



# The Development of a Reading Book on House Construction Civilization Based on Project-Based Learning to Improve Children's Social Intelligence Character

Gregorius Ari Nugrahanta<sup>1</sup>, Hilary Relita Vertikasari Sekarningrum<sup>2</sup>,  
 Brigita Sherlyta Erlansa Putri<sup>3</sup>

<sup>1,3</sup> Primary Teacher Education, Faculty of Education, Sanata Dharma University, Yogyakarta, Indonesia

<sup>2</sup> Master of Indonesian Language Education, Faculty of Education, Sanata Dharma University, Yogyakarta, Indonesia

[gregoriusari@gmail.com](mailto:gregoriusari@gmail.com), [hil24rita@gmail.com](mailto:hil24rita@gmail.com), [sherlytaerlansa30@gmail.com](mailto:sherlytaerlansa30@gmail.com)  
 corresponding author: [gregoriusari@gmail.com](mailto:gregoriusari@gmail.com)

## ABSTRACT

The present study discusses the need to improve social intelligence character in elementary schools, which has so far been limited to lecture-based methods and not integrated into formal learning. The study aims to develop a reading book on the civilization of building houses based on Project-Based Learning (PjBL) to foster children's social intelligence character. This research employs the ADDIE research and development (RnD) model, which follows five phases namely, analysis, design, development, implementation, and evaluation. The study was conducted in Kalasan, Yogyakarta. The research findings are that 1) the development of the reading book was successfully carried out in a structured manner according to the ADDIE stages, 2) the quality of the reading book falls into the "very good" category (average score of 3.89 on a 1-4 scale) and requires no revision, and 3) the implementation of the reading book has a significant impact on children's social intelligence character ( $p < 0.05$ ). The magnitude of the impact indicates a "large effect" ( $r = 0.9960$  or equivalent to 99.21%). The effectiveness level of the book's implementation is relatively high (N-Gain Score of 99.12%).

**Keywords:** house construction civilization, project-based learning, social intelligence character

Submitted	Accepted	Published
31 August 2024	12 November 2024	30 November 2024

<b>Citation</b>	:	Nugrahanta, G.A., Sekarningrum, H.R.V., & Putri, B.S.E. (2024). The Development of a Reading Book on House Construction Civilization Based on Project Based Learning to Improve Children's Social Intelligence Character. <i>Jurnal PAJAR (Pendidikan dan Pengajaran)</i> , 8(6), 637-648. DOI: <a href="http://dx.doi.org/10.33578/pjr.v8i6.10047">http://dx.doi.org/10.33578/pjr.v8i6.10047</a> .
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## INTRODUCTION

Indonesia is a country with diverse cultures and is rich in natural and human resources. With such wealth, Indonesia should be able to become a strong nation with prosperous and thriving people. However, in reality, Indonesia is still faced with complex national issues, one of which is moral degradation (Rahmi, 2019). Moral degradation is a phenomenon where societal values and ethical standards decline (Permana, 2021). This complex issue encompasses various behaviors and attitudes, ranging from increasing cases of corruption and dishonesty to the erosion of communal bonds and empathy (Permana, 2021). Understanding the causes and impacts of moral degradation is crucial in developing strategies to mitigate its effects on individuals and society from an early age. Therefore, it is imperative to explore various possibilities to strengthen character education.

Character education is a conscious effort that is conducted deliberately and measurably to integrate character values into children. This systematic effort is developed by reaching cognitive aspects, awareness, intention, desire, and behavior to implement these values (Rofi'ie, 2017). Lickona emphasizes that good character begins with an understanding of what is believed to be good, known as moral knowing, followed by the desire to do good, known as moral feeling, and culminates in good actions, known as moral action (Hikmasari et al., 2021). These three components do not function separately but are interconnected. The knowledge of goodness (moral knowing) provides a foundation for the emergence of the desire to do good (moral feeling), which then continues to result in good actions (moral action). Furthermore, moral action can influence the knowledge and desire to do good in a sustainable manner (Hikmasari et al., 2021). Character

development is a continuous journey that is carried out through lifelong learning (Fauzi *et al.*, 2017). The effectiveness of character education is evident when these traits become ingrained habits (Ratnasary & Purwowidodo, 2024). There are various pillars of character that need to be developed in children so that they are prepared to face the increasingly complex challenges of the times. One of these character pillars is social intelligence.

Fostering social intelligence in children is an essential aspect of their education and development process. Daniel Goleman suggests that social intelligence plays a highly central role in a person's success. Social intelligence contributes to 80% of a person's success, while intellectual intelligence accounts for only 20% (Nasution *et al.*, 2023). Seligman understands social intelligence as a person's competence to interact, socialize, understand, and collaborate with others in various situations according to their social capabilities (Suherli *et al.*, 2019). This intelligence is also known as interpersonal intelligence, which shows a person's competence in creating, building, and maintaining social relationships, thereby establishing mutually beneficial relationships (Julika & Setiyawati, 2019). A person with high social intelligence is capable of 1) recognizing emotions, 2) making decisions, 3) forming relationships, 4) managing emotions, 5) evaluating performance, 6) assessing changes in emotions, 7) evaluating personal intentions, 8) cooperating, 9) revealing social relationships, and 10) maintaining good relationships (Peterson & Seligman, 2004).

At the end of 2023, the Indonesian Child Protection Commission (KPAI) received 1,800 reports of cases that showed a lack of character among students. These reports include various forms of negative behavior, such as student brawls, bullying, and other crimes. The high number of cases indicates a serious problem in character development among children. This phenomenon highlights the need for attention and concrete action from various parties to address this issue. Schools must also play a central role in shaping students' character. A curriculum that integrates character education, social skills training, and emotional development must be effectively implemented (KPAI, 2023).

One way to foster social intelligence is through the understanding and appreciation of the civilization of house construction. The house, as the center of daily life, not only functions as a place to live but also as an environment that shapes social and cultural interactions (Priyambodo, 2021). By studying the history and development of house construction, children can understand how changes in design and function of houses reflect the social, economic, and cultural dynamics over time. Through the material on the civilization of house construction, children are encouraged not only to see houses as physical buildings but also as symbols and reflections of complex and dynamic social life, which ultimately can foster social intelligence in children.

In the effort to nurture social intelligence, educators need to focus on children's learning strategies. The great challenge of implementing character education through regular learning is indeed not easy. Many children still exhibit behaviors that are not as expected, such as being unwilling to accept criticism from others, criticizing others without understanding their feelings, having difficulty appreciating other's opinions, and other unsociable behaviors that can damage social relationships (Christina, 2003). This situation can hinder the development of children's social intelligence. The *Project Based Learning* (PjBL) model is believed to foster children's social intelligence. This PjBL model reflects effective learning because it is enjoyable, rich in variety, stimulating, collaborative, communicative, and encourages children to think critically, creatively, and use concrete media. PjBL is a learning process that actively involves children in planning, implementing, and evaluating a project (Prajoko *et al.*, 2023). This learning model also aims to develop problem-solving skills (Almulla, 2020). The implementation of this learning uses seven interconnected steps: 1) formulating basic questions, 2) designing projects, 3) testing projects, 4) monitoring progress, 5) presenting results, 6) reflection, and 7) evaluation and improvement (Larmer *et al.*, 2015). Through these seven steps, PjBL can help children learn deeply and apply knowledge in real-world contexts. This research aims to foster social intelligence through material on the development of house construction civilization, presented in a reading book through PjBL. The book consists of four main parts: general education theory, the development of house construction civilization, development of learning steps, and five examples of house civilization development projects.

Various studies have been conducted to enhance children's social intelligence. Traditional games have proven to be highly effective in fostering social intelligence (Saragi & Nugrahanta, 2023; Astari & Nugrahanta, 2023). The Montessori method can foster social intelligence (Nugrahanta et al., 2024). Other research shows that social intelligence can be nurtured through storytelling and self-habituation (Nurhayati & Harianto, 2022). It has also been shown that project-based learning can increase creativity, critical thinking, problem-solving, and learning outcomes (Yusika & Turdjai, 2021; Ramadhanti et al., 2023). Previous studies have mainly discussed efforts to foster social intelligence in children through traditional games, storytelling, and self-habituation. There is still limited research on efforts to foster social intelligence in children through material on house construction civilization using the PjBL learning model packaged in a reading book. The novelty of this research lies in the use of house construction civilization material, implemented with the PjBL model, packaged in a reading book with a genetic approach. The genetic approach is a backward way to acquire a holistic understanding of the present complex achievements by tracing their developmental stages back to their early stages. Tracing back the developmental process to its early forms provides powerful insights into the current situation in its simpler form. Tracing back how humanity initially ensured basic needs and addressed issues related to ensuring survival, housing, and safe protection gives a picture of how discoveries occurred one by one. This allows for a holistic understanding of how human civilization developed (Putri et al., 2024). The purpose of this study is to develop a reading book on house construction civilization to foster social intelligence in children through PjBL, to determine the quality of the reading book on house construction civilization for fostering social intelligence in children, and to assess the impact of implementing the reading book on house construction civilization on children's social intelligence.

## METHOD

The R&D method with the ADDIE model was selected for this study. The implementation steps were carried out up to the limited trial phase using a pre-experimental design. The research population consisted of upper elementary school children, with a limited trial sample including ten children from Kalasan, Yogyakarta. A project-based learning (PjBL) civilizational reading book on house construction was used as the independent variable, and social intelligence character was used as the dependent variable. The development process implemented the ADDIE stages: analyze, design, develop, implement, and evaluate. Three types of instruments were used for the three development stages: analyze, develop, and evaluate. First, for the analyze stage, a closed-ended questionnaire with a 1-4 scale and an open-ended questionnaire were used to conduct a needs analysis. Second, for the develop stage, a closed-ended questionnaire with a 1-4 scale was used for product validation through expert judgment to examine face validity and content validity.

The data analysis results were used to answer the research questions related to product quality. Third, for the evaluate stage, test instruments were used in formative and summative evaluations. The test instrument for the formative evaluation was composed of 50 questions, with 10 questions for each tested project. The summative evaluation instrument was the main instrument, consisting of 10 pretest-posttest questions to answer the third research question related to the effect of product implementation on social intelligence character by measuring the percentage increase, significance test, significance level, and effectiveness test. The formative and summative evaluation instruments were developed based on 10 indicators of social intelligence character: recognizing emotions, making decisions, building relationships, managing emotions, evaluating performance, assessing emotional fluctuations, assessing self-motivation, building cooperation, mapping social relationships, and maintaining good relationships. The answer choices were arranged using a 1-4 scale based on the gradation of character elements according to Lickona's theory (2013). A score of 4 indicates an answer that aligns with moral action, a score of 3 aligns with moral feelings, a score of 2 aligns with moral knowledge, and a score of 1 does not align with any of the three character dimensions. All summative test instruments were pre-tested on 43 other children and met the requirements for validity ( $p < 0,05$ ), reliability (*Cronbach's Alpha*  $> 0,60$ ), and difficulty level (moderate level). During the evaluation stage, closed-ended and open-ended questionnaires were also given to children and parents to assess changes in the

child's character. Data analysis was conducted using IBM SPSS Statistics version 26 for Windows, with a 95% confidence level.

## RESULTS AND DISCUSSION

This developmental research follows the stages of the ADDIE model. In the analyze stage, a needs analysis was conducted to identify the gap between the ideal instructional model for developing character education in social intelligence and the instructional model practiced by teachers. The analysis involved 13 teachers from various elementary schools in Yogyakarta and Central Java. The average score for each indicator can be seen in the table below.

**Table 1. Needs Analysis Resume**

No	Indicator	Average
1	Project based learning	2,06
2	Concrete operations	1,90
3	Creativity	1,50
4	Problem solving	1,70
5	Collaboration	1,80
6	Communication	1,60
7	Critical thinking	1,60
8	Enjoyable learning	1,70
9	Civilization	1,40
10	Character education	1,67
Average		1,69

Table 1 shows that the civilization indicator has the lowest score of 1.40 (on a scale of 1-4). Meanwhile, the project-based learning indicator received the highest score of 2.06 (on a scale of 1-4). However, the indicators for concrete operations, creativity, problem-solving, collaboration, communication, critical thinking, enjoyable learning, and character education only achieved scores in the range of 1.50 to 1.80 (on a scale of 1-4). To evaluate the final results of the needs analysis, the researcher used a scale for converting quantitative data to qualitative data as shown in the table below (Widoyoko, 2013).

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

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

The needs analysis results indicated that the instructional practices for developing children's social intelligence only reached an average of 1.69 (on a scale of 1-4), categorized as very poor. The very poor results of the needs analysis suggest that the instructional model used has not been optimal in fostering social intelligence. The schools where the respondents teach have not yet implemented innovative teaching materials and instructional models to develop children's social intelligence. Additionally, there are no specific books available that support the development of social intelligence. This reveals a gap between the idealized instructional model and what is being practiced. To address this issue, this research proposes developing a book on household civilization infrastructure based on Project-Based Learning (PjBL) as a solution.

The book was designed in the design stage. The researcher created the book by drafting the cover, preface, and table of contents in the initial section. This was followed by a section containing general theories about education, the development of civilization through house construction, and methods for teaching

children. The next section explains five project assignments for children, including building miniatures of a cave, a cottage, a medieval house, a dome-shaped earthquake-resistant house, and a minimalist house. These five projects are aligned with the evolution of house construction throughout history to help children understand the different types of house construction over time. The book also includes steps for implementing projects using the PjBL model: 1) formulating a fundamental question, 2) designing the project, 3) testing the project, 4) monitoring progress, 5) presenting the results, 6) reflection, and 7) evaluation and improvement. The final section of the book contains a list of references, a glossary, a book summary, and the author's biography.

The book, once designed, was further developed by the researcher in the develop stage. The development included writing the objectives of each project, the benefits of each project, and the steps for teaching each project. The next section explains the tools and materials needed for each project. Additionally, reflection and character evaluation questions were developed to assess children's social intelligence. The character evaluation questions were developed using 10 indicators of social intelligence, and the answer choices were created according to Lickona's (2013) character components on a scale of 1-4. A score of 4 indicates a response that aligns with moral action, a score of 3 aligns with moral feelings, a score of 2 aligns with moral knowledge, and a score of 1 indicates a response that does not align with any of the three character dimensions.

The book was validated by nine validators, consisting of four lecturers and five teachers, using two types of validation: face validity and content validity. Face validity was used to assess the readability and completeness of the book. The results showed that the indicators for the book's structure and the final section had the highest average score of 4.00, while the indicators for language, cover, and content received an average score of 3.95. The initial section had the lowest average score of 3.88. The overall average for face validity was 3.94 (on a scale of 1-4), which falls under the very good category, indicating no revisions were needed. Content validity was then conducted to validate the characteristics and content of the book. The validation of the book's characteristics using indicators such as self-instructional, self-contained, stand-alone, adaptive, and user-friendly received an average score of 3.86 (on a scale of 1-4), while the content validation using indicators such as project-based learning, concrete operations, critical thinking, enjoyable learning, problem-solving, creativity, communication, collaboration, civilization, and character education received an average score of 3.89 (on a scale of 1-4). The summary of the book's validation can be seen in the table below.

**Table 3. Book Validation Resume**

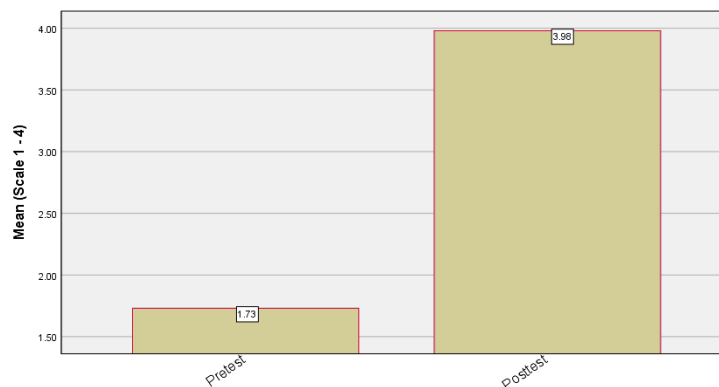
No	Validation	Score	Qualification	Recommendation
1	<i>Face Validity</i>	3,94	Very good	No revision needed
2	<i>Content Validity</i>			
	a. Characteristics	3,86	Very good	No revision needed
	b. Content	3,89	Very good	No revision needed
	Average	3,89	Very good	No revision needed

The overall average for this validation test is 3.89 (on a scale of 1-4), which is interpreted as very good, indicating no revisions are necessary (Widoyoko, 2014). The categories and recommendations used are listed below.

**Table 4.** Conversion of Quantitative to Qualitative Data and Recommendations

No	Score Range	Category	Recommendation
1	3.26 – 4.00	Very good	No revision needed
2	2.51 – 3.25	Good	Minor revisions needed
3	1.76 – 2.50	Not very good	Major revisions needed
4	1.00 – 1.75	Very bad	Complete overhaul needed

In the implement stage, the book was tested in a limited trial with ten children aged 10-12 years. The five projects were completed by the children over two weeks, including miniature cave, cottage, medieval house, dome-shaped earthquake-resistant house, and minimalist house. The results of the book trial showed an increase in the average score from pretest to posttest, as illustrated in the bar chart below.



**Figure 1.** Pretest-posttest score improvement diagram

From the above diagram, it is shown that the average pretest score was 1,73, and the average posttest score was 3,98 on a scale of 1-4, with an increase of 130,05%. The data obtained showed a normal distribution ( $p > 0,05$ ) according to the Shapiro-Wilk analysis. A paired samples t-test was used to assess the data regarding the effect of the PjBL-based civilization house construction reading book on children's social intelligence. The statistical analysis indicated that the posttest score ( $M = 3,9800$ ,  $SE = 0,01333$ ) was higher than the pretest score ( $M = 1,7300$ ,  $SE = 0,06333$ ), with  $t(9) = 33,541$ ,  $p = 0,000$  ( $p < 0,05$ ), showing a significant difference, thus rejecting  $H_0$ . Therefore, the development of the PjBL-based civilization house construction reading book has a significant impact on children's social intelligence. An examination of the effect size showed  $r = 0.9960$  as a large effect, equivalent to 99.21%, indicating that the book contributed to 99.21% of the variance change in the social intelligence variable. The criteria for treatment effect size are shown in the table below (Field, 2009).

**Table 5.** Effect Size Criteria

<i>r</i> (effect size)	Category	Percentage (%)
0.10	Small effect	1
0.30	Medium effect	9
0.50	Large effect	25

Additionally, the evaluation using the N-Gain Score to assess the effectiveness of the reading book showed a score of 99.12%, which is classified as high effectiveness according to the following criteria (Hake, 1999).

**Table 6. Criteria for N-Gain Score**

No	Score Range (%)	Qualification
1	71 – 100	High
2	31 – 70	Medium
3	0 – 30	Low

## Discussion

The achievements of modern civilization, which have become highly complex, are too difficult for children to grasp directly. This book is written using a genetic approach, derived from the Greek word "gignesthai," meaning to be born, which is interpreted as the origin, development, or antecedent of something. The principle of the genetic approach is that the most effective way to gain a holistic understanding of today's complex achievements is by tracing their developmental stages back to their earliest forms. The achievements of today cannot be separated from those of the past. Understanding the past provides a solid foundation for understanding the present. Retracing the developmental process to its simplest form offers deep insights into the current situation. Understanding how early humans met basic needs and addressed survival, shelter, and protection issues reveals how continuous discoveries were made, leading to a comprehensive understanding of the development of human civilization (Putri et al., 2024). In this study, the genetic approach to book development involves writing the history of house construction from prehistoric times, through ancient times, the classical era, the Middle Ages, the Renaissance of the 19th century, to contemporary homes. Writing the history of house construction civilization from prehistoric times to the present can help children understand the development process of house civilization leading to modern house models. This process not only provides children with insights into the technical and structural evolution of houses but also demonstrates how basic human needs and survival challenges have shaped innovations and discoveries throughout history. By understanding this historical context, children can appreciate the complexity of modern civilization and how each stage of development contributes to the present situation. This approach also helps develop children's critical thinking and analytical skills by connecting historical facts with contemporary realities, making learning more meaningful and relevant.

In this study, the reading book on house construction civilization is implemented using the PjBL model. The implementation of PjBL involves children in creating five projects: a miniature cave, a hut, a medieval house, a dome-shaped earthquake-resistant house, and a minimalist house. PjBL is a learning process that actively engages children in creating a project (Yuniasih et al., 2022). The learning implementation follows seven steps: 1) defining fundamental questions, 2) designing project planning, 3) testing the authenticity of the project design, 4) monitoring project progress, 5) presenting project results, 6) reflection, and 7) evaluation and improvement (Larmer et al., 2015). In this study, the PjBL steps are reflected in the learning process. First, defining fundamental questions is done by the educator by asking children thought-provoking questions about the history of house construction civilization during the studied era. Second, project planning is carried out by children in groups, including determining the shape and size of the miniature and preparing the tools and materials used. Third, the authenticity of the project is tested by the educator to ensure the project is relevant to the material being studied. Fourth, project progress is monitored in groups by presenting project progress, while the teacher oversees the project creation process. Fifth, the presentation of the project results is done by the children by presenting the completed project together with the group and relating it to the house civilization of that era. Sixth, reflection is done through Q&A sessions and reflections on the completed project. Lastly, evaluation and improvement are conducted by reviewing the learning process, providing feedback on the completed project, and summarizing the day's learning activities.

The application of PjBL in this study aligns with indicators of effective learning, which include being rich in variety, rich in stimulation, enjoyable, operationally concrete, collaborative, critical thinking, creativity, and communication. A rich variety in learning involves using various methods and techniques to maintain children's interest and engagement (Jensen, 2011), demonstrated through the use of various methods such as Q&A, discussion, projects, and the creation of five projects on different house civilizations. Rich

stimulation means providing various sensory stimuli to help the brain process and retain information (Jensen, 2011), shown when children listen to their peers' opinions, create projects, present, answer questions, and complete evaluation and reflection tasks. Enjoyable learning means creating an enjoyable environment to increase motivation and engagement in children (Jensen, 2011). In this study, this indicator is evident when children are very enthusiastic about creating projects. Children can work on a project for more than three hours without wanting to take a break for lunch. The application of PjBL also aligns with the indicator of operational concreteness, which is the cognitive development stage where children begin to think logically about objects and events through concrete activities (Sekarningrum et al., 2021).

In this study, operational concreteness is demonstrated when children create miniature house projects according to their era, so children not only understand house civilization from pictures and readings but also make miniatures directly, gaining an understanding of the differences in houses throughout the ages. Critical thinking is the ability to interpret, analyze, evaluate, infer, explain, and self-regulate based on the given information and arguments objectively and logically to make better decisions (Oktavi & Nugrahanta, 2023). The critical thinking process in this study is shown when children give opinions or feedback on other groups' projects and answer teachers' thought-provoking questions related to house construction civilization. With this, children are encouraged to evaluate and analyze the information they obtain. Collaboration, which is the process of working together towards a common goal, is demonstrated when children work in groups and discuss to complete the house civilization project. The communication indicator, which is the process of exchanging information, ideas, opinions, and feelings between individuals or groups (Suarjaya & Nugrahanta, 2024), is seen when children discuss in their groups to complete the house civilization project, present their work to their peers, provide feedback, and answer questions.

Recently, the increasing cases of bullying among children and teenagers have become more alarming. This phenomenon indicates a low level of social intelligence character. According to the latest data from the Indonesian Ministry of Education and Culture in 2023, there has been a 20% increase in bullying cases compared to the previous year. This study shows that about 60% of bullying perpetrators have low levels of empathy and struggle to understand others' feelings (KPAI, 2023). The lack of education in social intelligence character is considered one of the main factors contributing to this high rate. Strengthening character education programs focused on developing social intelligence is crucial to addressing this issue and creating a safer and more inclusive school environment. This study shows that the civilization textbook on house construction can significantly contribute to the improvement of social intelligence character.

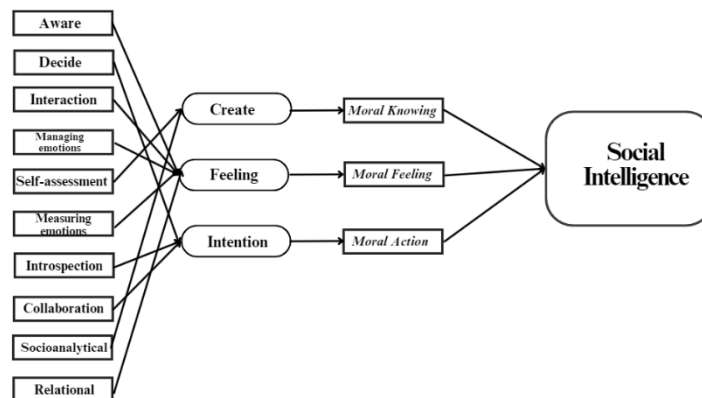
Social intelligence character is evident in children's behavior during learning according to the ten indicators of social intelligence character by Peterson and Seligman (2004), which are: 1) recognizing feelings, 2) making decisions, 3) building relationships, 4) managing emotions, 5) evaluating performance, 6) assessing emotional turbulence, 7) assessing one's motives, 8) fostering cooperation, 9) mapping social relationships, and 10) building good relationships. The indicator of recognizing feelings is seen when a child can recognize a friend's face showing frustration due to reluctance to share painting duties. The indicators of building relationships and cooperation are demonstrated when children interact with their peers to complete the project together in a group. The indicator of managing emotions is shown when children patiently take turns using tools to make the house project. Evaluating performance is seen when children can assess the completed work and give opinions on the work they have done. Building good relationships is shown when children can play and cooperate with friends in their group without conflict, and each one completes their assigned tasks.

PjBL-based learning plays a vital role not only in academic achievement but also in supporting children's self-actualization. Self-actualization is the highest stage in Abraham Maslow's hierarchy of needs, helping individuals reach their full potential and feel satisfied with personal achievements, including the development of skills, knowledge, and abilities unique to each individual (Wahyuningratna et al., 2022). Through the PjBL model, children are given the opportunity to explore interests and talents that help them in the process of self-actualization. In this study, working on the house civilization project encourages children



to develop skills and knowledge deeply. Strong character education helps children achieve self-actualization by providing a strong moral foundation and the interpersonal skills needed to succeed in various aspects of life. By integrating PjBL into the character education system, children can more easily achieve self-actualization because they not only learn academic material but also develop the character and skills needed in their personal and professional lives.

If analyzed semantically by grouping words based on similarities in meaning and finding their connections, each indicator can be grouped into central themes that converge on key elements of character, including elements of thought, feeling, and will, ultimately converging on the character of social intelligence. The results of this semantic analysis can be illustrated in the following diagram (Widyana & Nugrahanta, 2021).



**Figure 2. Semantic Diagram of Social Intelligence Traits.**

The semantic diagram above illustrates that social intelligence is formed through a process involving various character indicators, each contributing to a child's moral aspects. There are ten character indicators that form the main foundation of social intelligence: sensitivity, decision-making ability, interaction, emotion management, self-assessment, emotion measurement, introspection, collaboration, socio-analytic skills, and relational relationships. The indicators of self-assessment and socio-analytic skills relate to the cognitive aspect within the child that represents the thinking process and cognitive understanding of social situations. This cognitive aspect then leads to the formation of moral knowing, which is moral knowledge encompassing the understanding of what is right and wrong in a social context (Lickona, 2013). This process demonstrates how cognitive ability to understand and evaluate social situations is crucial in forming a person's moral foundation.

The indicators of sensitivity, emotion management, and relational skills are linked to the aspect of feeling, which describes the process of emotional internalization in responding to social situations. This feeling directs the child towards moral feeling, which includes moral sympathy and empathy (Lickona, 2013). With moral feeling, a child is capable of sensing sympathy, empathy, and emotional awareness towards others, which are important elements in socially interacting with care and concern. Other indicators such as decision-making, introspection, and collaboration relate to the aspect of will. Will reflects the internal drive or impulse to act according to the established moral knowledge and feelings. This will eventually leads to moral action, which is the observable moral behavior in social interactions. Moral action represents the child's application of moral knowledge and feelings in daily life through fair, empathetic, and respectful actions towards others (Lickona, 2013).

The overall process involving cognition, feeling, and will, each contributing to moral knowing, moral feeling, and moral action, forms social intelligence. Social intelligence is a complex ability that enables a child

to interact effectively in society, understand and respond appropriately to social situations, and act with moral awareness. Thus, social intelligence is not only related to intellectual ability but also encompasses emotional depth and moral commitment underlying meaningful and constructive social interactions.

This research is supported by previous studies that demonstrate the effectiveness of various methods in fostering social intelligence in children. Saragi dan Nugrahanta (2023) and Astari and Nugrahanta (2023) found that traditional games can be an effective means of developing social intelligence in children. Additionally, research by Nugrahanta et al. (2024) revealed that the Montessori method also plays a significant role in character development of social intelligence. Social intelligence can be nurtured through storytelling and self-habit methods (Nurhayati & Harianto, 2022). Other studies show that project-based learning can enhance creativity, critical thinking skills, problem-solving, and student learning outcomes (Yusika & Turdjai, 2021; Ramadhanti et al., 2023). This research provides new contributions by demonstrating that the development of a reading book on house construction civilization can foster children's social intelligence. The novelty of this research lies in the application of a genetic approach, which is an effective method for obtaining a holistic understanding of contemporary complex achievements by tracking its development stages back to its early stages (Dewey, 1944).

## CONCLUSIONS AND RECOMMENDATION

The results of this study emphasize several important points. First, the reading book on the civilization of house construction based on Project-Based Learning (PjBL) was developed following the ADDIE steps: analysis, design, development, implementation, and evaluation. Second, the quality of the reading book is categorized as very good and requires no revision (3.89 on a 1-4 scale). Third, the implementation of this reading book has a significant impact on children's social intelligence character ( $p = 0.000$ ). The effect size is categorized as large ( $r = 0.9960$ , equivalent to 99.21%). The effectiveness test indicates a high level of effectiveness ( $N$ -gain score of 99.12%). The social intelligence character was measured through 10 indicators: 1) recognizing emotions, 2) making decisions, 3) building relationships, 4) managing emotions, 5) evaluating performance, 6) assessing emotional fluctuations, 7) evaluating self-motivation, 8) collaborating, 9) mapping social relationships, and 10) maintaining good relationships. Semantic analysis indicates that social intelligence is formed through the integration of three main elements: 1) cognitive element, demonstrated by self-assessment and socio-analysis indicators; 2) affective element, shown through sensitivity, emotional management, and relational indicators; 3) action element, reflected in decision-making, introspection, and collaboration. This process involves various character indicators that support the development of moral knowledge, moral feelings, and moral actions. Thus, social intelligence character encompasses not only intellectual ability but also emotional depth and moral commitment, enabling children to interact effectively and meaningfully. Future research should continue with trials involving larger samples using a pure experimental research method to further confirm its effect on children's social intelligence character development.

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