



## Development of a Book on Home Civilization Based on Project Based Learning (PjBL) to Foster Broadminded Character

Brigita Sherlyta Erlansa Putri<sup>1\*</sup>; Gregorius Ari Nugrahanta<sup>2</sup>

<sup>1,2</sup>Faculty of Teacher Training and Education, Universitas Sanata Dharma, Indonesia

<sup>1\*</sup>Corresponding Email: [putrisherlyta22@gmail.com](mailto:putrisherlyta22@gmail.com), Phone Number: 0856 xxxx xxxx

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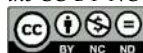
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**Abstract:** Broadminded character is understood by one's ability to know oneself, make decisions, analyze patterns, be broadminded, contribute positively, empathize, know one's limits, capture the essence of the problem, have self-awareness, become a reference for opinions, and have integrity. Bullying often occurs in the world of education, which reflects a lack of wisdom in behaviour. The rise of bullying cases requires in-depth education to form a broadminded character. This study aims to develop a textbook on home civilization based on PjBL to foster broadminded character. This study used the ADDIE-type Research & Development (R&D) method. Ten certified elementary school teachers were involved in conducting a needs analysis, five teachers and five experts as expert judgment validators and eight children aged 10-12 years were involved in a limited trial of the book. The results showed that 1) the book on PjBL-based home civilization to foster broadminded character was developed with ADDIE stages; 2) the quality of the textbook was classified as "very good" so that it did not require revision (3.89 on a scale of 1-4); 3) the application of this textbook had a significant effect on broadminded character ( $p < 0.05$ ) with a category effect ( $r = 0.992$ ) or equivalent to 98% which was classified as a "large" effect category. The level of effectiveness is high (89.61%).

**Abstrak:** Karakter berwawasan luas dipahami dengan kemampuan seseorang dalam mengetahui diri, mengambil keputusan, menganalisis pola, berpandangan luas, berkontribusi positif, berempati, mengetahui batasan diri, menangkap inti permasalahan, memiliki kesadaran diri, menjadi rujukan opini, dan berintegritas. Tindak *bullying* kerap terjadi di dunia pendidikan, yang mencerminkan kurangnya kebijaksanaan dalam bersikap. Maraknya kasus *bullying* menuntut adanya pendidikan yang mendalam untuk membentuk karakter berwawasan luas. Penelitian ini bertujuan untuk mengembangkan buku teks tentang peradaban rumah berbasis PjBL untuk menumbuhkan karakter berwawasan luas. Penelitian ini menggunakan metode *Research & Development* (R&D) tipe ADDIE. Sepuluh guru SD bersertifikasi terlibat untuk melakukan analisis kebutuhan, lima guru dan lima ahli sebagai validator *expert judgement*, serta delapan anak berusia 10 - 12 tahun yang dilibatkan dalam uji coba buku secara terbatas. Hasil penelitian menunjukkan bahwa 1) buku tentang peradaban rumah berbasis PjBL untuk menumbuhkan karakter berwawasan luas dikembangkan dengan tahapan ADDIE; 2) kualitas buku teks tergolong dalam kriteria "sangat baik" sehingga tidak memerlukan revisi (3,89 pada skala 1-4); 3) penerapan buku teks ini berpengaruh secara signifikan terhadap karakter berwawasan luas ( $p < 0,05$ ) dengan pengaruh kategori ( $r = 0,992$ ) atau setara dengan 98% yang tergolong dalam kategori efek "besar". Tingkat efektivitas tergolong tinggi (89,61%).

## A. Introduction

Character education is understood as an effort within the scope of education that aims to shape or train personal abilities to be better (Annur et al., 2021). Character education aims to make the nation's successors have good morals and morals so that a prosperous life can be created (Putri, 2018). Character education includes solving problems, communicating effectively, cooperating with other individuals, and making wise decisions (Nugrahanta et al., 2024). Character education not only focuses on right and wrong aspects but also aims to familiarize good behaviour so that individuals have awareness, knowledge, care, and virtue in everyday life (Ramdhani, 2017). Lickona believes that character education consists of three elements: moral knowing, feeling, and moral action (Setiawan et al., 2022).

Broadminded character is seen with the term perspective or wisdom (Sari & Nugrahanta, 2023). His knowledge and experience influence a person's perspective or view of something. Wisdom is seen as the result of reason and wisdom in the form of actions obtained through deeper considerations and is closely related to things considered good and right. Insightful refers to one's ability to see the world with a broad and wise perspective gained from knowledge and experience (Siregar & Nugrahanta, 2022). Individuals with a broad outlook usually own this character, so it can be understood that someone with a broadminded character is wise and can give meaning to life (Siregar & Nugrahanta, 2022). Children who have insightful characters have 11 indicators, according to Peterson & Selugman, namely self-knowledge, balanced decisions, pattern analysis, broad perspective, positive contribution, high empathy, self-limitation, core analysis, self-awareness, opinion reference, and integrity (Siregar & Nugrahanta, 2022).

Recently, some cases have shown concern about the lack of broadminded character. One of the cases of concern is bullying committed by students. Bullying has an impact on mental health, which will affect the desire for self-harm and suicide (Karisma et al., 2024). In line with this opinion, Rigny (Patras & Sidiq, 2020) states that bullying can affect physical and psychological health, loss of self-confidence, excessive fear, isolation, and increased suicidal ideation. Research by the Komisi Perlindungan Anak Indonesia (KPAI) in the January - November 2023 period, there were 37 suicides by children (Karisma et al., 2024). The number of suicides has an impact on the cultivation of broadminded character in children. Suicide cases in children show that children have not been able to become wise people and can interpret life. Therefore, it is essential to foster broadminded character in children from an early age.

The PjBL learning model is one of the learning models that can be applied to overcome the crisis of broadminded character. However, the PjBL model has yet to be widely applied in school. Schools still use conventional learning models (Nurseptiani & Maryani, 2019). Teachers dominate conventional learning models, and children are positioned as listeners, so children do not have a learning experience, and it is not easy to develop children's attitudes (Siahaan et al., 2022). Teacher-centred learning negatively influences children because children will lose the opportunity to develop themselves, logical thinking, creativity, and cooperation skills (Asmedy, 2021). Learning carried out with

conventional models also impacts children's character. Children are formed into individuals who are mentally obedient and easily deceived (Siahaan et al., 2022).

The PjBL model was chosen because it is based on brain-based learning, namely creating a learning environment that challenges children's thinking skills, is fun, and is active and meaningful (Widiana et al., 2017). Brain-based learning is a learning method that aims to train the balance of children's right and left brains through teaching and learning activities (Ariani et al., 2022). Learning concepts children receive through discussion activities and related to real life are assisted through brain-based learning. The PjBL model is relevant to Jean Piaget's theory, which states that elementary school-age children are at the concrete operational stage, where children can think using their logic but still need concrete objects (Juwantara, 2019). Jean Piaget's concrete operational theory can provide an authentic learning context through concrete objects because it involves children actively in the learning process with the ultimate goal of doing specific projects (Mutawally, 2021).

Learning with PjBL can be done through seven steps, namely 1) determining the topic, 2) preparing directive questions, 3) designing project, 4) preparing a project implementation schedule, 5) completing the project, 6) testing and assessing project results, and 7) evaluating project results and learning activities (Shaffer, 2018). In addition, learning with the PjBL model is also associated with Vygotsky's theory of providing temporary assistance from adults (scaffolding) and sociocultural Development (Suardipa, 2020). Scaffolding provides temporary assistance for children based on their cognitive abilities and will be reduced when children can do it themselves (Hariana, 2021). Sociocultural theory, which relates to social and cultural aspects, is applied through the Development of home civilization. The Development of the world is seen from the increasingly advanced technology and globalization, which has an impact on many aspects, one of which is the educational aspect. The learning must contain 21st-century skills: communication, collaboration, critical thinking and problem-solving, creativity and innovation (Septikasari & Frasandy, 2018).

The application of the PjBL model can be shown in the context of home civilization. Civilization is seen as a stage of a specific culture that has advanced and is usually marked by the mastery of science, technology and art. The material about the civilization of the house helps children to see the stage of Development of the Design and characteristics of the house from time to time, as well as continuous innovation to give birth to a new product. Through the material about the civilization of the house, children can also find out the influence of the location of the area or the environment and the changing times on the differences in the shape and Design of the house. The PjBL model and home civilization are integrated into a textbook designed to support the implementation of real learning experiences for children. Textbooks contain certain structured materials to support learning (Rahmawati, 2015). The textbook is organized based on five indicators: concrete operations, problem-solving skills, creativity, communication skills, and collaboration skills. The five indicators in the textbook are presented when implementing a miniature house project.

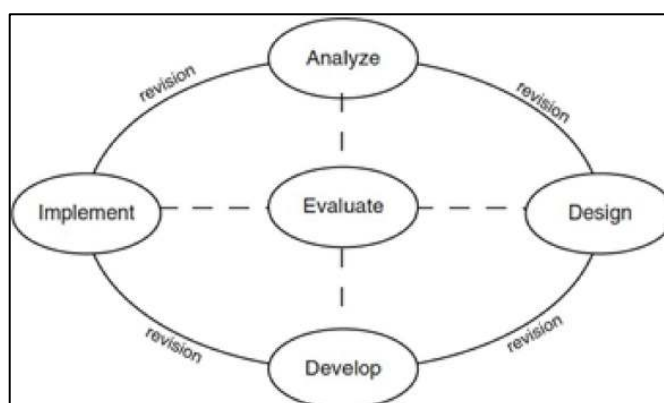
The PjBL model is proven to have a positive influence on several things. The application of the PjBL model affects learning outcomes (Apriany et al., 2020; Erisa et al., 2021; Mayuni et al., 2019; Muzria & Indrawati, 2020; Nurhadiyah et al., 2020; Prabowo et al., 2020; Ramadianti, 2021). Other research shows that the PjBL model can increase the creativity of elementary school children (Aiman et al., 2024; Kusmiati, 2022). In addition to learning outcomes, the PjBL model can improve higher-order and critical thinking skills (Niswara et al., 2019; Saputro & Rayahub, 2020). Meanwhile, researchers also found previous research that examined insightful character. Previous research shows that broadminded character can be grown through traditional games (Sari & Nugrahanta, 2023; Siregar & Nugrahanta, 2022).

However, research focusing on applying the PjBL model to broadminded characters has yet to be found. Based on this, this study focuses on fostering broadminded character through applying textbooks about houses based on PjBL. The novelty of this study is the use of a genetic approach. The principle of this approach is to go back to the early stages of Development. The genetic approach in this study is applied through the Development of home civilizations from prehistoric times to the present.

The projects made by children in this study are 1) a miniature cave, 2) a miniature hut, 3) a miniature wooden house in medieval times, 4) a miniature earthquake-resistant house (dome), and 5) a miniature house with a minimalist Design. The research aims to develop a textbook on PjBL-based home civilization to foster broadminded character. Specifically, the objectives of this study are to 1) develop a reading textbook on PjBL-based houses to foster broadminded character, 2) determine the quality of reading textbooks on PjBL-based houses to foster insightful character, 3) determine the effect on the application of reading textbooks on PjBL based houses on broadminded character.

## B. Method

The type of research used by researchers is Research and Development (R&D) with the ADDIE type (Analyze, Design, Develop, Implement, and Evaluate). Implementation was carried out until the limited trial stage with the pre-experimental one-group pretest-posttest design type method. The subjects in this study involved eight children with an age range of 10-12 years. This research was conducted in one of the hamlets in Kalasan District, Sleman, Yogyakarta. This study used two research objects: textbooks on PjBL-based home civilization as the independent variable and broadminded character as the dependent variable. The data collection techniques used by researchers are test techniques and non-test techniques. The test technique contains questions or exercises in the form of multiple-choice questions given to research subjects at the formative and summative evaluation stages. Non-test techniques in the form of open and closed questionnaires change child behaviour. The number of respondents in the analysis and the number of respondents to the open-ended questionnaire at the evaluation stage were two parents of the research subjects and two children involved as research subjects.



**Figure 1.** Research Flow

The analysis stage was conducted through closed and open questionnaires given to ten certified teachers in various regions in Indonesia. The design stage uses a PjBL-based home civilization textbook to foster broadminded character. The development stage is carried out by developing product prototypes as a way out of the problem by developing textbooks on home civilization as a solution to the problems analyzed at the Analyze stage by developing various learning resources, validating and improving the draft book design. The validation stage was carried out by expert judgement through a closed questionnaire.

The Impelement stage was carried out by testing the product by making projects in miniature houses from time to time for seven days. The projects made by children in this study are 1) miniature caves, 2) miniature huts, and 3) miniature wooden houses in medieval times. 4) miniature earthquake-resistant houses (dome), and 5) miniature houses with minimalist designs. The last stage is the evaluation stage, which measures the effect of the textbook. The Evaluate stage uses test techniques during the pretest and post-test through 11 questions based on broadminded character indicators. The formative questions consisted of 55 multiple-choice questions given at the end of each project. The answer choices on the formative and summative multiple-choice questions were arranged using Lickona's components with a scale of 1-4. The broadminded character questions were used as evaluations and tested on 41 children. The test results showed that the questions were valid ( $p < 0,05$ ), reliable ( $Alpha\ Cronbach > 0,60$ ), and with a moderate level of difficulty (score range 0,31 – 0,70). Data analysis in this study used the *IBM Statistics version 26 for Windows* program with a confidence level of 95%.

## C. Result and Discussion

### Result

The developed product is a textbook about home based on PjBl to foster broadminded character. The book was developed during the ADDIE stages. The first stage is a needs analysis using closed and open questionnaires to ten certified teachers in Yogyakarta, Kulon Progo, Temanggung, Wonosobo, Kalimantan, Lampung, Nias, and Rembang.



**Table 1.** Needs Analysis Result Table

No	Indicators	Average
1	Project Based Learning	2,06
2	Concrete operations	1,90
3	Creativity	1,50
4	Problem-solving ability	1,70
5	Collaborative	1,80
6	Communicative	1,60
7	Civilization	1,60
8	Broadminded character	1,66
	Average	1,72

Table 1 shows that the results of the needs analysis on PjBL indicators obtained a mean score of 2,06, concrete operational indicators obtained a mean score of 1,90, collaborative indicators obtained a mean score of 1,80, communicative indicators obtained a mean score of 1,60, civilization indicators obtained a mean score of 1,60, and broadminded character indicators obtained a mean score of 1,66/ The overall mean score of the need analyze through the closed questionnaire is 1,72.

The scores obtained in Table 1 are quantitative data. The following is a quantitative-qualitative data conversion table based on Widoyoko's theory (Damayanti & Nugrahanta, 2023).

**Table 2.** Data Conversion Table to Qualitative

No	Score Range	Category
1	3,26 - 4,00	Very good
2	2,51 - 3,25	Good
3	1,76 - 2,50	Not good
4	1,00 - 1,75	Not very good

The average score obtained in Table 1 still needs to be 2,51. Therefore, it is classified in the "not good" category based on the quantitative-qualitative transformation guide. This value indicated that the maximum effort had yet to be made to foster children's broadminded character. The data is relevant to the open questionnaire analysis results, which show that learning is still done with teacher-centred learning methods. This is influenced by several factors, such as teachers not needing help understanding the steps of PjBL, constraints on facilities and infrastructure, and limited time in preparing PjBL.

The next stage is Design, which involves making a draft book. This textbook is designed in three parts: the initial part, which includes the book cover, preface, and table of contents. The middle part contains relevant theories such as character education, PjBL, culture and civilization, the history of home civilization, five projects about the house, project assessment, broadminded character questions and how to assess them, and at the end of the book contains reference sources, glossary, index, attachments, and information

about the author. The back of the book is equipped with a back cover that contains a summary of the book's contents on PjBL-based home civilization.



Figure 2. A Book About Home Civilization

The third stage is Development, which is done by developing the book. Some things that were added to complete the book were an introduction to each project, tools and materials needed for each project, steps for making projects equipped with pictures as instructions, and reflections compiled based on broadminded character indicators. At the development stage, summative and formative questions were also developed. Summative questions amounted to 11 multiple choice items used as pretest and post-test, while formative questions amounted to 55 multiple choice items that children did after the activity was completed. The preparation of summative and formative questions is based on 11 indicators of broadminded character. The answer choices on the formative and summative multiple-choice questions were arranged using Lickona’s components with a scale of 1-4.

After book development, the next stage is validation, carried out through expert judgment. This is done to make the textbook suitable for implementation. This textbook was validated by five experts with backgrounds of media experts, child psychology experts, language experts, history experts, and practitioner experts in architecture. Five certified teachers also validated the book. The validation test consisted of surface validity and content validity. The surface validity test includes the book's readability and completeness test and the textbook's characteristics.

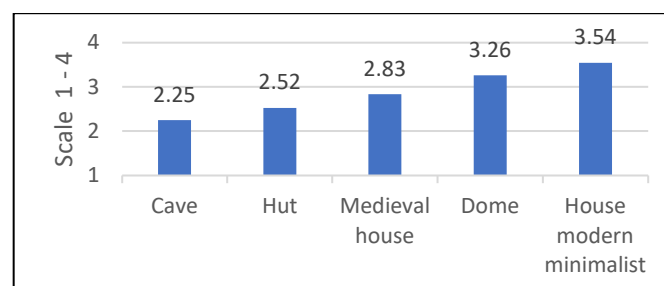
Table 3. Data Resume

No	Validation	Score	Qualification	Recommendation
1	Surface validity			
	a. Readability & completeness	3,93	Very good	No revision needed
	b. Characteristics	3,84	Very good	No revision needed
2	Content validity I	3,88	Very good	No revision needed
3	Content validity II for formative Evaluation	3,90	Very good	No revision needed
4	Content validity II for summative Evaluation	3,93	Very good	No revision needed
	Total Average Score	3,89	Very good	No revision needed

Table 3 shows the average results of the readability test and the completeness of the book content of 3,93 with the category "very good" so that it does not require revision. The book characteristics test obtained an average score of 3,84, included in the "very good" category and "no revision needed". The third validity test is the content validity test, which assesses the quality of the book's content. Content validity test I obtained an average score of 3,88, the average score of content validity test II for formative Evaluation was 3,90 and summative Evaluation was 3,93, so it was included in the "very good" category with the recommendation "no revision needed". Based on the data in Table 3, the surface and content validity test results are classified in the "very good" category (3,89) so that they do not require revision.

Eight children aged 10-12 years were involved in the implementation activities. The implementation activities were carried out in stages: preparation, implementation, and Evaluation. The preparation stage involved obtaining permits, coordinating with facilitators, and preparing the necessary materials and components. The first day of implementation was filled with introductory activities, conveying the flow of activities that will be carried out for seven days and working on pretest questions. The second to sixth days were filled with activities carried out systematically, namely literacy, questions and answers about the reading that has been read, project explanation, project creation, reflection, reflection discussion and strengthening of broadminded character, and formative questioning. Evaluation activities are carried out after the implementation is complete, namely on day seven, which aims to see the enthusiasm and feelings of children and the obstacles or difficulties experienced by children. This is done to ensure that the textbook developed is effective for fostering broadminded character and becomes a provision for improving further practical activities.

The last stage is Evaluation through formative and summative evaluation instruments that aim to determine the effectiveness of textbooks on PjBL-based home civilization in fostering broadminded character. Formative and summative evaluation instruments are arranged based on eleven indicators of broadminded character. Formative instruments were distributed to children at the end of each implementation. In contrast, summative instruments were distributed to children before the implementation of the project and after the five projects were completed. The following are the results of the formative Evaluation of each project.

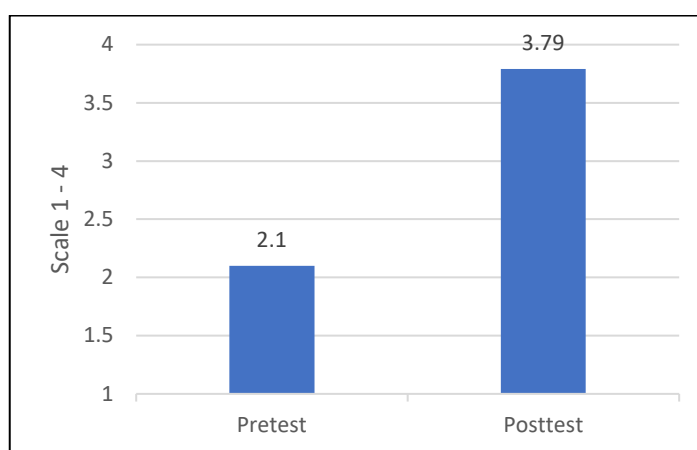


**Figure 3.** Graph of Average Improvement of Each Project



The graph in Figure 2 shows an increase in the average score obtained from each project. The graph shows that the highest average score of 3,54 was obtained by children at the fifth meeting, namely when making a miniature modern minimalist house project. The second highest average was making miniature earthquake-resistant houses (dome) with a score of 3,26. The medieval house miniature recorded an average score of 2,83, and the miniature hut achieved an average score of 2,52. In contrast, the first project's cave miniature obtained an average score of 2,25. The average formative evaluation score for the five miniature projects was 2,88.

The next stage is the analysis of summative evaluation results conducted before and after implementing the miniature house project. Summative evaluation questions amounted to 11 multiple-choice questions, which were based on 11 indicators of broadminded character. The following graph shows the increase in pretest and post-test evaluation results.



**Figure 4.** Graph of the Average Improvement of Pretest and Post-test

The graph in Figure 4 shows an increase in the average pretest and post-test scores, from 2,1 to 3,79. A limited experimental trial was conducted using IBM SPSS to prove that the increase was significant. The pretest and post-test results were then analyzed using the *Shapiro-Wilk test* to test the normality of the data. The result of the *Shapiro-Wilk test* was  $W(8) = 0,920$  with  $p = 0,426$  ( $p > 0,05$ ). The data showed that the pretest and post-test data were normally distributed. The following statistical analysis used *paired samples t-test* to see the impact of a textbook on PjBL-based home civilization on broadminded character.

The parametric statistical analysis of *paired samples t-test* showed that the mean of the post-test ( $M = 3,7975$ ,  $SE = 0,02821$ ) was higher than the pretest ( $M = 2,0113$ ,  $SE = 0,07102$ ) with  $t(7) = 21,031$  and the difference was significant  $p = 0,000$  ( $p < 0,05$ ). Thus, the PjBL-based home civilization textbook significantly impacted broadminded character. The next stage is the effect size test. The size test results show that the correlation coefficient  $r$  in this study is 0,99, which, according to Cohen, is included in the significant effect category (equivalent to 98%) (Amania et al., 2021). Thus, the application of textbooks on PjBL-based home civilization affects broadminded character.

The developed textbook also went through an effectiveness test with the calculation of the *N-Gain score*. The *N-Gain score* calculation reached 89,612%, which is classified as the high category based on Hake's theory (Arifin & Habibulloh, 2019). Thus, applying textbooks on PjBL-based home civilization is highly practical for a broadminded character.

## Discussion

The PjBL-based home civilization textbook was developed based on 11 broadminded character indicators. The keyword interpretation of the eleven indicators is categorized into three variables: self-understanding, being kind, and behaving positively. The three variables are connected to the three components of character according to Lickona's theory, namely moral knowing, moral feeling, and moral action.

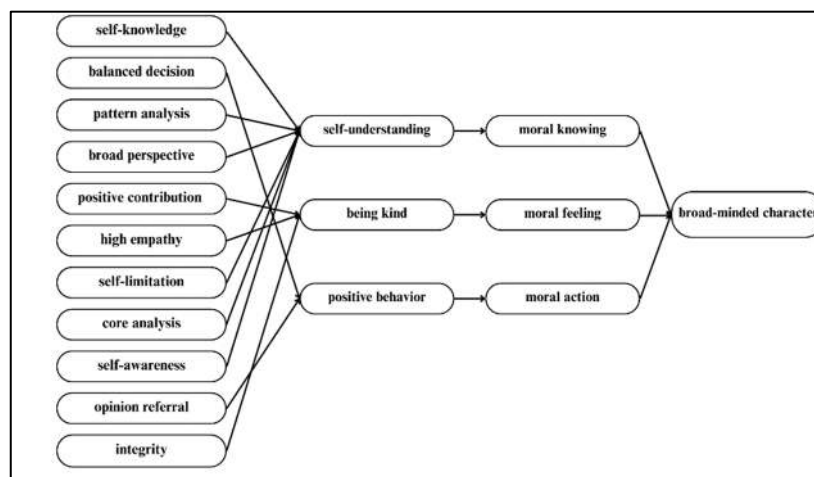


Figure 5. Semantic Analysis Chart

Figure 5 shows that the indicators of self-knowledge, pattern analysis, broad perspective, self-limitation, core analysis, and self-awareness belong to the variable of self-understanding. Indicators of positive contribution, high empathy, and integrity belong to the variable of good attitude. Indicators of making balanced decisions and opinion referrals belong to the positive behaviour variable.

This is based on Brain-Based Learning theory, Vygotsky theory, Jean Piaget's concrete operational theory, 21<sup>st</sup>-century skills, PjBL syntax, and broadminded character indicators. Therefore, effective learning is seen from the indicators of variety, rich stimulation, providing an element of fun, using natural objects, critical thinking, creativity, communication, collaboration, culture, and broadminded character. The ten indicators and theories are contained in the implementation of project development and learning activities.

Indicators of the wide variety in effective learning are contained in five miniature house projects: cave and hut as prehistoric houses, medieval wooden houses, earthquake-resistant houses, and minimalist-style houses. In addition, the utilization of print development techniques is essential. Variations in the delivery of learning materials ensure that children receive diverse stimulation. Variations in the media used affect children's

motivation, providing stimulation for the spirit of learning from the child (Widiasih et al., 2017).

Project development in the context of home civilization is related to the cultural aspects of society. Recognizing the Development of house shapes and designs reflects the identity and social traditions of the community. In this research, making miniature houses with different designs and shapes based on the period and region becomes a medium to introduce and appreciate cultural values. Cultural elements that become the foundation of learning aim to develop the potential in children through internalization and appreciation of values that will shape children's social lives (Widyastuti, 2021).

The PjBL model emphasizes contextualized learning, which is realized through complex activities. The implementation of this textbook facilitates children to learn with real experience through the project of making miniature houses to recognize and learn the shape and characteristics of houses from time to time. PjBL brings children to collaborative activities with friends built to solve problems through the projects created (Mutawally, 2021). The PjBL model allows children to learn by working on projects with the theme of home civilization so that children can see the relevance of learning to everyday life.

The involvement of children aged 10-12 shows that the PjBL model aligns with Piaget's concrete operational theory. Children at this age already use their logic but still need the help of concrete objects (Juwantara, 2019). Direct involvement in learning that involves children provides an accurate and meaningful learning experience. This research is also in line with the theory presented by Vygotsky. The sociocultural theory proposed by Vygotsky emphasized social and cultural interactions that help children's cognitive Development (Wardani et al., 2023). Learning with the PjBl model, carried out in groups, facilitates children's interaction with their peers so that learning is not only focused on the teacher. In addition to sociocultural, the Zone of Proximal Development (ZPD) theory is also aligned with this research. During implementation, the ZPD is visible during project creation, where children will strive to complete their projects independently, but if they find difficulties, they will ask the facilitator for help. The key to ZPD is scaffolding, which is used to help children reach the upper limit of their zone of proximal Development (Wardani et al., 2023). Children are given initial assistance in the form of basic shapes and sizes of miniature designs, which the child will then continue independently.

The implemented PjBL syntax is to determine the topic, prepare guiding questions, design a plan, develop an implementation schedule, complete the project, test and assess project results, and evaluate project results and learning activities (Shaffer, 2018). The steps of PjBL align with the Brain-Based Learning strategy, namely providing learning areas that stimulate children's thinking, providing learning areas that cause fun and building an active and meaningful learning atmosphere (Widiana et al., 2017). This PjBL-based textbook is prepared based on five indicators, namely 1) concrete operations, 2) problem-solving skills, 3) creativity, 4) communication skills, and 5) collaboration skills. The indicators of textbook preparation are contained in five home civilization development projects structured according to the syntax of PjBl. In each meeting, project development activities are carried

out through literacy activities, questions and answers about the reading that has been read, project explanation, project creation, reflection, reflection discussion and strengthening of broadminded character, and formative questioning.

In making a miniature house project, children are involved in group dynamics. The teamwork process becomes a platform to foster broadminded character during the dynamics. Children are involved in teamwork, contributing to each other in completing the project, communicating and exchanging ideas to design and make miniatures, and solving existing problems. While the children were doing the project, the facilitator offered candy, but the children refused and preferred to finish the miniatures they were making. After the project, the children reflected on the activities that had been carried out, which aimed to evaluate group work and their abilities and potential.

In group dynamics during project creation, children will work together to solve problems with their group mates. This aligns with Sunarsih's research (2023), which states that the PjBL model influences problem-solving skills. The solution that children use to solve problems is through deliberation or communication. Another skill is creativity, which is the third indicator. Children's creativity is expressed in projects made by children. However, it can also be seen from the results of children's reflection work that involves depicting children's expressions and feelings, such as drawing an object and plants that describe feelings, making rhymes, and yelling. This research is in line with Erisa (2021) research regarding the influence of the PjBL model on children's creative thinking skills.

In group dynamics, the aspects of communication and collaboration are essential and indispensable. For example, children communicate with each other to determine the Design of miniatures or ornaments that they want to add to the miniatures. When children face time constraints, they will discuss and find ways to utilize the time effectively. The solution chosen is to divide the task. Some are in charge of measuring, cutting, sticking, and painting. This aligns with Khanifah's research (2019) and Pendit (2024), which state that the PjBL model affects collaboration skills. Other research shows that the PjBl model affects student communication skills (Musriyono & Winanto, 2023).

Based on the researcher's research, the results of previous studies are relevant and support this research, such as an increase in learning outcomes through the PjBl model (Apriany et al., 2020; Muzria & Indrawati, 2020; Prabowo et al., 2020). The PjBL model also influences the ability of critical thinking and high-order thinking skills (Niswara et al., 2019; Saputro & Rayahub, 2020). Traditional games can also grow broadminded characters (Sari & Nugrahanta, 2023; Siregar & Nugrahanta, 2022). The character of curiosity can be fostered through the Montessori approach (Nugrahanta et al., 2023). However, only a few studies have been found that discuss the effect of the PjBL model on the character of broadmindedness through home civilization. This research is novel in that it uses a genetic approach. The principle of the genetic approach is to use an effective way to gain a holistic understanding of the achievements of the present that have been so complex by tracing the stages of its Development to its early stages. Understanding the past is a solid starting point

for understanding the present. Tracing back the developmental process to its earliest forms will provide substantial insight into the current situation in its simplest form.

This genetic approach is outlined in the description of the history of house development from ancient times to the present, starting from prehistoric times when humans lived in caves when living nomadically and then began to settle down by living in huts, followed by the next period, namely ancient houses, house forms in classical and medieval times, house in the renaissance era until the 20<sup>th</sup> century and today's house models.

#### **D. Conclusion**

Broadminded character is understood as self-knowledge, balanced decision, pattern analysis, broad perspective, positive contribution, high empathy, self-limitation, core analysis, self-awareness, opinion reference, and integrity. Broadminded characters can be grown with the PjBL model in the context of home civilization. The results of this study are as follows: 1) A textbook on PjBL-based home civilization was developed through the ADDIE stages with "very good" book quality (average score of 3,89, scale 1-4) so that it does not require revision. The application of this textbook has a significant effect on broadminded character ( $p < 0,05$ ) with a category effect ( $r = 0,992$ ) or equivalent to 98% which is classified as a "large" effect category. The level of effectiveness of the textbook of 89,61% is included in the "high" effectiveness.

The results of this study have significant implications in the context of education, especially in fostering broadminded character in children. The assessment of the book, which is classified in the "very good" category, and its effectiveness rate reaches 89,61%, indicated that it could be an alternative to foster insightful character in the educational context. This book can motivate educators to adopt a more comprehensive PjBL model that does not focus on cognitive aspects alone but also involves developing children's character, empathy, and social skills. Through the context of home civilization, educators are expected to be able to link learning to real situations.

The PjBL-based home textbook was only tested on a limited basis with eight children; therefore, in future research, it is recommended that this textbook be implemented with a broader sample size and range. This can be done to test the consistency and generalization of the results. In addition, the effectiveness test of the application of this textbook is still carried out on a limited basis using the pre-experimental method of one group pretest-posttest Design, so in future studies, it is necessary to test the effectiveness for a larger sample using the accurate experimental group design method.

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