

THE INFLUENCE OF AN INCLUSIVE LEARNING ENVIRONMENT ON EARLY CHILDHOOD EMPATHY ABILITIES AT SUN GLOBAL SCHOOL KINDERGARTEN, PEKANBARU

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ABSTRACT

This research was motivated by the importance of developing empathy skills in early childhood as a foundation for social-emotional character, as well as the potential of inclusive learning environments in fostering these skills through interaction with diverse peers. The study aimed to determine the effect of an inclusive learning environment on the empathy skills of early childhood at Sun Global School Kindergarten, Pekanbaru. A quasi-experimental method with a nonequivalent control group design was employed. The research sample consisted of 19 children divided into an experimental group and a control group. Data were collected through observation, pretest, five sessions of inclusive learning treatment, and posttest using an empathy instrument covering four aspects, then analyzed using statistical tests. The results showed that the inclusive learning environment had a significant effect on improving early childhood empathy skills, with the experimental group experiencing an average increase of 28.8 points while the control group only increased by 1.3 points. These findings imply that implementing inclusive education from an early age is effective in building a positive social-emotional character foundation, particularly in developing the ability to understand others' perspectives and prosocial behavior in children.

Keywords: Inclusive Learning Environment, Empathy Skills, Early Childhood, Inclusive Education, Social-Emotional Development

1. INTRODUCTION

An educational environment that offers equal learning opportunities to all students, a place where all children with various conditions learn together, including those with special needs, is known as an inclusive learning environment. An inclusive learning environment for Early Childhood (AUD) not only teaches lessons but also trains them to interact with and understand friends who are different from themselves. An inclusive learning environment is not just about accessible buildings and facilities but more about creating a school and classroom atmosphere that is socially and emotionally supportive, including teaching methods. They practice recognizing differences and cooperating; children who grow up in an inclusive environment are more likely to develop empathy. Early childhood education institutions (PAUD) are an important starting point for instilling effective and inclusive learning foundations (Nurlina et al., 2024).

According to experts, there are several main keys to creating a good inclusive environment (Stainback & Stainback in Wijaya, 2019), including a safe and comfortable atmosphere, flexible subject matter that can be adapted in its delivery to suit various learning styles and abilities of children, teachers using group learning methods with children of various

abilities working together in a team to achieve goals, and appreciating differences among students as something that can enrich experience and is valuable.

Children learn through various activities in early childhood education (PAUD) aimed at improving their verbal, cognitive, social, emotional, physical, artistic, religious, and moral qualities. Children who receive appropriate stimulation from an early age will be better prepared to face future obstacles and have the necessary skills to excel at subsequent levels of education. The long journey of the education system itself is shaped by the dynamic interaction between social, cultural, and technological factors. Indonesia has undergone significant transformations in curriculum, teaching methodologies, and the expansion of educational access; these three elements are the main determinants of the direction of educational development. Essentially, education is a fundamental foundation in life that functions not only to enlighten but also to shape character, hone abilities, and broaden students' horizons.

Inclusive education is a way of educating that ensures all children without exception can attend school and learn together well. Its goal is to remove barriers so that every child can be fully involved in learning activities. UNESCO (2009) states that inclusive education is a process of identifying and responding to the diversity of needs of all learners through increased participation in learning, culture, and community. This is not just about placing children with special needs in regular schools, but about transforming the education system to respond to all types of differences. According to Biantoro & Setiawan (2021), inclusive education is defined as a teaching strategy that meets the needs of students regardless of their social, cultural, or physical conditions.

The commitment to ensuring equal learning opportunities for all students, without exception, has placed inclusive education as a main focus in the modern education world. More than just a pedagogical strategy, this approach plays an important role in fostering empathy and acceptance of individual diversity. In an increasingly heterogeneous society, raising a generation that not only understands but is also able to appreciate the experiences and perspectives of others is a necessity. Paramansyah & Parojai (2024) emphasize that the concept of inclusive education upholds the principle of equality. This concept rejects discrimination and guarantees that every child, even those experiencing developmental challenges or requiring special attention, receives quality education services. Inclusive education can help children build their social-emotional intelligence, which is one aspect of early childhood education development. One way to develop children's social-emotional skills is to build empathy, tolerance, and flexibility in various social contexts, all of which are very helpful in an increasingly diverse society.

Building empathy in children can be fostered in an inclusive learning environment. They practice recognizing differences and cooperating; children who grow up in an inclusive environment are more likely to develop empathy. Empathy can be defined as a person's ability to understand the feelings of others, which is very important to develop from an early age. This research aims to prove whether an inclusive learning environment truly has a strong influence on the development of empathy in Early Childhood. According to Fitri Wulandari S. (in Nurfazrina et al., 2020), empathy is a behavior that needs to be developed from an early age. This is because behavior and empathy will be influenced by the progress of science and technology. A child's lack of empathy can be influenced by the actions of their parents or teachers, and the things children see, hear, and encounter at home or school can serve as role models for survival. Children can be motivated to participate in activities that demonstrate empathy through various initiatives or strategies.

The background of this research originated from the author's observations at Sun Global School Kindergarten, which implements an inclusive education system. The presence of Children

with Special Needs (ABK) learning alongside regular children at the school sparked the author's interest in further examining the impact of such a learning environment. Specifically, the author wanted to investigate whether the inclusive environment created at Sun Global School Kindergarten has a relationship with the improvement of empathy skills in its students. Empathy skills are considered an important foundation in the formation of children's character and social skills, so it is important to see how inclusive practices can serve as a medium for developing them. Empathy skills are fundamental social-emotional competencies that enable individuals to understand, feel, and respond to the feelings of others. In the context of Sun Global School Kindergarten, it is important to research whether there is a relationship between the implemented inclusive environment and the empathy skills of the regular children there. Does daily interaction with ABK teach them to be more tolerant, patient, and able to put themselves in others' shoes? This research is expected to provide empirical evidence regarding the contribution of an inclusive environment not only for ABK but also for the development of positive character in children in general.

2. METHODOLOGY

This study employed a quantitative approach to examine the cause-and-effect relationship between the treatment and its impact. This approach was considered appropriate as the research focuses on measuring the influence of the independent variable on the dependent variable through numerical data analyzed using statistical methods. In line with Sugiyono (2020), quasi-experimental designs can be categorized into time series design and nonequivalent control group design. This study adopted a quasi-experimental design due to its suitability within educational research contexts, where the use of naturally existing classroom settings often limits the possibility of random assignment.

Specifically, this study utilized the nonequivalent control group design, in which both the experimental and control groups were administered a pretest prior to the intervention and a posttest after the intervention. Although both groups underwent the same testing procedures, the assignment of participants to each group was not conducted randomly. The pretest was administered to determine the initial condition of both groups, while the posttest was used to assess changes following the implementation of the treatment.

Data collection in this study was carried out using observation and questionnaire techniques. Observation was conducted to measure children's empathy levels through direct monitoring of their behavior during social interactions in both classroom and play environments. An empathy observation sheet was used as the primary instrument to ensure systematic and consistent data recording. In addition, a questionnaire was distributed to classroom teachers to validate that the schools categorized as the experimental group had indeed implemented inclusive learning principles as intended in the study design.

The study involved two main variables, consisting of the independent variable and the dependent variable. The independent variable in this study was the inclusive learning environment, while the dependent variable was early childhood empathy ability. These variables were examined to determine the extent to which the implementation of an inclusive learning environment influences the development of empathy among young children.

3. RESULTS

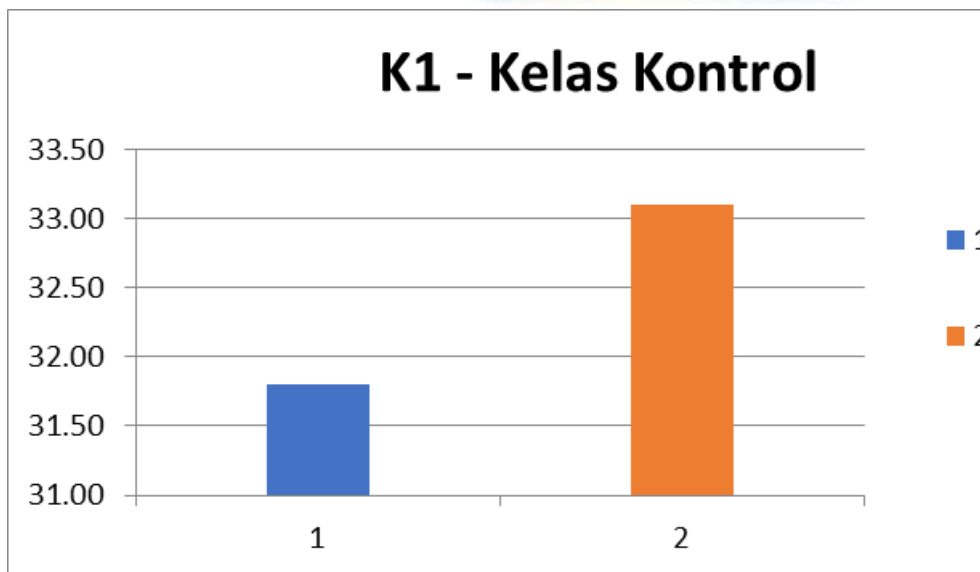
The researcher presents the research results obtained from observation and documentation to determine whether there is an influence of an inclusive learning environment on early childhood empathy abilities at Sun Global School Kindergarten, Pekanbaru City. The treatment was carried out based on a schedule determined by the teacher using picture story methods and watching educational children's fairy tales. Data collection was conducted through several stages: Observation, Pretest, treatment for 5 meetings, and Posttest. The research implementation schedule can be seen in the table 1.

Table 1. Research Implementation Schedule

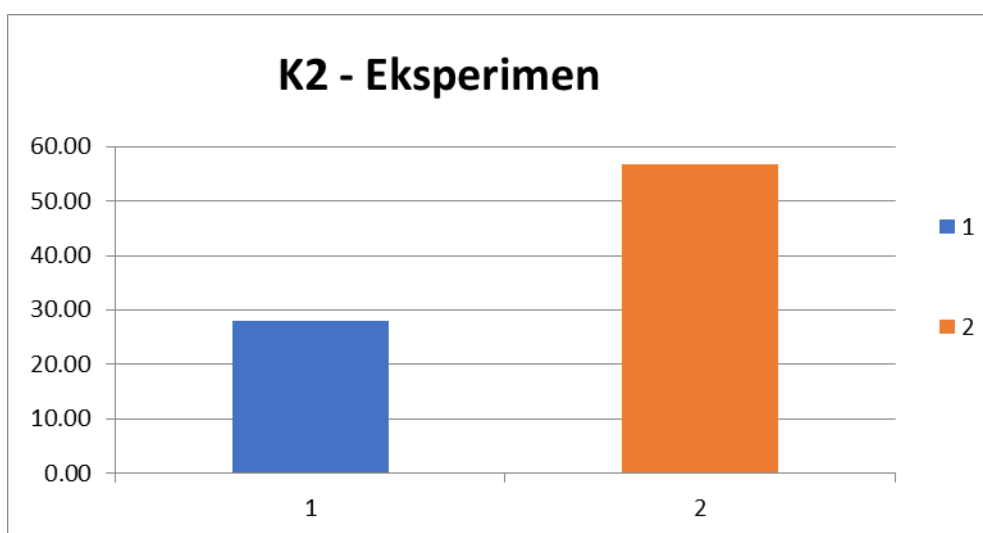
No	Day / Date	Activity	Place
1.	Friday, Nov 7, 2026	Pretest	School
2.	Monday, Nov 10, 2026	Watching Children's Fairy Tale "Pelukan Pak Elang" (The Eagle's Hug)	School
3.	Tuesday, Nov 11, 2026	Watching Children's Fairy Tale "Budi Belajar Berbagi" (Budi Learns to Share)	School
4.	Monday, Nov 17, 2026	Watching Children's Fairy Tale "Persahabatan Bebek dan Tupai" (The Friendship of the Duck and Squirrel)	School
5.	Tuesday, Nov 18, 2026	Watching Children's Fairy Tale "Sikancil dan Anak Rusa" (Sikancil and the Fawn)	School
6.	Wednesday, Nov 19, 2026	Watching Children's Fairy Tale "Teman Yang Baik Hati" (The Kind-Hearted Friend)	School
7.	Thursday, Nov 20, 2026	Posttest	School
8.	Friday, Nov 7, 2026	Pretest	School

The population in this study was all students at Sun Global School Kindergarten, totaling 19 children. As for the sample, the researcher took all students in Kindergarten 2, totaling 9 children. The names of the students used as the research sample are attached. The research data were obtained through three methods: observation, documentation, and tests. The first method was observation. This method aimed to obtain data related to the learning process at Sun Global School Kindergarten. The second method was documentation, which aimed to obtain data on the names of the students who were the research sample and research images as attached. The third method was the test method, which aimed to determine the influence of the inclusive learning environment on early childhood empathy abilities at Sun Global School Kindergarten, Pekanbaru.

The researcher conducted the research at Sun Global School Kindergarten, with Kindergarten 2 as the experimental class and Kindergarten 1 as the control class. In the control class, the researcher used a conventional model by giving pretest questions at the beginning of the lesson. In the experimental class, the researcher gave pretest questions before implementing inclusive learning at the beginning of the lesson. Furthermore, after implementing inclusive learning in the experimental class and the conventional model in the control class, the researcher gave posttest questions to both classes to see the students' learning outcomes. The following are the pretest and posttest score results for the experimental and control classes.



Picture. Diagram of Pretest and Posttest Results for Kindergarten 1



Picture 2. Diagram of Pretest and Posttest Results for Kindergarten 2

From the diagrams above, the pretest and posttest scores for children's empathy abilities can be seen. The average pretest score for empathy ability in Kindergarten 1 (before the implementation of inclusive learning activities) was 31.80. Meanwhile, the average posttest score was 33.10. The average pretest score for empathy ability in Kindergarten 2 was 28.00, and after using inclusive learning, it became 56.78. This shows that the posttest score is higher than the pretest. Based on these data, the difference between the pretest and posttest scores for Kindergarten 1 was -1.30, and for Kindergarten 2 was -28.78.

4. DISCUSSION

The storytelling activities conducted by the researcher, which focused on introducing and habituating the use of polite expressions such as "please," "sorry," and "thank you," demonstrated a positive impact on children's behavioral development in the experimental class. Prior to the intervention, most children were not accustomed to using these expressions in their daily interactions with peers or teachers. They tended to take toys without asking permission, rarely expressed gratitude when receiving help, and showed limited willingness to apologize when

making mistakes. These initial conditions indicate a relatively low level of empathetic and prosocial behavior among the participants.

Following a series of storytelling sessions emphasizing the importance of requesting help politely, expressing gratitude, and apologizing, noticeable behavioral changes were observed. Children gradually became accustomed to using the word “please” when asking for assistance, such as when requesting help to pick up a fallen object or open a lunch box. Expressions of “thank you” became more frequent in classroom interactions, especially when children received help or shared resources. More importantly, children began to demonstrate the courage to apologize when making mistakes, such as accidentally bumping into peers or taking toys without permission. These changes reflect the development of social awareness, empathy, and early emotional regulation.

To reinforce these outcomes, the intervention was extended through activities involving the viewing of children’s fairy tales that highlighted themes of sharing, empathy, cooperation, and respect for others. Stories such as “The Eagle’s Hug,” “Budi Learns to Share,” and “The Friendship of the Duck and Squirrel” provided concrete and relatable examples of prosocial behavior. The use of visual storytelling proved effective in strengthening children’s understanding, as it allowed them to internalize moral values in an engaging and accessible manner. Post-viewing discussions further supported this process by encouraging children to reflect on the stories and understand different perspectives, thereby deepening their empathetic responses.

As a result of the combined storytelling and visual learning interventions, significant behavioral changes were observed in children’s daily interactions. Children became more confident and polite in asking for help, consistently using appropriate expressions. Gratitude was expressed more naturally and frequently, indicating an increased appreciation for others’ actions. The most notable improvement was seen in children’s willingness to admit mistakes and apologize sincerely, demonstrating growth in emotional regulation and social responsibility. These behavioral improvements were not limited to structured learning activities but were also evident during informal interactions, such as playtime and breaks, suggesting that the values had been successfully internalized.

The effectiveness of the intervention is further supported by quantitative findings, which show a substantial increase in empathy scores in the experimental group compared to the control group. The experimental group experienced an increase of 28.8 points, while the control group showed only a marginal increase of 1.3 points. This finding confirms that an inclusive learning environment, combined with structured storytelling and visual learning strategies, has a significant positive effect on the development of early childhood empathy. The inclusive classroom setting facilitated natural social interactions between typically developing children and children with special needs, creating authentic opportunities for empathy development through collaboration and shared experiences.

These findings are consistent with Vygotsky’s sociocultural theory, which emphasizes that cognitive and social development occurs through social interaction. Within the inclusive learning environment, children experienced the Zone of Proximal Development, where more socially and emotionally developed peers acted as scaffolding for others. This was particularly evident in the significant improvements observed in perspective-taking and affective response, indicating a shift from egocentric behavior toward a more socially aware and empathetic orientation. Furthermore, the use of storytelling aligns with Hoffman’s stages of empathy development, as children were exposed to concrete examples of understanding others’ feelings and responding appropriately.

The inclusive learning practices implemented in this study also reflect key characteristics highlighted in inclusive education literature, such as a supportive and diversity-respecting classroom environment, collaborative learning through group activities, and the use of multimodal instructional strategies. These approaches collectively contributed to the enhancement of empathy-related competencies, including perspective-taking, empathic concern, and emotional regulation, all of which showed significant improvement following the intervention.

In terms of instrument quality, validity and reliability tests were conducted to ensure the robustness of the data collection tools. The results indicated that most questionnaire items were valid, with 11 valid items identified for both pretest and posttest, while one item in the posttest was found to be invalid and subsequently excluded. Reliability testing yielded a Cronbach's alpha value of 0.954, exceeding the acceptable threshold of 0.70, thereby confirming the internal consistency of the instrument.

Finally, the statistical analysis using an independent sample t-test revealed a significant difference between the experimental and control groups. The experimental group achieved a higher average posttest score compared to the control group, indicating the effectiveness of the intervention. The significance value obtained ($p < 0.05$) led to the rejection of the null hypothesis and the acceptance of the alternative hypothesis, confirming that the inclusive learning environment has a significant effect on enhancing early childhood empathy at Sun Global School Kindergarten, Pekanbaru.

5. CONCLUSION

Based on the results of the research conducted at Sun Global School Kindergarten, Pekanbaru, it can be concluded that storytelling activities and watching children's fairy tales make a significant contribution to the development of early childhood empathy abilities. This aligns with the research objective to determine the influence of an inclusive learning environment on children's empathy abilities, which has been proven through real behavioral changes in the experimental group.

Habituating the use of the words "please," "sorry," and "thank you" through storytelling activities proved effective in shaping children's prosocial behavior. Children who were previously unaccustomed to saying these words showed positive changes after the treatment, starting to ask friends for help, saying thank you when receiving assistance, and daring to apologize when making mistakes. These changes reflect the development of empathy aspects, particularly in the indicators of helping behavior and self-emotional regulation.

Watching children's fairy tales with themes of sharing, mutual empathy, helping each other, and respecting others further strengthened children's understanding and internalization of empathetic values. The attractive story visualizations and simple discussions after watching helped children understand others' perspectives (perspective-taking) and develop affective responses to friends' feelings. These results support the main finding of the study that the experimental group experienced an increase in empathy ability of 28.8 points (102.9%), much higher than the control group which only increased by 1.3 points (4.1%).

Thus, the conclusion of this study confirms that an inclusive learning environment enriched with storytelling and fairy tale watching activities has a significant effect on the empathy abilities of early childhood at Sun Global School Kindergarten, Pekanbaru. This is evidenced by the hypothesis test results showing a significance value of $0.000 < 0.05$, so H_0 is rejected and H_a is accepted. These findings confirm that implementing inclusive education from an early age is

effective in building a positive foundation for social-emotional character, particularly in developing the ability to understand others' perspectives and prosocial behavior in children.

REFERENCES

- Aminah, S. (2025). Implementation of Inclusive Early Childhood Education in Instilling Tolerance Attitudes in Early Childhood at TKIT Nur Fatahillah, South Tangerang.
- Anak, K., Dini, U., Menyesuaikan, D., Dengan, D., Sekolah, L., Tk, D. I., Athfal, T., Kendal, W., Diajukan, S., Sebagai, M., Memperoleh, S., Sarjana, G., Pendidikan, I., Anak, I., Dini, U., Sekar, A. Y. U., Nim, U., Ilmu, F., Dan, T., ... Semarang, W. (2023). *No Title*.
- Badriyah, L., Zubaidah, Z., & Marhayati, N. (2019). Teacher Empathy in the Teaching and Learning Process.
- Biantoro, S., & Setiawan, B. (2021). Building Inclusive Education: Contextual Education of Indigenous Peoples in Indonesia. *Jurnal Kebudayaan*, *16*(2), 89--100.
- Budianto, A. A. (2023). The Importance of Inclusive Education: Creating a Friendly Learning Environment for All Students. *Jurnal Kajian Pendidikan Dan Psikologi*, *1*(1), 12--19.
- David Wijaya, S. E. (2019). *Inclusive Education Management in Elementary Schools*. Prenada Media.
- Dewi, P. (2024). *Growing Student Empathy Through Food Sharing Activities in the Ar-Rasyid Class at Permata Bunda Kindergarten, Bengkulu City*. UIN Fatmawari Sukarno.
- Hartinah, S. (2019). *Improving Children's Empathetic Behavior Through Storytelling Using Hand Puppets in Elementary School*. State Islamic University of Sultan Syarif Kasim Riau.
- Hasmyati, H., Anwar, N. I. A., Syafruddin, M. A., & Hamzah, A. (2024). Educational Video-Based Play Methods in Physical Education Learning: Social Emotional of Children with Special Needs. *ETDC: Indonesian Journal of Research and Educational Review*, *3*(4), 129--140.
- Khusus, B., Kb, D. I., & Islam, T. K. (2025). Implementation of Inclusive Education Programs in Shaping Social Skills of Students with Special Needs at KB TK Islam Ar-Royyan Depok. *11200182000021*.
- Kutfiana, S., & Akbar, M. R. (2025). Strategies for Developing Empathy in Early Childhood Education for Ages 4-5 Years (Descriptive Study at TK PGRI 1 Bululawang). *Jurnal Caksana: Pendidikan Anak Usia Dini*, *8*(1), 463--476.
- Lestari, A. I., Ndonga, Y., & Gultom, I. (2024). Social-Emotional Development of Elementary School Students from the Perspective of Lev Vygotsky's Social Constructivism. *JlIP-Jurnal Ilmiah Ilmu Pendidikan*, *7*(11), 12441--12445.
- Lestari, D. I. (2022). *The Relationship between Smartphone Addiction and Empathy in Class VIII Students at MTs Negeri 3 Bojonegoro*.

- Maria, M., Purnomo, M. E., & Abdurrahmansyah, A. (2023). Implementation of Inclusive Education in Islamic Religious Education Learning for Children with Special Needs at SMP Negeri 13 Palembang. *Raudhah Proud To Be Professionals: Jurnal Tarbiyah Islamiyah*, *8*(1), 150--169.
- Nurfadhillah, S. (2022). *Inclusive Education in Elementary Schools*. CV Jejak (Jejak Publisher).
- Nurfazrina, S. A., Muslihin, H. Y., & Sumardi, S. (2020). Analysis of Empathy Ability of Children Aged 5-6 Years (Literature Review). *Jurnal PAUD Agapedia*, *4*(2), 285--299.
- Nurlina, N., Utama, F., Laali, S. A., Susilaningsih, C. Y., Yunita, Y., Risnajayanti, R., Idhayani, N., Sudiyarti, S., Wahyuni, N. S., & Yulina, E. (2024). *Early Childhood Education*. PT MAFY MEDIA LITERASI INDONESIA.
- Paramansyah, A., & Parojai, M. R. (2024). *Inclusive Education in the Digital Era*. Penerbit Widina.
- Phytanza, D. T. P., Nur, R. A., ST, M. P., Hasyim, M. P., Mappaompo, M. A., Rahmi, S., Oualeng, A., PAK, M. T., Silaban, P. S. M. J., & Suyuti, M. P. (2022). *Inclusive Education: Concepts, Implementation, and Objectives*. CV Rey Media Grafika.
- Rahmasari, I. P., Muhimmah, H. A., Guru, P., Dasar, S., Surabaya, U. N., & Info, A. (2025). Implementation of Inclusive Education Programs. *13*(11), 2863--2876.
- Sahrudin, M., Djafri, N., & Suling, A. (2023). Management of Inclusive Education. *Jambura Journal of Educational Management*, 162--179.
- Saparwadi, S., & Sahrandi, A. (2021). Getting to Know Daniel Goleman's Concept and Thoughts on Emotional Intelligence. *Al-Musyriif: Jurnal Bimbingan Dan Konseling Islam*, *4*(1), 17--36.
- Studi, P., Guru, P., Anak, P., Dini, U., Pendidikan, J., Dan, P., Dasar, S., Pendidikan, F. I., & Yogyakarta, U. N. (2013). *No Title*.
- Syafitri, D., & Taufik, T. (2024). The Relationship between Emotional Intelligence and Students' Prosocial Behavior. *Dharmas Education Journal (DE_Journal)*, *5*(2), 1204--1212.
- Wahyuningsih, D., Noviasari, A., & Azis, Z. (2024). The Contribution of Children with Special Needs to the Dynamics of Collaborative Learning in Elementary Schools. *Didaktik: Jurnal Ilmiah PGSD STKIP Subang*, *10*(04), 263--273.
- Wijaya, R. S., & Indrayeni, I. (2021). The Influence of Narcissism and Empathy on Ethical Decision Making in Accounting Students. *Jurnal Ekonomi Dan Bisnis Dharma Andalas*, *23*(1), 150--161.