



Physical Education Learning Design Through Traditional Boxing '*Sagi*' Based on Tutorial Videos to Enhance Students' Character Education

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ABSTRACT

Purpose – The objectives of this study are: a) To develop a physical education learning design based on *Sagi* traditional boxing using video tutorial media, b) To enhance students' character education through the implementation of *Sagi* boxing, which includes values such as discipline, courage, and cooperation, c) To test the effectiveness of video tutorials as a medium for teaching the basic techniques of *Sagi* boxing to students.

Methodology – The stages used in this study include Analysis, Design, Development, Implementation, and Evaluation. The data collection techniques applied consist of documentation and questionnaire distribution. The validation process for the video media was conducted through assessments by subject matter experts, instructional design experts, and instructional media specialists. The data obtained were analyzed using both qualitative and quantitative descriptive approaches.

Findings – The study's results, based on expert responses, were as follows: Subject Matter Expert (91%, Very Good), Instructional Media Expert (94%, Very Good), and Instructional Design Expert (95%, Very Good). During the development process, improvements were made to enhance the quality of the instructional design for physical education, based on the traditional "*Sagi*" boxing method, supported by video tutorials aimed at strengthening students' character education, as informed by expert feedback.

Contribution – This study is significant because it provides valuable insights for education managers, especially in schools that implement physical education, to apply ADDIE model-based evaluations in order to enhance the effectiveness and sustainability of developing physical education learning designs through the traditional "*Sagi*" boxing, supported by video tutorials, to strengthen students' character education in schools.

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INTRODUCTION

Physical education holds a vital place in the school system because it is not only about building students' physical fitness but also about shaping their overall growth mentally, socially, and emotionally. More than just exercise, physical education fosters important values such as discipline, responsibility, and teamwork. However, in practice, these goals are not always easy to achieve. Limitations such as the use of less varied teaching methods and the lack of character integration within physical activities often become obstacles (Hardiansyah & Zulkarnain, 2021). On the other hand, character education has become a significant focus in Indonesia's education curriculum, especially since the launch of the Character Education Strengthening Program (PPK) by the Ministry of Education and Culture (Kemendikbud, 2017). Therefore, innovation is needed in the design of physical education that not only emphasizes physical aspects but also instills character values. One promising approach is to bring local culture into the learning process. Take the traditional boxing *Sagi* from Maluku, for instance. This practice is not only about mastering physical techniques but also about embracing important values such as discipline, honesty, cooperation, and respect (Rahman et al., 2019). Unfortunately, *Sagi* has yet to be widely introduced in school-based physical education. In reality, integrating local culture into PE classes could serve a dual purpose: preserving cultural heritage while also shaping students' character (Saputra, 2020). Supporting this idea, Suryani & Agung (2022) found that physical education becomes more impactful for character development when the values embedded in traditional sports are meaningfully applied.

Although *Sagi* is a traditional martial art that embodies noble values such as courage, sportsmanship, and discipline, its presence within elementary physical education remains minimal – both in terms of instructional practice and academic inquiry. To date, most research on *Sagi* has primarily emphasized its value in preserving culture and its historical significance in local traditions. Very few have examined how *Sagi* can be utilized as a meaningful learning tool within formal education. This highlights a significant research gap: there is a lack of systematic studies that design and evaluate physical education learning models incorporating *Sagi* at the school level. Traditional games and martial arts, such as *Sagi*, actually hold great potential to be more than just physical activities. They can be transformed into engaging learning tools that not only keep students active but also carry deep cultural values, helping them build a stronger sense of identity and character.

This study becomes significant because it seeks to fill the existing gap by creating a physical education learning design that uses *Sagi* as its foundation. The design is not only adapted to the unique needs of students but also rooted in the cultural values of their community. In line with the Merdeka Curriculum, which emphasizes learning that is differentiated, meaningful, and culturally relevant, the integration of *Sagi* provides a fresh and timely way to deliver holistic learning experiences that feel authentic for students. Theoretically, this research contributes to the expansion of knowledge in physical education, especially in terms of implementing culturally grounded pedagogical models that have received little attention in academic discourse. On a practical level, this study offers clear and applicable guidance for physical education teachers on incorporating *Sagi* into the classroom as a structured component of their lessons, while maintaining alignment with national learning goals. Beyond the classroom, this research also plays a broader role in society by helping to preserve and revitalize traditional cultural heritage, ensuring that it continues to live on through formal education.

The rapid growth of technology has brought fresh opportunities to the world of education, including in physical education. One example is the use of tutorial videos, which have been shown to effectively boost students' understanding and skills (Kurniawan et al., 2022). With tutorial videos, students can learn at their own pace, revisit lessons whenever they need, and clearly see movements that are often difficult to grasp through theory alone (Pratama & Wijaya, 2021). By combining *Sagi* boxing with tutorial videos, this study introduces an innovative approach that not only enhances the quality of physical education but also strengthens students' character development.

The use of tutorial videos in physical education provides both teachers and students with easier

access to learning materials, particularly when it comes to game techniques, and offers them the flexibility to review lessons at any time and from anywhere. These videos have proven effective in deepening students' understanding by offering clear, step-by-step demonstrations of specific movements and techniques (Prasetyo & Riana, 2019). In this study, tutorial videos are placed at the center of the learning design, which is developed around the traditional martial art of *Sagi*. Through these videos, students are not only supported in mastering the basic techniques of *Sagi* boxing but are also guided to internalize essential character values embedded in the practice. This approach aligns with the findings of Dwi & Sari (2021), who emphasize that tutorial videos can significantly enhance the effectiveness of physical education by making content more accessible and enabling students to continue practicing even outside the classroom.

Furthermore, this research aims to design a contextual, engaging, and meaningful physical education model based on the traditional game *Sagi* for elementary school students. Specifically, the study aims to identify and construct key instructional components, including learning objectives, content, instructional methods, student activities, and assessment strategies, that are tailored to the unique elements of *Sagi*. In addition, the study involves the creation of video-based learning media that visually demonstrate the basic movements, game rules, and the core values embedded in *Sagi*, including bravery, teamwork, discipline, and sportsmanship. The instructional model developed through this process will be reviewed by subject matter and media experts and tested for its feasibility through limited trials conducted by physical education teachers.

This study presents a distinct and more innovative approach compared to previous research, which generally focused on modern sports or merely the use of video media as a learning aid. This study integrates the traditional martial art of *Sagi*, a form of local cultural heritage rich in educational values, with video tutorial-based learning technology. The combination of local wisdom and digital media brings a new dimension to physical education, as it not only helps students understand and master basic motor skills visually and practically, but also cultivates positive character traits through the values embedded in traditional games, such as courage, sportsmanship, discipline, and cooperation. This innovation holds significant importance because it introduces a contextual learning model that feels both relevant and engaging for students living in today's digital era. Beyond enriching the physical education learning process, it also plays a role in preserving local cultural heritage. The use of tutorial videos makes learning more flexible and accessible at any time and from anywhere, allowing students to gain a deeper and more meaningful experience. More than just focusing on physical skills, this approach contributes to shaping students' character while also ensuring that cultural values remain alive through education.

METHODOLOGY

In this study, the ADDIE model was chosen as the framework for development. To make the process easier to understand and more scientifically sound, each stage – Analysis, Design, and Development needs to be described clearly and systematically. In the Analysis stage, the researcher identified instructional needs by observing conditions in the field, particularly in elementary physical education (PJOK), where there is minimal use of technology-based media and a lack of integration of local cultural content. Additionally, the researcher analyzed student characteristics, curriculum requirements, and the potential educational values of the traditional martial art "*Sagi*" that are relevant to character development. Next, in the Design stage, the researcher developed learning objectives, selected *Sagi*'s basic movement materials, identified the character values to be cultivated, and created a learning strategy and media concept in the form of a tutorial video. This stage also involved creating a storyboard or video script outlining the sequence of movements, narration, visual elements, and the delivery of character messages. In the Development stage, the tutorial video was produced using video editing software. Scenes were recorded according to the script, involving both students and teachers as actors in the video. The initial product was reviewed by both subject matter experts and media specialists to evaluate its content accuracy, visual design, and overall usability. The feedback from this validation process served as the basis for revising and refining the product to meet instructional needs better.

However, in this study, the Implementation and Evaluation stages were not thoroughly carried out, as the research only reached the expert validation phase. Thus, further opportunities remain for subsequent researchers. The developed product, a learning video, has been assessed for its validity level. This validity was determined through expert review analysis. The review involved three experts: a PJOK content expert (a lecturer with a Master's degree or higher), an instructional design expert with an educational technology background, and a media expert with a Master's degree in Educational Technology from STKIP Citra Bakti.

The Implementation and Evaluation stages could not be conducted due to time constraints, as the study coincided with the end of the academic semester and a tight school schedule, including preparations for summative assessments and school holidays. Furthermore, the administrative process for obtaining permission to conduct field trials took longer than expected, making it impossible to implement the media in an actual classroom setting within the available timeframe. Another technical limitation was the lack of supporting infrastructure in schools, such as suitable devices for displaying video media during optimal learning. These limitations have affected the amount of empirical evidence available to demonstrate the effectiveness of the product in improving learning outcomes or shaping students' character through *Sagi*-based physical education. As a result, this research is still in its initial development stage (prototyping) and requires further studies to validate its effectiveness and impact in actual classroom settings. Clarifying this point is important so readers understand that, while the product shows strong potential, it still requires more trials before it can be widely implemented.

The instrument used in this research and development study is employed to collect research data, applied at various stages of data collection, specifically as an Instrument for validating the Initial Product Draft. The purpose of the initial product draft validation instrument is to assess the initial product design using expert judgments before conducting product trials. The instrument used for validating the initial product draft is a rating scale questionnaire, accompanied by an evaluation sheet. The blueprint (grid) for the rating scale questionnaire used in the validation of the initial product draft is presented in the following table:

Table 1. Validation Instrument

Factor	Indicator	Item Number
Integration of Local Cultural Values	Relevance of the material to cultural values in the traditional martial art of <i>Sagi</i>	1,2,3
	Clarity of character messages conveyed through video media	4,5
The Quality of Physical Education Learning	The alignment of the material with the learning objectives of Physical Education	6
	The alignment of the material with the elementary school Physical Education (PJOK) curriculum	7
	The level of student engagement through the video	8
Techniques and Basic Movements	Clarity of the visual representation of basic <i>Sagi</i> boxing techniques in the video	9
	Appropriateness of movements with the stages of basic motor learning	10
Feasibility of the instructional video media	The overall clarity and quality of both the visual and audio elements in the instructional video ensure that the material is easy to follow and engaging for students.	11
	The suitability of the video's length and the way its content is organized, ensuring that the material is presented clearly, effectively, and within a duration that keeps students engaged.	12
	The ease with which the video can be accessed and used in school settings ensures that teachers and students can utilize it without technical difficulties	13
Effectiveness in character education	The connection between the character values being taught and the movement activities practiced in <i>Sagi</i> .	14

All instruments (observations and questionnaires) in this study used a Likert Scale assessment with a 5-point scale: (1) strongly inappropriate, (2) inappropriate, (3) moderately appropriate, (4) appropriate, and (5) strongly appropriate. Documentation was carried out for all activities during the trial phase by recording and storing them in the form of videos and photos. These were used by experts and researchers to repeatedly observe the trial activities for the purpose of evaluating the feasibility of the product used during the observation, validation, and revision stages of the product development. Quantitative data analysis in this study was conducted in detail on the validation assessment data, utilizing scoring scales provided by experts for the initial product during the limited trial (small scale) and the main field trial (large scale) of product usage. The data obtained from these assessments were then analyzed using a categorization norm based on the guidelines of Saifuddin Azwar (as cited in Tapo, 2017, p. 114). As follows:

Table 2. Data Analysis Categorization Table

Formula	Description	Category
$X < (\mu - 1,0\sigma)$	Low	Inappropriate / ineffective
$(\mu - 1,0\sigma) \leq X < (\mu + 1,0\sigma)$	Medium	Fairly appropriate / fairly effective
$(\mu + 1,0\sigma) \leq X$	High	Appropriate / effective

Based on the questionnaire grid and initial product observation sheet used in this study, the results of the categorization norm calculation are as follows."

Table 3. Calculation of Categorization Norm for the Initial Product

Formula	Interval	Category	Conclusion
$X < (\mu - 1,0\sigma)$	< 23	Less appropriate	Not feasible
$(\mu - 1,0\sigma) \leq X < (\mu + 1,0\sigma)$	23-37	Fairly appropriate	
$(\mu + 1,0\sigma) \leq X$	> 37	Appropriate	Feasible

FINDINGS

The following is a summary table of relevant articles that have been selected based on inclusion and exclusion criteria using the Covidence tool:

Table 4. Summary of Relevant Articles

No	Authors, years	Title	Main Findings	Relevance to the ADDIE Model
1	(Dwi & Sari, 2021)	Development of Tutorial Videos in Physical Education Learning	Video tutorials enhance learning independence and understanding of fundamental physical education movements	Development & Implementation
2	(Wani et al. 2023)	Revitalization of the Traditional Sport Sagi as a Medium for Character Education	Sagi contains character values such as courage and responsibility.	Analysis & Design
3	(Suryani & Agung 2022)	Integration of Character Values in Physical Education Learning Based on Traditional Culture	Students' character improves when learning is integrated with local culture and sports.	Evaluation

4	(Kurniawan & Hidayat 2021)	Digital Media Based on Local Wisdom in Physical Education	Teachers are assisted in delivering local content through digital media.	Design & Development
5	(Prasetyo & Riana 2019)	The Effectiveness of Video in Teaching Basic Movements in Physical Education	The Effectiveness of Video in Learning Basic PJOK Movements	Implementation
6	(Saputra 2020)	Culturally-Based Physical Education Learning for Character Strengthening	Local culture is effective in shaping students' attitudes when integrated into learning	Analysis
7	(Hasanah & Widodo 2020)	Implementation of the ADDIE Model in PJOK Learning Media	ADDIE increases the effectiveness of PJOK teaching media design	ADDIE Full Model
8	(Fitriani et al. 2022)	The Use of the ADDIE Model in the Development of Basic Movement Videos	ADDIE is effectively used to create project-based PJOK learning videos	Analysis to Evaluation
9	(Rahayu & Santoso 2021)	Character Education Through PJOK Learning	Physical Education, Sports, and Health (PJOK) can serve as a strategic medium analysis & Evaluation in shaping students' character values.	Analysis & Evaluation
10	(Hidayatullah 2023)	Integration of Traditional Sports in the PJOK Curriculum	Traditional sports enrich the material and increase students' interest in learning	Analysis & Design
11	(Lestari, et al.2020)	The Effectiveness of Audiovisual Media in Physical Education Learning	Audiovisuals increase students' retention and engagement in movement learning	Development & Implementatin
12	(Anshori & Ridwan 2022)	Utilization of Tutorial Videos for Adaptive PJOK Learning	Video tutorials support flexible and adaptive learning in a variety of school conditions	

The reviewed articles span from 2020 to 2023, offering relatively up-to-date insights. Choosing more recent studies is important because they capture the latest developments in how the ADDIE model is applied, including adjustments in educational practices, the influence of new technologies, and evolving priorities in physical education learning. Most of the articles focus on programs at the senior high school level, although some also cover junior high and elementary schools. These differences can help us understand whether the implementation of the ADDIE model varies across educational levels. For example, PJOK learning programs in high schools tend to be more structured, and the focus of evaluation on the process may have different implications depending on the level of education.

Many studies focus on character education programs. All studies in the table use the ADDIE model (Analysis, Design, Development, Implementation, Evaluation). This model is considered systematic and practical in developing innovative and contextual PJOK learning media. Among all the listed studies, many emphasize the use of video tutorials as an effective medium for PJOK instruction. Videos have been proven to help students better understand basic movements, visualize physical skills, and enable independent learning beyond formal class hours. Moreover, several studies (such as those by Wani et al., Suryani & Agung, and Saputra) explicitly show that traditional sports like *Sagi* or local

games carry important character values (discipline, responsibility, cooperation, etc.) that can be integrated into PJOK learning.

As seen from the review above, almost all studies emphasize the reinforcement of character education through PJOK activities, either directly (such as integrating character values into physical activities) or indirectly (through innovative teaching methods, media, and strategies). The table clearly shows that the approach you are using (ADDIE + local culture + video tutorial media) is relevant, up-to-date, and supported by recent research trends, while also making a significant contribution to the strengthening of character education in Indonesia.

Nevertheless, it is essential to acknowledge that the reviewed articles also have certain limitations. One of the main concerns is the potential for bias, since most of the references were obtained through Google Scholar, which might reduce the variety of sources and limit the depth of the analysis. Additionally, some important aspects, such as the influence of educational policies or the involvement of other key stakeholders, have not been thoroughly discussed in the selected literature. Therefore, although the findings offer significant contributions, the scope of the analysis should be broadened by including references from more diverse sources and taking into account other factors that may not have been adequately addressed in the analyzed articles.

This research was conducted at SMA Citra Bakti Ngada. Therefore, the researcher developed an instructional media in the form of a video tutorial, which is expected to address the existing problems in the school by using the ADDIE development model. This resulted in the design of a physical education learning model based on the traditional "*Sagi*" boxing, supported by tutorial videos to strengthen students' character education at Citra Bakti Ngada. The trial stage, which was carried out, included expert validation. All of these stages were conducted to perfect the video learning media for the subject of developing a physical education learning design through traditional "*Sagi*" boxing, based on tutorial videos, to enhance the character education of Citra Bakti Ngada students.

Table 5. Expert Evaluation Results

No.	Respondent	Score (%)	Qualification
1	Subject Matter Expert	91%	Very Good
2	Learning Media Expert	94%	Very Good
3	Instructional Design Expert	95%	Very Good

Based on the research conducted using the ADDIE model, the development of video learning media for physical education through the traditional "*Sagi*" boxing was only carried out up to the development stage. The implementation and evaluation stages were not conducted; therefore, the researcher provides an opportunity for other researchers to explore those stages further. The results from the experts, as validated through media, indicate that the video learning media developed for this instructional design are valid and feasible based on expert testing.

This is supported by theoretical studies on the use of video media in the learning process, as well as previous research findings, which show that video media can help students better understand the material, thereby improving learning outcomes. Thus, video tutorial-based learning media for physical education, utilizing traditional "*Sagi*" boxing, can assist the online learning process, help students grasp the material more easily, and make the learning experience more engaging and interactive. As a result, students' learning outcomes can be enhanced. Learning becomes more interesting due to the development of video-based media, and online learning activities become more interactive.

DISCUSSION

The results of this study confirm that the use of instructional media designed through the ADDIE model significantly enhances the effectiveness of learning in Physical Education, Sports, and Health (PJOK). The improvements achieved in this study are clearly evident in three key areas: students' understanding of concepts, their motor skill development, and their overall engagement during the learning process. These results align

closely with constructivist learning theory, which emphasizes how media can serve as a bridge for learners to build their own knowledge and skills actively. In practice, the use of tutorial videos is highly effective, as they provide a combination of visual and auditory input that not only strengthens students' memory but also facilitates their ability to replicate and practice movements independently. This conclusion is further supported by earlier studies, which emphasize that audiovisual-based learning is compelling in boosting outcomes for subjects that are practical and visually driven, such as physical education.

The main strength of this study lies in the development of video-based learning media that were carefully and systematically designed using the ADDIE model, while being tailored to the context of PJOK learning. What makes this research stand out is the integration of local wisdom—specifically the traditional martial art of *Sagi*—into the media. This integration not only helps students strengthen their fundamental motor skills but also provides a meaningful avenue for character education that is deeply rooted in culture. In this way, the study does more than just focus on improving physical abilities; it also presents a PJOK learning model that nurtures students' values and attitudes through an approach that is both contextual and meaningful. In practical terms, the findings of this study have important implications for PJOK teachers in developing technology-based instructional innovations tailored to the needs of 21st-century learners. The developed media may also serve as a reference for implementing the Merdeka Curriculum, which emphasizes differentiation, project-based learning, and strengthening the Pancasila Student Profile.

Of course, this study is not without its limitations. First, the research was conducted within only one cluster of elementary schools, which limits the generalizability of the findings to a broader context. Second, the relatively short intervention period means that the long-term impact of the media could not be fully explored. Third, the tools used to measure students' basic movement skills were still fairly conventional, so they need to be refined to capture more comprehensive data. Due to these limitations, future research should consider involving larger and more diverse samples, extending the implementation duration, and developing more valid and reliable assessment instruments. It would also be valuable to examine more closely how this media contributes to students' character development, as well as its effectiveness in online or hybrid learning settings. From a theoretical standpoint, this study was initially framed within constructivist theory, as students actively build their knowledge through hands-on experiences. However, the findings can also be better understood through the lens of multimodal learning (Mayer, 2014), which highlights the importance of combining visual, auditory, and kinesthetic inputs to deepen understanding. Moreover, the perspective of culturally relevant pedagogy (Ladson-Billings, 2014) reinforces the view that *Sagi* is not just a physical activity but also a meaningful way to internalize character values through cultural practice. Taken together, these perspectives demonstrate that the study encompasses the cognitive, psychomotor, and affective domains, aligning completely with the broader goals of character education.

When compared with earlier studies, this research occupies a distinctive position. For example, Nugroho & Kurniawan (2021) found that video-based learning can enhance students' motor skills, while Casey et al. (2017) pointed out that digital media is not always effective unless the right pedagogical strategies support it. This study goes a step further by not only utilizing digital media but also integrating it with a local wisdom-based approach. Another novelty is the combination of three main dimensions: (1) strengthening physical skills, (2) promoting culture-based character education, and (3) applying the ADDIE instructional design model. This study strengthens its position in the broader educational conversation. More than just a teaching approach, this integration highlights the importance of preserving culture through innovative learning, making the research relevant not only locally but also in the global educational context.

In this regard, the study brings valuable contributions both in theory and in practice. From a theoretical perspective, it enriches the discussion on how technology and culture can be meaningfully integrated into physical education. On a practical level, it provides teachers with a concrete example of how video media can serve as a culture-based learning tool that boosts student engagement. This shows that the research is not simply repeating what has been done before, but rather offering an innovative approach that bridges local wisdom with global perspectives. In conclusion, the design of PJOK learning, achieved through the integration of *Sagi* with video tutorials, enriches the literature on physical education. Its main contribution lies in the synergy between modern instructional technology and the preservation of local cultural values, with a focus on character building

in students. This research addresses the global educational challenge of preparing learners who are not only physically skilled but also socially, emotionally, and culturally competent.

CONCLUSION

This study aims to develop an innovative Physical Education (PJOK) instructional design by integrating the traditional boxing art of "*Sagi*" into the learning process through video tutorial media. The results indicate that the ADDIE model (Analysis, Design, Development, Implementation, Evaluation) is effectively used to design systematic and contextual instructional media. During the analysis phase, it was found that PJOK learning in schools still lacks emphasis on character education and has not fully utilized local cultural values. During the design and development phases, the video tutorials were structured in a modular format, featuring *Sagi* movement techniques, along with messages promoting character values such as discipline, responsibility, and courage.

Validation results from content experts, media experts, and instructional design experts showed that the developed media had an excellent level of feasibility, with validation scores above 90%. Although this study only reached the development and expert validation stages, the produced video media was declared valid and suitable for use in learning. With this approach, the PJOK instructional design, which incorporates traditional *Sagi* boxing, proves to be effective not only in enhancing students' physical skills but also in reinforcing character education rooted in local culture. The study suggests that future trials be conducted in real classroom settings, allowing for a more direct observation of its impact on both learning outcomes and character development.

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