# Development: A prototype of the Javanese Kigfun Sports Game to Introduce Shadow Puppet to Teenagers

Antonius Tri Wibowo<sup>1</sup>, Yustinus Sukarmin<sup>2</sup>, Sugeng Purwanto<sup>3</sup>, Yulius Agung Saputro<sup>4</sup>, Aneng Kiswantoro<sup>5</sup>

<sup>123</sup>Yogyakarta State University,

<sup>12</sup>Mercu Buana University Yogyakarta

<sup>5</sup>Institute of Art Indonesia Yogyakarta

Abstract:-The background of this research is to develop sports game products based on Javanese shadow puppets by including Mahabarata stories to introduce shadow puppets to teenagers. This research method is research and development (R&D). This study used a survey approach validation assessment from six experts in the field of sports games, experts in the field of shadow puppets, and experts in the field of graphic design. Validation using Delphi techniques and data analysis using Aiken's V content validity coefficient. Instrument seven questions using a Likert scale with a score range of 1-5. The results of this study are in the form of quantitative and qualitative data. The quantitative data contains the results of expert validation, S1:0.83, S2:0.95, S3:0.87, S4:0.95, S5:0.91, S6:0.95, S7:1 from the seven instrument questions in the excellent category. Qualitative data in the form of input from experts regarding improvements to the rules for the number of players, the amount of time, playing clothes, the color of the Pandawa characters, the size of the playing field, and the size of the ball. This research resulted in a prototype sports game named J-KIG (Javanese Kigfun Game), which combines sports games of Football and softball with puppet characters with Ramayana stories, including Pandava, Kurawa, Krisna, Semar, and Gunungan or Kayon. Furthermore, this prototype can be used for further research.

Keywords: Prototype, Sports Game, Shadow Puppet, J-KIG.

## 1. Introduction

The era of world globalization influenced a nation to make the process of integrating local culture into adolescents, especially with the development of technology and social media in the adolescent environment, making them open to outside cultures and attracted to outside cultures so that they forget the nation's culture (Gentina &; Parry, 2020; Nahak, 2019). Indeed, globalization has a positive and negative impact on a country. The positive impact is that they will be able to develop with the world of renewable technology for the development of their nation. However, the negative impact can make the teenage generation easily attracted to outside cultures and leave their local culture (Husnul Hidayat, 2020).

The Indonesian nation is a large nation with a population, thousands of islands, and cultural diversity with uniqueness and distinctive characteristics that are different from other countries (Idianto Muin, 2013). The Indonesian state has a tribe that dominates this country, namely the Javanese because this tribe is spread throughout the territory of Indonesia, which is almost 40% of the total population of Indonesia (BPS, 2021). The ancestors of the Javanese tribe provided learning to their descendants about Javanese cultural values through many symbols (Sumpana et al., 2019), one of which was through shadow puppets (Nugraha et al., 2018; Ruastiti

## TuijinJishu/Journal of Propulsion Technology

ISSN: 1001-4055 Vol. 44 No. 6 (2023)

et al., 2020). Wayang kulit itself is the work of adiluhur from the ancestors of the Indonesian people, and since 2003, wayang has received an award from UNESCO as part of the World Heritage (Ruastiti et al., 2020).

The ancestors of Javanese society use shadow puppets to provide noble teachings, knowledge, and experience of good and bad life so that humans can live harmoniously side by side with others, and the universe is called guidance (Kiswantoro, 2022). Shadow puppets are used as an actualization of people's life behavior carried out to gain peace, harmony, and welfare; in Javanese, it is known as upload-ungguh or manners it is called order, while shadow puppets are entertainment in the community so that puppets are favored by all people (spectacle) (Kiswantoro, 2022).

The data above shows that wayang kulit is very important in the civilization of the Indonesian nation because it has noble values contained in philosophy and physical form. However, shadow puppets are increasingly forgotten by the younger generation today (Setiawan et al., 2020). Many parties realize that it is not easy to attract teenagers to get to know Javanese culture for various reasons such as looking old-fashioned, challenging to learn, dull, more interested in outside culture, interested in modern games, being busy with gadgets, lack of parental guidance (Helmi, 2019). Preliminary research data found that adolescents interested in shadow puppets tend to be moderate and to see and participate in shadow puppet performances in the low category (Wibowo et al., 2023). The same research found that adolescents like games tend to be physical and non-physical; physical games are traditional games and sports, while non-physical games use gadgets (Wibowo et al., 2023). The data above shows that there needs to be an immediate effort to introduce Javanese culture to adolescents in the era of globalization (Nahak, 2019).

Sport is a series of regular, planned movements to maintain motion and improve movement ability, and exercise aims to stimulate physical, spiritual, and social growth and development (Morela et al., 2016). Besides being able to be used for competition and recreation, sports can also be used as a means to introduce culture because the sport itself is a culture in many ways; through sports, we can share our culture with others (Francesca Butt, 2019). Researchers see the potential through innovations to create sports games that can be used to introduce shadow puppets to adolescents because adolescents like physical activity games, according to the introduction of researchers (Wibowo et al., 2023).

The novelty of this research is to develop sports game products based on shadow puppets so that they can be used to introduce shadow puppets to teenagers. This research focuses on using sports games to introduce shadow puppets because there are very few studies on sports games used to introduce shadow puppets, so this research is fundamental to become a new focus in Javanese sports and culture research. Researchers combine football and softball games with shadow puppets because football and softball are popular among teenagers (Wibowo & Kushartanti, 2013; Cross, 2011).

### 2. Methods

Participants. The prototype development stage was validated by six experts with the title of professor of sports, doctor of game sports, master of shadow puppetry, and bachelor of graphic design. A hi in the field of sports Prof. Dr. Komarudin, S.Pd., M.A, Dr. Agus Susworo Dwi Marhaendro, S.Pd., M.Pd., Dr. Dra. Bernadeta Suhartini, M.Kes. Expert in the field of shadow puppets Ki Aneng Kiswantoro, MS. For future trial research, it will involve 35 adolescents consisting of adolescents aged 12-19 years spread across Yogyakarta Province.

Study organization This research and development uses research and development methods (Borg, W. R & Gall, 2003). The validation instrument questionnaire consists of 7 questions assessed by experts on a scale of 5 consisting of 1 "Strongly Disagree," 2 "Disagree," 3 "Neutral," 4 "Agree," 5 "Strongly Agree."

Statistical Analysis. The data obtained from experts is in the form of qualitative data for improvement input and quantitative data to assess the feasibility of this prototype. Validation uses the Delphi technique, and data analysis uses Aiken's V content validity coefficient (Azwar, 2021; Dewanti et al., 2023). To calculate the content-validity coefficient based on the assessment results of expert assessments, as many as six experts use the following formula:

 $V = \Sigma s / [n(c-1)]$ 

S = r-lo

Information:

Lo: the lowest validity rating number (e.g., 1)

C: highest validity assessment number (e.g., 5)

R: The number given by the appraiser/expert

#### 3. Results

The assessment data of the prototype of sports games to introduce shadow puppets was obtained from the assessment of 6 material experts: sports professors, sports doctors, masters in shadow puppet culture, and graphic design education graduates. The presentation of data from the results of the assessment of material experts can be seen in Table 1 below.

Table 1 Quantitative data of experts

NO	Material Expert	Nu	ımber d	of (	questi	ons									
		1	S	2	S	3	S	4	S	5	S	6	S	7	S
1	Football Expert	5	4	5	4	5	4	4	3	5	4	4	3	5	4
2	Softball Game Expert 1	4	3	5	4	3	2	4	3	3	2	4	4	5	4
3	Softball Game Expert 2	5	4	5	4	5	4	5	4	5	4	5	4	5	4
4	Movie Member 1	4	3	4	3	5	4	5	4	5	4	4	3	5	4
5	Movie Member 2	5	4	5	4	5	4	5	4	5	4	5	4	5	4
6	Graphic design experts	5	4	5	4	5	4	4	3	5	4	4	3	5	4
	∑s		20		23		21		23		22		23		24
	In		0,83		0,95		0,87		0,95		0,91		0,95		1

The range of V numbers (Validity) obtained is between 0-1, so from the results of the V value, the data above can be described as follows: S1: 0.83, S2: 0.95, S3: 0.87, S4: 0.95, S5: 0.91, S6: 0.95, S7: 1 so that it can be interpreted as a "very high" coefficient because it is close to the highest number 1. This means that from the assessment results, the validation of material experts on the prototype of the shadow puppet-based sports game is perfect and supports continuing trials at the next stage.

Table 2 Qualitative Data from Experts

NO	Material Expert	Input
1	Football Expert	1. Considering the use of the ball adjusted to the width of the field, it is better to use a plastic ball
2	Softball Game Expert 1	1. The rules try to see the reference to the game of Kickball.  2. The size of the field can look or see the size of Baseball 5 for street numbers in baseball  3. It should be specific to the Javanese Kickfun Game, not sports games.  4. The size of the ball must be tested first.
3	Softball Game Expert 2	1. Rules are made separately so that teenagers can easily understand them. 2. The rules for substitution games are made time limits and only turn off players as much as 3. 3. The number of players is just emphasized for the limit so that it is not confused, given a minimum limit of 5 according to the number of bases.
4	Puppet master and puppeteer practitioner 1	1. The picture of the puppet model is the original photo of the shadow puppet only. 2. Enter the character's color to be included in each base. 3. The semar image should not be included in the ball but replaced with a batik motif as a typical Javanese symbol.
5	Ali wayang and practitioner of Dalang 2	<ol> <li>The image of the seminar should not be included in the ball because its ethics will need to be corrected.</li> <li>Put the names of the Pandava and Kurawa teams in their vests.</li> </ol>
6	Graphic design experts	1. Adjust the image size so that it is clearer 2. Play with the sharpness and color of the image 3. Position the leaflet design between the image and the writing closer; for example, in the stamping or below the image, there is an explanation

All input from experts is used as data to revise the prototype to become one ready to be tested in the field. The results and prototype form of the sports game are named J-KIG sports game (Javanese Kigfun Game) with an explanation of game rules as follows:

Field size

Vol. 44 No. 6 (2023)

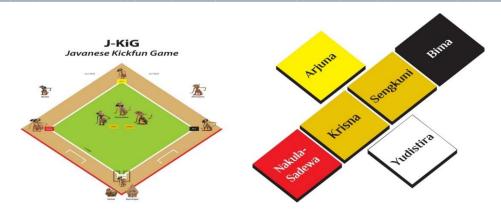


Figure 1. J-KIG Field Picture and Base

The shape of the field is like a softball field with a size of  $10~m \times 4$ , with each base named after the shadow puppet characters, namely Base Yudistira, base Bima, Base Arjuna, base Nakula &Sadewa, with colors according to the feelings of the Pandava characters in the Ramayana story. Then, in the field, a symbol of shadow puppet figures was given, namely Pandava figures installed at each base and Kurawa figures seated in the spread at guard positions. The characters Pandava, Kurawa, Semar, Krisna, and Gunungan are the designs in this game.

#### Gaming equipment



Figure 2. Picture of Ball and Vest Play

Individuals are directed to use shoes for footwear, while team clothing is useless as a sign of each team member. Each team in the game is given a symbol of Uttam and white colors with a name on the front of the chest: white for the Pandava team and black for the Kurawa team. Using a ball size 4 with a Kawung batik design has become a characteristic of Javanese batik culture.

Number of players, game time, and substitutions: Game time is 15 minutes X 2. For free substitutions because this nature has yet to be for official competition, in this sports game, there are free substitutions. As for the number of players, there is a minimum of 5, and the maximum is free, depending on the number of players available in the community.

## How to play it

In this J-KIG game, how to play it using a combination of techniques in the seekable and softball games. The two teams are divided into one group as players and one team as guards. The guard player will place his player as a ball thrower and can use ball throwing techniques such as the throw-in technique with both hands or one hand to the player who will start the game. The player team will start the game sequentially, with players kicking the ball from the thrower. Starting this game does not use a bat stick like a softball game, but players use their feet to kick the ball thrown by the guard team. As for the guards in positions on and off the field, they can combine kicking, catching, and throwing techniques.

How to turn off the opponent so that it changes position in the game is (1) by burning the base when the player runs to the base, (2) by touching the ball to the body of the running player, (3) the kicker player fails to kick three times. Everything will happen to change guards and players if the player who is playing dies three players.

#### 4. Discussion

Indonesia is a large country with a population of 267 million people and is an archipelagic country consisting of 17,000 islands with various tribes and cultures (Bapenas, 2019). Javanese culture contains life teachings with noble values from ancestors, which are guidelines for the behavior and philosophy of community or state life, with their nobility guiding statehood (Nugraha et al., 2018; Rahayu et al., 2014). Javanese people have various uniqueness and distinctive diversity in their culture; there are traditional dances, clothes, songs, houses, skin wayang, traditional food, and mixed other arts (Farida et al., 2023). Javanese people are the largest ethnic group both in Indonesia and in Southeast Asia as a whole; their mother tongue is Javanese, which is the largest Austronesian language in the number of native speakers and also the most significant regional language in Southeast Asia (Ananta et al., 2015).

The ancestors of Javanese society use shadow puppets to provide noble teachings, knowledge, and experience of good and bad life so that humans can live side by side harmoniously with others, and the universe is called guidance is used to actualize people's behavior to gain peace, harmony, and welfare; Javanese is known as upload-ungguh or manners. It is called order, while shadow puppets are entertainment in the community so that puppets are favored by all people (spectacle) (Kiswantoro, 2022).

Efforts to introduce shadow puppets to adolescents require innovation and breakthroughs through technology and other innovations so that shadow puppets are in demand and not abandoned by teenagers (Grehenson, 2013). The real challenge faced by the Indonesian nation in this era of globalization is to prepare the nation's next generation of young people with a high spirit of nationalism to maintain the existence of their regional culture. The efforts that can be made to preserve the existence of regional culture can be done in various ways, including efforts to learn about traditional culture of each individual, examine the values contained in conventional culture, add insight by learning cultures from other regions, instill values to the younger generation to be proud of the traditional culture of the archipelago, and create a forum or institution to channel the talents and creativity of the younger generation in terms of culture (Ermawan T, 2017).

Adolescents get access to information and media from all over the world, making them have a greater interest and interest in outside cultures and sacrifice their own culture (Slepneva et al., 2019). Two thousand twenty-two research data from researchers found that adolescents in the Yogyakarta region interested in shadow puppets in the "medium" category tended to go to the low limit. In contrast, for the implementation of seeing shadow puppets in the "low" class in the same research, it was found that adolescents like traditional sports games in the "high" category (Wibowo et al., 2023). Sports games that have something to do with sports, one of which is traditional games; in addition to conventional games forming the players' physique, another positive impact is training to focus on learning, especially for adolescents who are school students, besides increasing emotional control or emotional intelligence due to regular practice and participating in sports matches (Gatsis et al., 2021).

Vol. 44 No. 6 (2023)

Researchers also conducted preliminary research by making systematic literature reviews (SLR) to preserve Javanese culture and traditional Javanese games, obtaining 705 articles with appropriate themes. After sorting and filtering based on the theme's suitability, 21 papers were finally reviewed. The author concludes that Javanese culture is a noble teaching that has a good philosophy. The introduction of Javanese culture is carried out in various ways, for example, by creating shadow puppet animations, developing traditional clothing, architecting Javanese houses, making Javanese dance creations, introducing the Javanese social environment, and efforts from various other sciences for Javanese culture.

From SLR research and preliminary research, sports games have yet to be so much touched. In contrast, research focused on using traditional games because they are widely used to improve the character of students and the quality of student learning both in early childhood and upper secondary students. Therefore, introducing Javanese culture in games can be an alternative to teaching shadow puppets to adolescents, especially in sports games with teams and matches favored by teenagers, such as football and other games (Böge et al., 2022). Games using groups and playing with a small-sided games (SSG) game model attract children's attention and, at the same time, improve their physical abilities (Tajudin et al., 2022). Games based on physical activity can benefit from enhancing cognitive functional abilities and social skills in adolescents so that the type of team sports game becomes an alternative for development.

This research focuses on developing sports games based on Javanese culture to introduce shadow puppets to adolescents; this development will also be an alternative to preserving and presenting shadow puppets to adolescents through this developed sports game. The prototype of the sports game is named J-KIG (Javanese Kigfun Game). This sports game combines football and softball games that are already popular among teenagers (Małolepszy & Drozdek-Małolepsza, 2023).

The prototype of wayang kulit-based sports game products has received validation from experts by expertise, namely sports experts Prof. Dr. Komarudin, S.Pd., M.A, Dr. Agus Susworo Dwi Marhaendro, S.Pd., M.Pd., Dr. Dra. Bernadeta Suhartini, M.Kes. Expert in shadow puppets Ki Aneng Kiswantoro, M.S., Young puppeteer practitioner Ki Fani Rickyansyah, M.Sn., graphic design expert Yustinus Saras Waskito, S.Kom. The results of the expert assessment show that the J-KIG prototype is valid and ready to be tested in future research so that it can be the final product to be used to see whether the product is effective or not. However, researchers realize that this research is the initial research prototype, so it needs to be tested in future research to become the final product, and future research will determine the effectiveness of this J-KIG game product.

## 5. Conclusions

This research resulted in a prototype of a shadow puppet-based sports game called the J-KIG (Javanese Kigfun Game), which combines football and softball sports games with shadow puppet characters with Ramayana stories. The characters included are Pandavas, Kurawa, Semar, Krisna, and Kayon (Gunungan). J-KIG games obtained valid results from experts with scores between 0.8-1. For this product, there was input from experts who focused on adding game rules, game equipment, image sharpness, and the use of game equipment that could attract the attention of teenagers so that the prototype of the J-KIG sports game is ready to be tested in research to the next stage.

## 6. References

- [1] Ananta, A., Arifin, E. N., & Hasbullah, M. S. (2015). Demography of Indonesia's Ethnicity. In Demography of Indonesia's Ethnicity. ISEAS Publishing. <a href="https://doi.org/10.1355/9789814519885">https://doi.org/10.1355/9789814519885</a>
- [2] Azwar, S. (2021). Reliability and validity (4th ed.). Learning Library.
- [3] Bananas. (2019, January). Indonesia's population in 2019 reached 267 million people. Https://Databoks.Katadata.Co.Id/Datapublish/2019/01/04/Jumlah-Penduduk-Indonesia-2019-Mencapai-267-Juta-Jiwa. <a href="https://databoks.katadata.co.id/datapublish/2019/01/04/jumlah-penduduk-indonesia-2019-mencapai-267-juta-jiwa">https://databoks.katadata.co.id/datapublish/2019/01/04/jumlah-penduduk-indonesia-2019-mencapai-267-juta-jiwa</a>
- [4] Böge, V., Suleyman, P., & Bekir, M. (2022). Cytokine responses to small-sided games in young soccer players. Pedagogy of Physical Culture and Sports, 26(4), Article 4. <a href="https://doi.org/10.15561/26649837.2022.0401">https://doi.org/10.15561/26649837.2022.0401</a>

- [5] Borg, W. R & Gall, M. D. (2003). Educational research and introduction. Longman.
- [6] BPS. (2021, January 21). Results of the 2020 Population Census. Https://Www.Bps.Go.Id/Galeri. <a href="https://www.bps.go.id/galeri">https://www.bps.go.id/galeri</a>
- [7] Cross, R. (2011). Physics of baseball and softball.
- [8] Dewanti, G., Nompembri, S., Widiyanto, Hartanto, A., & Arianto, A. C. (2023). Development of Physical Education Learning Outcomes Assessment Instruments for Volleyball Materials Based on Game Performance Assessment. Physical Education Theory and Methodology, Vol. 23 No. 2 (2023), 170–177. https://doi.org/10.17309/tmfv.2023.2.03
- [9] Ermawan T, D. (2017). The Influence of Globalization on Regional Existence in Indonesian Culture.

  Journal of Lemhannas RI Studies, 32.

  <a href="https://www.lemhannas.go.id/images/Publikasi Humas/Jurnal/Jurnal Edisi 32 Desember 2017.pdf">https://www.lemhannas.go.id/images/Publikasi Humas/Jurnal/Jurnal Edisi 32 Desember 2017.pdf</a>
- [10] Farida, M., Susanto, E., & Sukoco, P. (2023). The Impact of Javanese Dance on Improving Rhythmic Skills and Critical Thinking. Physical Education Theory and Methodology, Vol. 23 No. 5 (2023). https://doi.org/10.17309/tmfv.2023.5.10
- [11] Francesca Butt. (2019, April 2). Why are Sports so Important to our Culture? Right for Education. <a href="https://Rightforeducation.Org/2019/04/02/Sports-so-Important-to-Our-Culture/">https://Rightforeducation.Org/2019/04/02/Sports-so-Important-to-Our-Culture/</a>
- [12] Gatsis, G., Strigas, A., & Ntasis, L. (2021). Contribution of emotional intelligence to taekwondo athlete's performance. Journal of Physical Education and Sport, 21(3), 1976–1980. https://doi.org/10.7752/jpes.2021.s3251
- [13] Gentina, E., & Parry, E. (2020). The New Generation Z in Asia: Dynamics, Differences, Digitalization (Changing Context of Managing People) (The Changing Context of Managing People). Emerald Publishing.
- [14] Grehenson, G. (2013, June 20). The younger generation leaves behind puppets. Https://Ugm.Ac.Id/. https://ugm.ac.id/id/berita/7928-wayang-ditinggal-generasi-muda
- [15] Helmi, S. (2019, June 19). The Decline of Traditional Culture in the Digital Age | Daily Bhirawa Online. Https://Www.Harianbhirawa.Co.Id/. <a href="https://www.harianbhirawa.co.id/lunturnya-budaya-tradisional-diera-digital/">https://www.harianbhirawa.co.id/lunturnya-budaya-tradisional-diera-digital/</a>
- [16] Husnul Hidayat. (2020). The Influence and Threat of Globalization on Indonesian Culture. Ad-Dariyah: Journal of Dialectics, Social and Culture, 1(2), 32–43. <a href="https://doi.org/10.55623/ad.v1i2.30">https://doi.org/10.55623/ad.v1i2.30</a>
- [17] Idianto Muin. (2013). Sociology for Senior High School/MA Class X (1st ed.). Erlangga. <a href="http://www.bukabuku.com/browses/product/9786022415336/sosiologi-untuk-sma-ma-kelas-x-jilid-1.html">http://www.bukabuku.com/browses/product/9786022415336/sosiologi-untuk-sma-ma-kelas-x-jilid-1.html</a>
- [18] Kiswantoro, A. (2022). Development of Wayang Performing Arts in Indonesia "The New Face of Wayang and Pakeliran" (F. Rickyansyah, Ed.). DIY Cultural Office.
- [19] Małolepszy, E., & Drozdek-Małolepsza, T. (2023). The Discipline of Football in the Provinces of Stanisławów and Ternopil in 1920–1939. An Outline. Sport and Tourism Central European Journal, 6(3), Article 3. <a href="https://doi.org/10.16926/sit.2023.03.02">https://doi.org/10.16926/sit.2023.03.02</a>
- [20] Morela, E., Hatzigeorgiadis, A., Sanchez, X., & Elbe, A.-M. (2016). Chapter 10 Promoting Acculturation Through Sport: An Ethnic-Cultural Identity Approach. In M. Raab, P. Wylleman, R. Seiler, A.-M. Elbe, & A. Hatzigeorgiadis (Eds.), Sport and Exercise Psychology Research (pp. 211–225). Academic Press. <a href="https://doi.org/10.1016/B978-0-12-803634-1.00010-8">https://doi.org/10.1016/B978-0-12-803634-1.00010-8</a>
- [21] Nahak, H. M. I. (2019). EFFORTS TO PRESERVE INDONESIAN CULTURE IN THE ERA OF GLOBALIZATION. Journal of Sociology of the Archipelago, 5(1), Article 1. <a href="https://doi.org/10.33369/jsn.5.1.65-76">https://doi.org/10.33369/jsn.5.1.65-76</a>
- [22] Nugraha, Y. A., Handoyo, E., & Sulistyorini, S. (2018). Traditional Game on The Social Skill of Students in The Social Science Learning of Elementary School. Journal of Primary Education, 7(2), 220–227.
- [23] Rahayu, N. T., Setyarto, &; Efend, A. (2014). Model of inheritance of Javanese cultural values through the use of ritual ceremonies. Journal of Communication Sciences, 12, 55–69.

## TuijinJishu/Journal of Propulsion Technology

ISSN: 1001-4055 Vol. 44 No. 6 (2023)

- [24] Ruastiti, N. M., Sudirga, I. K., & Yudarta, I. G. (2020). Model of innovative wayang wong for the millennial generation to meet the 4.0 industrial revolution era in Bali. Journal of Environmental Treatment Techniques, 8(3), 999–1004.
- [25] Setiawan, K., Zahar, I., Lihardja, N., & Yunithree, M. (2020). Revitalization of Wayang in the present context through creative learning, brainstorming, and mind mapping. Journal of Advanced Research in Dynamical and Control Systems, 12(2), 2394–2396. <a href="https://doi.org/10.5373/JARDCS/V12I2/S20201286">https://doi.org/10.5373/JARDCS/V12I2/S20201286</a>
- [26] Slepneva, E., Bogdanova, V., & Fatkhullina, L. (2019). Globalization Impact on National Culture. GLOBALIZATION IMPACT ON NATIONAL CULTURE, 6, 219–222. <a href="https://ocerints.org/socioint19">https://ocerints.org/socioint19</a> e-publication/abstracts/papers/327.pdf
- [27] Sumpana, Sapriya, Malihah, E., & Kumalasari, K. (2019). Wayang Kulit As A Medium Learning Character. International Conference of Primary Education Research Pivotal Literatur and Research UNNES 2018, 53. <a href="https://doi.org/10.2991/icpeopleunnes-18.2019.12">https://doi.org/10.2991/icpeopleunnes-18.2019.12</a>
- [28] Tajudin, F. I. M., Malek, N. F. A., Azmi, A. M. N., Tan, K., Vasanthi, R. K., Abadi, F. H., & Nadzalan, A. M. (2022). The effects of small-sided games versus traditional training on physical fitness and skills among Under-12 hockey players. Pedagogy of Physical Culture and Sports, 26(4), Article 4. <a href="https://doi.org/10.15561/26649837.2022.0407">https://doi.org/10.15561/26649837.2022.0407</a>
- [29] Wibowo, A. T., &; Kushartanti, d. (2013). Modification of Football Games for High School Students with Asthma. Journal of Sports, 1(2), 104–119. https://journal.uny.ac.id/index.php/jolahraga/article/view/2567/2121
- [30] Wibowo, A. T., Sukarmin, Y., Purwanto, S., & Iwandana, D. T. (2023). Physical activities, traditional games, and Javanese culture, particularly Wayang Kulit Faculty of Sport Science, Yogyakarta State University, Indonesia. Authors 'Contribution: A Study design; B Data collection. Sport, Health and Rehabilitation, 9(1), 8–18.

#### Information about the authors:

Antonius Tri Wibowo: antoniustri.2020@student.uny.ac.id, http://orcid.org/0000-0002-7937-8844, Ph.D. candidate study program of sports science, Faculty of Sport and Health Sciences, Yogyakarta State University, Indonesia, Lecture in study program of sport science, Mercu Buana University Yogyakarta, antoniustriwibowo@mercubuana-yogya.ac.id/, Jalan Wates Km 10. Bantul Regency, Yogyakarta Jl. Colombo Yogyakarta No.1, Karang Malang, Caturtunggal, Depok District, Sleman Regency, Special Region of Yogyakarta 55281, Indonesia

Yustinus Sukarmin: <a href="mailto:yustinus\_sukarmin@uny.ac.id">yustinus\_sukarmin@uny.ac.id</a>, <a href="http://orcid.org/0000-0001-6953-0016">http://orcid.org/0000-0001-6953-0016</a>, <a href="Professor">Professor</a> in the program of Sport Science, <a href="Faculty of Sport">Faculty of Sport</a> and <a href="Health Sciences">Health Sciences</a>, <a href="Yogyakarta">Yogyakarta</a> State University, Indonesia, Jl. Colombo <a href="Yogyakarta">Yogyakarta</a> No.1, <a href="Karang Malang">Karang Malang</a>, <a href="Caturtunggal District">Caturtunggal District</a>, <a href="Depok District">Depok District</a>, <a href="Sleman Regency">Sleman Regency</a>, <a href="Special Region of Yogyakarta">Special Region of Yogyakarta</a> 55281, <a href="Indonesia">Indonesia</a>, <a href="

Sugeng Purwanto: <a href="mailto:sugeng-purwanto@uny.ac.id">sugeng purwanto@uny.ac.id</a>, <a href="https://orcid.org/0000-0002-6866-7237">https://orcid.org/0000-0002-6866-7237</a>, <a href="Professor">Professor</a> in the program of sports science, <a href="Faculty of Sport">Faculty of Sport</a> and <a href="Health Sciences">Health Sciences</a>, <a href="Yogyakarta">Yogyakarta</a> State University, Indonesia, Jl. Colombo <a href="Yogyakarta">Yogyakarta</a> No.1, <a href="Karang Malang">Karang Malang</a>, <a href="Caturtunggal District">Caturtunggal District</a>, <a href="Depok District">Depok District</a>, <a href="Sleman Regency">Sleman Regency</a>, <a href="Special Region of Yogyakarta">Special Region of Yogyakarta</a> 55281, <a href="Indonesia">Indonesia</a>

Yulius Agung Saputro: <a href="mailto:yulius@mercubuana-yogya.ac.id">yulius@mercubuana-yogya.ac.id</a>, <a href="mailto:https://orcid.org/0009-0008-3336-2709">https://orcid.org/0009-0008-3336-2709</a>, Lecture in the study of sports science program, Mercu Buana University Yogyakarta, Jalan Wates Km 10. Bantul Regency, Yogyakarta,

## TuijinJishu/Journal of Propulsion Technology

ISSN: 1001-4055 Vol. 44 No. 6 (2023)

\_\_\_\_\_

Aneng Kiswantoro: <a href="mailto:aneng.kiswantoro@yahoo.co.id">aneng.kiswantoro@yahoo.co.id</a>, Lecture in the study ofdepartment puppetryInstitute of Art Indonesia Yogyakarta