1,980$, $p = 0,00$. У тестуванні критичного мислення значення t-критерію > табличне значення t-критерію, або $4,631 > 1,980$, $p = 0,00$. Тобто спостерігається вплив яванського танцю на вдосконалення ритмічних навичок і критичного мислення учнів ($t = 6,575$, $p = 0,00 < 0,005$).

Висновки. Прикладний яванський танець впливає на вдосконалення ритмічних навичок (психомоторні аспекти) і критичного мислення (когнітивні аспекти).

Ключові слова: ритмічні навички, фізичне виховання, критичне мислення, традиційний, яванський танець.

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