

Developing Board Game Media Based on Egrang Batok to Support Aksara Sunda Learning in PGSD

Hesti Widiastuti^{1*}, Cep Ubad Abdullah², Sinta Maria Dewi³, Anggy Giri Prawiyogi⁴,
Yulistina Nur DS⁵

^{1,3,4,5}Universitas Buana Perjuangan, Karawang, Indonesia

²The University of Sydney, Sydney, Australia



DOI : <https://doi.org/10.46245/ijorer.v6i3.865>

Sections Info

Article history:

Submitted: April 24, 2025

Final Revised: May 29, 2025

Accepted: May 30, 2025

Published: May 31, 2025

Keywords:

Development; Board Games;

Traditional Games; Egrang,;

Aksara Sunda



ABSTRACT

The objective of this study is to design and develop learning media in the form of a game board inspired by the traditional egrang batok game. The utilization of Egrang Batok media has been the subject of prior research; however, no studies have been conducted on Sundanese language content. The objective of this media is to facilitate the acquisition of Sundanese script by PGSD students. Following the observation that students encountered difficulties in comprehending and acquiring proficiency in Sundanese script through the utilization of visual media exclusively, the author endeavored to conceptualize a board game employing the principles of batok egrang as a medium for Sundanese script instruction. The present study employed the ADDIE development model, which comprises five stages: The following sequence of steps is imperative: analysis, design, development, implementation, and evaluation. The findings of the research suggest that: The batok engrang board game medium has been determined to have a high level of validity, with an average score of 0.90 for content, 0.80 for media, and 0.8 for language, classified as sufficiently high. In terms of practicality, questionnaire results from teachers and students indicate that this medium is highly practical to use, with an average score of 95%. On the whole, the Egrang Batok-based board game is regarded as suitable and effective for use in learning activities at PGSD.

INTRODUCTION

Education in Indonesia has a system that implements innovative learning designs. In this increasingly advanced era, the use of learning media must evolve in line with the needs of the times. If it does not keep up with developments, the learning process will become boring. Looking at the current state of learning, there are still many educational institutions that apply conventional methods and have not tried to create innovative teaching materials (Febriandi, 2019). Students' ability to learn is greatly influenced by the teacher's accuracy in selecting appropriate learning media. If the media used is engaging and suitable, students' absorption of the material will be optimal. Technological advancements and the demand for innovation in education drive the need for the development of engaging and relevant educational media that align with contemporary needs, without neglecting local wisdom values. One crucial aspect of local language education, particularly the Sundanese language, is mastering the Sundanese script as part of the cultural heritage that needs to be preserved.

However, in reality, learning the Sundanese script is often perceived as difficult and uninteresting, both among elementary school students and prospective teachers. Students in the Elementary School Teacher Education Program (PGSD) at Buana Perjuangan University (UBP) Karawang, as future educators, need to be equipped with pedagogical skills and creativity in delivering material, including teaching the

Sundanese script to elementary school students. Therefore, educational media is needed that not only supports material comprehension but also encourages students to be active, collaborative, and have a sense of ownership in the learning process. Sundanese script material, as one of the important contents in the curriculum, is often considered difficult and irrelevant by some students. This results in low interest and motivation among students in learning Sundanese script.

However, understanding the Sundanese alphabet is crucial for prospective elementary school teachers, especially those who will teach in areas that implement local language content. Learning is considered successful if students' learning outcomes exceed the Minimum Graduation Criteria (KKM) set by the lecturer. In this case, the KKM for the Sundanese language course at the elementary school level in the PGSD program at Buana Perjuangan University (UBP) Karawang is 76, but the evaluation results for the Sundanese language course at the elementary school level remain relatively low with an average score of 70.6. This was obtained from the Final Exam (UAS) scores for the second semester of PGSD UBP Karawang students in the even semester of 2023, where 68% of the total 120 students scored below the KKM.

The results of the observation indicate that Sundanese language learning at PGSD UBP Karawang is still inadequate. Based on interviews with 30 students, it was revealed that 50% of them cannot speak Sundanese and have never learned Sundanese through a play-based approach. As a result, students often feel bored and lose motivation during the learning process. Therefore, the author needs to develop effective, efficient, enjoyable, and student-engaging learning media, such as integrating game elements into Sundanese language learning at PGSD. The presence of game elements in learning media will increase students' motivation to actively participate, make them feel happy, and reduce boredom. This aligns with Ningrum's (2016) statement that challenging game-based media will make students addicted and want to keep playing them, and have a positive impact if the games are educational. One type of game-based media that is easy to integrate with learning materials is board games. Board games are played on a flat surface that serves as the "board" for the game.

According to Putri (2018), board games are an innovative learning medium that incorporates elements of play and is played in groups. Mike Scorsian, in his discussion of the history of board games and game psychology (Erlitasari, Nova Dwi, & Dewi, 2016), states that board games are a set of tools and components that are moved or manipulated on a board divided according to specific rules. Learning designed with board games provides various benefits for student development. Cindra (in Putri, 2018) states that the use of board games creates an effective learning atmosphere because participants can learn while playing, communicating, and arguing simultaneously. Triastuti, Akbar, and Irawan (2017) add that board games help students understand and remember material better through a comfortable learning experience.

However, if we rely solely on board games, the focus of learning tends to be limited to the cognitive and affective domains. In fact, ideal learning should also develop students' psychomotor skills and affective aspects as a whole, while reducing their tendency to play online games on gadgets. The existence of traditional games is increasingly marginalized with the rapid development of technology. In the learning process, teachers rarely utilize traditional games anymore, even though, according to Kurniati (2016), the use of games in learning creates stronger memories in children than simply naming or touching objects. When children place objects in a representational and meaningful context, they build an important foundation for long-term memory.

Therefore, the integration of elements from movement games can be a viable strategy for achieving learning optimization. One notable example of this integration is the combination of board games with traditional egrang batok games. Board games have been demonstrated to facilitate enhancement in both cognitive and affective domains. Concurrently, egrang batok has been shown to promote the development of students' psychomotor skills.

RESEARCH METHOD

This study applies a Research and Development (R&D) approach. According to Putra (2015), R&D is a deliberate and systematic method for discovering, formulating, improving, developing, and testing the effectiveness of new products, models, methods, strategies, or procedures that are superior, i.e., effective, efficient, productive, and meaningful. The objective of this research is to identify uniqueness and advantages to enhance effectiveness, efficiency, and productivity. The R&D process follows the ADDIE model, which includes five stages: Analysis, Design, Development, Implementation, and Evaluation. Using play-based methods, material delivery, and group discussions, the researcher aims to produce valid and practical products.

Sample

The research sample consisted of 30 PGSD UBP Karawang students from the 2023 cohort, comprising 10 students from each class. The sample was selected using purposive sampling, a non-probability sampling technique in which the researcher selects subjects based on specific considerations deemed relevant and representative of the research objectives.

Validation Tool

In this study, the validation tool used was the V Aiken assessment. The V Aiken value is the content validity coefficient developed by Louis R. Aiken (1980). This value is used to measure the validity of an instrument item (such as a question or questionnaire) based on expert judgment.

$$V = \frac{\sum s}{n(c-1)}$$

Data analysis

The data analysis process uses the 5 stages of the ADIIE model outlined in the following table:

Table 1. Data Analysis

ADDIE Stage	Purpose	Data Analyzed	Analysis Result
A - Analysis of Needs	To identify the learning needs in Aksara Sunda for PGSD students	<ul style="list-style-type: none"> Classroom observation Lecturer interviews Student questionnaires Curriculum analysis 	Students struggle and feel bored learning Aksara Sunda. There is a need for interactive and culturally-based learning media.
D - Design	To design a board game based on egrang batok	<ul style="list-style-type: none"> Learning objectives Game structure Design of cards and board Learning strategies 	A board game was designed incorporating Aksara Sunda tasks, with a collaborative and culturally contextual approach.

ADDIE Stage	Purpose	Data Analyzed	Analysis Result
I - Development	To develop and validate the media	<ul style="list-style-type: none"> Assessment blueprint Validation results from content and media experts Revision based on expert suggestions 	Validation results show the media is highly valid (content: 91%, media: 87%). Visuals and game instructions were improved based on feedback.
I - Implementation	To implement the media in actual learning	<ul style="list-style-type: none"> Pretest and posttest scores Student response questionnaires Observation of learning activities 	Posttest scores increased (N-Gain: 0.60). Students were active and enthusiastic. Most found the media enjoyable and helpful for learning Aksara.

RESULTS AND DISCUSSION

Results

In accordance with the ADDIE model procedure, the process of making board game media based on the traditional egrang batok game is as follows.

Analysis

The first stage in developing this media is analysis, which includes identifying the needs and characteristics of students. The results of the analysis show that PGSD UBP Karawang students class of 2023 have diverse abilities, namely high, medium, and low. With the low ability of students' Sundanese language, the results of the analysis show that students' ability to master Sundanese is classified as diverse, this is because in Karawang Regency which is located in the border area of West Java has a heterogeneous cultural tendency so that many languages and cultures such as Javanese and Betawi (Indonesian) live. Using this game-based media shows a different spirit and a more enthusiastic learning atmosphere. This fact requires lecturers to design media that can channel the spirit of playing children productively. Through group play activities, students are expected to be actively involved and interact optimally with the surrounding environment.

From the needs analysis, it was revealed that the use of question sheets in the UBP Karawang Teaching Module and E-learning was bored and sleepy, so the class atmosphere was not conducive. As an alternative, questions can be packaged into question cards and challenge cards that are played with certain rules. Modification of the board game with elements of challenges and consequences will trigger student enthusiasm during learning.

Design

The design stage aims to create a draft of learning media in the form of board games that raise the traditional game of egrang batok. The first step is to develop the format and benchmark reference test, which is to make story questions that are relevant to students' daily experiences after formulating learning objectives.

The second step was to choose the game method. This board game was developed by combining the concepts of roll and move and trivia games. In the roll and move concept, players use dice to determine the steps to move from one place to

another. Then, the concept of trivia games is applied through questions and knowledge cards that players must answer. The winner is determined by the player who gets the highest score by answering questions and the fastest to reach the finish line using egrang batok.

The third step was to select the media and design materials. Media board games, challenge cards, and question cards are designed using programs such as Photoshop or Canva. The design of the egrang batok game is adjusted to the level of safety based on the user according to the needs of learning Sundanese characters. In addition, adjustments are also made between student learning characteristics and learning objectives based on materials and media.

Development

This board game learning media is designed based on the traditional game of egrang batok with the concept of a large ludo board. After the board design is complete, the next step is to develop the media, including the preparation of game rules, game instructions, and the creation of supporting components such as question cards, challenge cards, punishment cards, egrang batok pawns, and game tracks. This board game is designed to be played by up to 12 students in one session. The rules and procedures of the game are clearly organized so that each participant can understand them without difficulty. In addition, each player is responsible for his or her own pace during group play. A detailed explanation of the rules and game mechanics is included in the illustrations on the development document.

Once the rules and game procedures were established, the next step was to detail the design of the board game media components, namely the board track, question cards, reward cards, punishment cards, and pawns. The board track follows a modified ludo pattern. To print a large-sized board (3x2 m with a thickness of 3 cm), banner material was used so that it could be played directly by students in the field (see Figure 3 for egrang batok track design).

The pawns used are a pair of egrang with a diameter of about 5 cm, tied with neatly twisted ropes so that they are sturdy when used. The question, reward and punishment cards were printed on 15 × 20 cm buffalo paper. The dice were made from used cardboard with a side of 5 × 5 cm.

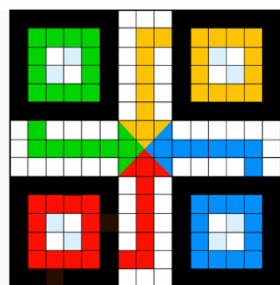


Figure 1. Board Game Route Design

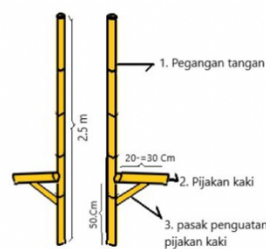


Figure 2. Egrang Sunda



Figure 1. Aksara Sunda Playing Cards

The card contains 20 questions covering the Sundanese script with indicators: (1) mentioning letters in Sundanese script. (2) reading words in Sundanese script, and (3) reading sentences in Sundanese script. The question card section contains two elements: the question at the top and a description of the points (steps) at the bottom that are earned if the answer is correct. The amount of points ranged from 1-3 steps, adjusted to the difficulty level of each question.

The reward cards totaled 15 sheets and were divided into four types, namely:

1. Answer help
2. The right to take additional question cards
3. Get a new question sheet
4. Getting an extra question

Meanwhile, the punishment cards consist of 10 sheets in five effect categories, such as:

- Return to the starting point
- Not allowed to play for one turn
- Move back 1 step
- Step back 2 steps
- Step back 3 steps

The design of all cards is the same, only the text on the face of the card differentiates the function of each card whether it is a question, reward, or punishment card. The packaging of the board game media pays attention to practicality and durability. Question cards, rewards, punishments, and egrang batok pawns are stored in small acrylic boxes. The whole package was then put into a thick cardboard box covered with vinyl stickers to make it durable and not easily damaged during storage. The size of the cardboard is adjusted to a minimum with the components inside, so that it is easy to carry and organize.

Before being tested on the research subjects, this media was validated by experts-lecturers and teachers - to ensure its feasibility in learning. The validators filled in the assessment instruments that had been prepared at the design stage, so that the level of suitability and quality of the media could be measured accurately.

Material validation

According to Sugiyono (2015), validity shows how accurate the data obtained from the object of research is in accordance with the data reported by researchers. Meanwhile, Febriandi et al. (2019) emphasized that the content validity of the instrument is related to the accuracy of the material coverage measured by the instrument. In other words, the content validity of the test instrument ensures that each item is aligned with the ability indicators to be measured, in accordance with the basic competencies, and represents the overall material being studied. The material validator regarding Sundanese script is a Sundanese language lecturer at Muhamdyah Kuningan University, namely Mrs. Opah Ropiah, M.Pd. the results of the validation assessment by the material expert are as follows:

Table 2. Material Validation Results

Aspects assessed	Number of	Aiken's V number	Criteria
Material coverage	15	0.80	High
Material accuracy	15	0.90	High
Average		0.89	High

Based on this table, the average V is $0.88 > 0.80$. The score is included in the High criteria. So that the board games media based on traditional egrang batok games are suitable for use in the learning process in terms of media.

Language Validation

Language validation was carried out by Sri Wulan, M.Pd., PGSD UBP Karawang lecturer, using a material expert assessment sheet. The results of the assessment were then analyzed using the Aiken's V formula to measure the feasibility of grammar in traditional egrang batok-based board game media.

Table 3. Language Validation Results

Aspects assessed	Number of	Aiken's V number	Criteria
Languages	10	0.8	High
Average		0.8	High

Based on this table, the average V is 0.8 which is in the category $0.60 \leq 0.7 < 0.80$. The score obtained is in the high criteria. So that the board games media based on the traditional egrang game developed in learning Sundanese script at PGSD is valid and feasible to use in the learning process in terms of language. The following are the results of the recapitulation of the assessment by the validators.

Implementation

The egrang-based board game media that has been declared valid is then tested on a sample of 2023 PGSD UBP Karawang students.

Small group test

On Thursday, November 15, 2024, a small group test was conducted on 2 classes which were then sampled by 12 students from the two classes. Student responses to the media at this small group test stage are summarized in the following table:

Table 4. Recapitulation of Student Response

No.	Aspects assessed	Responden	Persentase	Criteria
1	Attention	12 people	94%	very practical
2	Relevance	12 people	98%	very practical
3	Confidence	12 people	84%	very practical
4	Satisfaction	12 people	90%	very practical
	Average		96%	very practical

Based on the results of the small group trial, the egrang batok-based board game media showed a category of "very practical." During the trial session, the students' level of interest and enthusiasm was very high, and they did not submit any feedback or improvements to the media. In addition, quantitative calculations for the four aspects of the practicality assessment also placed all aspects in the "very practical" category, with the average student response score reaching 96%.

Evaluation

After being tested on students who have studied approximation material, the board game media based on the traditional game egrang batok showed very positive results. The trial showed that students were actively involved in learning, both by asking questions and trying to solve problems independently or with friends and teachers. Most of the questions were answered correctly by students, and there was an increase in confidence in expressing opinions in front of classmates.

The diversity of ability levels in the group actually triggers solidarity and cooperation between students who are more capable tend to help their friends so that

their group does not lose the game. The scores achieved in answering questions from the question and challenge cards were also satisfactory. there was a small group trial stage the level of interest and enthusiasm of students was very high during the trial. Students also did not provide suggestions or improvements from the media that had been tested.

Likewise, based on the results of these calculations, it is known that all aspects obtained a very practical category. The four aspects of the student response statement show a high average value of 95% with a Very Practical category. So that the board games media based on the traditional game egrang batok is categorized as very practical and can be used in learning.

Discussion

The development of learning media in the form of board games based on the traditional game of egrang batok is an innovation born from the need to increase the effectiveness of learning Sundanese script in PGSD students. Based on the results of the initial analysis, it was found that students have varying levels of Sundanese language mastery, even most of them are not used to learning using a fun or game-based approach. This has an impact on the low interest, motivation, and learning outcomes of students in Sundanese language courses, especially in the mastery of scripts. Therefore, a learning media is needed that not only supports the understanding of the material, but is also able to increase the active involvement of students in the learning process.

The learning media developed in this study uses a constructivist learning approach, where students actively build their knowledge through social interaction and direct experience (Salsabila & Muqowim, 2024). In accordance with (Irshad et al., 2021), learning will be more effective if students are given the opportunity to interact socially in a learning environment that supports the zone of proximal development (ZPD). In this context, the board game of stilt batok allows students to work collaboratively, help each other, and learn from their peers in answering questions and solving challenges during the game. Meanwhile, from (Santos, 2023) point of view, this media is also relevant to the concept of learning by doing, where learning involving physical activity and play is able to develop cognitive, affective, and psychomotor abilities in an integrated manner.

The validation results showed that this medium had a high level of validity in terms of content (Aiken's $V = 0.89$), language ($V = 0.80$), and media design. This shows that the content of the media is in accordance with the basic competencies and intended learning indicators. In addition, the results of the practicality test conducted on students showed an average positive response of 96%, which is included in the category of "very practical." Students show high enthusiasm, feel challenged, and are active in the learning process. No negative feedback or revision requests were found from the trial participants, indicating that this media can be directly implemented in learning. The activeness of students in games shows that a game-based approach can stimulate interest and increase understanding, especially in materials that are considered difficult such as Sundanese script.

Overall, the success of this media development confirms that an approach that combines elements of local culture with modern game methods can be a solution to learning that tends to be monotonous and conventional. Furthermore, the integration of traditional games such as *batok stilts* in learning media not only increases learning effectiveness, but also contributes to the preservation of local culture in the midst of the rapid flow of digitalization. This is relevant in the context of Indonesian education

which is rich in cultural values, but is often underrepresented in classroom learning practices.

Based on the findings and success of the implementation of this media, some suggestions and implications can be provided for further development. For PGSD educators and lecturers, it is recommended to be more proactive in integrating game-based learning media, especially those rooted in local culture, in order to create a more contextual and enjoyable learning process. For learning media developers, further development can be carried out for other teaching materials, so that this model can be applied more widely, both in PGSD and in elementary schools. Meanwhile, for future researchers, it is recommended to test this media on a larger scale and at the basic education level, in order to obtain broader empirical data related to the effectiveness and efficiency of the media.

The implications of this research can be seen in three main aspects. First, in learning practice, this media creates a more active, communicative, and collaborative learning atmosphere, supporting the development of 21st-century competencies such as critical thinking and cooperation. Second, in the preservation of local culture, the use of traditional games in educational media can be an effective cultural preservation strategy through formal education. Third, in curriculum development and teacher training, this media reinforces the urgency of curriculum development based on local wisdom and the need for teacher training to develop innovative learning media that is contextual and relevant to the characteristics of today's students.

CONCLUSION

In conclusion, the development of board game media integrated with the traditional game of egrang batok for approximation learning in class IV elementary school showed encouraging results. The linguistic aspect was rated "Moderately High" with a score of 0.7, while the material feasibility and presentation aspects scored "High" at 0.90 and 0.89, respectively.

Overall, the average validity score reached 0.83, which indicates that this media is valid and feasible to use in learning. In terms of practicality, this media also showed excellent results, with a practicality level of 97% in the individual trial, 95% in the small group test, and 100% from the teacher's response. The average of all practicality test results reached 96%, which is classified as "Very Practical". Thus, this board game media meets the valid and practical criteria, so it is highly recommended to be applied in learning activities in elementary schools.

REFERENCES

- Booth, P. (2016). *Board, game, and media: Interactive board games as multimedia convergence*. *Convergence*, 22(6), 647-660.
- Fatah, H. (2020). *Analisis pengaruh aplikasi pembelajaran aksara Sunda terhadap pemahaman siswa dengan metode Tam*. *Sistemasi: Jurnal Sistem Informasi*, 9(1), 82-91.
- Hs, A. I., & Suriningsih, W. M. (2021). *Pengembangan media pembelajaran berbasis permainan roda putar pada pembelajaran kosakata bahasa arab di Taman Kanak-Kanak*. *Al-Athfaal: Jurnal Ilmiah Pendidikan Anak Usia Dini*, 4(2), 291-303.
- Irshad, S., Maan, M. F., Batool, H., & Hanif, A. (2021). *Vygotsky's Zone of Proximal Development (ZPD): An evaluative tool for language learning and social development in early childhood education*. *Multicultural Education*, 7(6), 234-242.

- Kirana, A., Hikmayanti, H., & Indra, J. (2020). *Pengenalan Pola Aksara Sunda dengan Metode Convolutional Neural Network*. Scientific Student Journal for Information, Technology and Science, 1(2), 95-100.
- Nashier, L. A., Sutedi, A., & Heryanto, D. (2024). *Implementasi Puzzle Game pada Media Pembelajaran Aksara Sunda*. Jurnal Algoritma, 21(1), 259-268.
- Prihandoko, G. K., & Yuniarta, T. N. H. (2021). *Pengembangan Board Game "Labyrinth in the Forest" Untuk Siswa Sekolah Menengah Pertama Materi Bilangan*. Jurnal Cendekia, 5(1), 578-590.
- Rajkovic, A. I., Ruzic, M. S., & Ljubic, B. (2019). *Board games as educational media: Creating and playing board games for acquiring knowledge of history*. IARTEM e-journal, 11(2).
- Ramadhan, W. S., Rubiati, D., Abi Fawwaz, B., Adiluhur, T. T., Syahron, M. A., Megawanti, P., & Suhendri, H. (2023). *Pengembangan Media Pembelajaran Berbasis Permainan terhadap Kemampuan Numerasi di SDS Dharma Bhakti*. Diskusi Panel Nasional Pendidikan Matematika, 9.
- Salsabila, Y. R., & Muqowim, M. (2024). *Korelasi antara teori belajar konstruktivisme lev vygotsky dengan model pembelajaran problem based learning (pbl)*. LEARNING: Jurnal Inovasi Penelitian Pendidikan Dan Pembelajaran, 4(3), 813-827.
- Santos, O. C. (2023). *Beyond cognitive and affective issues: Designing smart learning environments for psychomotor personalized learning*. In *Learning, Design, and Technology: An International Compendium of Theory, Research, Practice, and Policy* (pp. 3309-3332). Cham: Springer International Publishing.
- Sari, H. M. (2023). *Pengembangan Media Board Game Cinta Nusantara untuk Meningkatkan Minat Belajar terhadap Mata Pelajaran PPKN Kelas X SMA Negeri 1 Cerme Gresik*. Attractive: Innovative Education Journal, 5(2), 264-275.
- Tasiah, N., & Nurdjan, S. (2023). *Media pembelajaran berbasis permainan tradisional engklek untuk mengembangkan pemahaman literasi membaca peserta didik*. Jurnal Ilmu Pendidikan Dasar Indonesia, 3(1), 38-49.
- Usamah, A., Yulianengsih, N. L., Fitriyani, Y., & Fauziyah, A. (2024). *Implementasi Media Board game edukasi Pada Pembelajaran Pendidikan Agama Islam di Sekolah Dasar*. Attadib: Journal of Elementary Education, 8(1).
- Widiastuti, H., DS, Y. N., Subekti, E., Rohartati, S., & Sadihah, T. L. (2024). *Efforts to Improve Science Learning Outcomes Through Experimental Methods in Grade IV Students*. Jurnal Penelitian Pendidikan IPA, 10(10), 7548-7553.
- Yuniarta, T. N. H. (2018). *Learning Media Development Of Board Game "The Labyrinth Of Trigonometry" In Trigonometry Materials For The 10th Grade Senior High School*. Satya Widya, 34(2), 88-100.

***Hesti Widiastuti (Corresponding Author)**

Universitas Buana Perjuangan, Karawang, Indonesia
Jl. Ronggo Waluyo Teluk Jambe Timur , Karawang, Jawa Barat, Indonesia
Email: hestiwidi2009@gmail.com

Cep Ubad Abdullah

School of Education & Social Work, The University of Sydney
Country : Australia
Camperdown NSW 2050, Australia
Email: cabd0687@uni.sydney.edu.au

Sinta Maria Dewi

Universitas Buana Perjuangan, Karawang, Indonesia
Jl. Ronggo Waluyo Teluk Jambe Timur , Karawang, Jawa Barat, Indonesia
Email: sintamaria@ubpkarawang.ac.id

Anggy Giri Prawiyogi

Universitas Buana Perjuangan, Karawang, Indonesia

Jl. Ronggo Waluyo Teluk Jambe Timur , Karawang, Jawa Barat, Indonesia

Email: anggy.prawiyogi@ubpkarawang.ac.id

Yulistina Nur DS

Universitas Buana Perjuangan, Karawang, Indonesia

Jl. Ronggo Waluyo Teluk Jambe Timur , Karawang, Jawa Barat, Indonesia

Email: yulistina.nur@ubpkarawang.ac.id
