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Early Childhood Learning Independence: Analysis of the Influence of Economic Token Media

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ABSTRACT

This research was motivated by the lack of children's learning independence in the Dharma Wanita Deli Makmur Play Group, Kampa District, Kampar Regency. This research aims to determine the use of economic tokens to stimulate the independent learning of children aged 4-5 years. This type of research is quantitative with a pre-experimental design method type one group pretest-posttest. The data collection techniques used are observation, tests and documentation. The results of data analysis from the Paired T-Test sample count, the Sig value. (2-tailed) = 0.000 < 0.05, so it can be seen from the comparison that tcount is 18.754 which is greater than ttable = 2.160. Based on data management analysis, in the experimental class the number was 199 with an average of 47.38%, the highest final score was in indicators 1, 6 and 7, namely "Children have confidence in themselves when expressing opinions during discussions, Children are able to adapt to environment when studying together and wanting to join in playing with friends and the child no longer depends on other people when doing coloring tasks, bolding numbers, trying to blow up balloons, and sticking letters" with a total score of 29. Ho is rejected and Ha is accepted. These findings suggest that economic tokens can serve as an effective reinforcement strategy to encourage children's independence, responsibility, and active participation in learning activities.

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1. INTRODUCTION

Early childhood is a critical period in human growth and development, encompassing physical, cognitive, social, and emotional aspects. This period is also essential for instilling positive values and character traits that contribute to children's development into independent and responsible individuals. Early childhood education provides a foundation for subsequent learning and development, as children experience rapid growth across various developmental domains during this stage. Therefore, appropriate learning strategies are needed to support children's independence from an early age. One strategy that can be implemented is the use of economic tokens as positive reinforcement to encourage desirable learning behaviors. However, children's learning independence remains a challenge in early childhood education, highlighting the need for effective and developmentally appropriate interventions. The research gap lies in the need for empirical evidence regarding the effectiveness of economic tokens in stimulating learning independence specifically among children aged 4–5 years in the context of playgroup education. Therefore, this study investigates the use of economic tokens to stimulate learning independence among children aged 4–5 years at Dharma Wanita Deli Makmur Playgroup, Kampa District, Kampar Regency. The novelty of this study lies in its empirical examination of economic tokens as a reinforcement strategy for supporting young children's learning independence in a specific early childhood educational setting. The findings are expected to contribute to the development of practical reinforcement strategies that encourage children's confidence, adaptability, and independence in completing learning activities. Early childhood is also said to be the age of development for the child. Learning methods that are appropriate to the years from birth to six years of age usually determine the child's personality as an adult. In early childhood education institutions, educators are required to develop children's potential, so that later children will be able to face creative problems (Suhendar et al., 2021).

Cultivating character will develop independence. The character values that are instilled in children are responsibility, respect, justice, courage, honesty, discipline, caring, perseverance and independence (Hasan et al., 2024). Children's independence is an important ability in a person's life that needs to be trained from an early age. A person is said to be independent if he does not depend on other people in living his life, especially in carrying out daily activities. Independence is also demonstrated by the ability to make decisions and solve problems (Fitriani et al., 2023). A part from that, independence can also be interpreted as an attempt to escape from parents with the aim of finding oneself through the process of searching for ego identity, namely development towards a stable individuality. Independence can be characterized by the ability to determine one's own destiny, be creative and take initiative, regulate behavior, be responsible, and be able to restrain oneself. The development of independence is a process that involves normative elements. This implies that independence is a directed process. The development of independence is in line with the essence of human existence, so the direction of this development must be in line with and based on the purpose of human life. Independence in kindergarten age children is not limited to physical things, but is also related to psychology, where children of this age are able to make their own decisions, are responsible and have a sense of self-confidence (A. Y. Nur et al., 2025a). Quoted from the kompasiana.com page, someone's experience when they saw a child couldn't button his own shirt. Another time, a different child couldn't tie his shoelaces. Even though they are 6th grade

elementary school students. Apart from that, the habit of feeding children, so that children eat more. Even though this habit should have been stopped at the age of 3 years. Apart from being intended for independent training. This is also to prevent children from becoming picky in choosing side dishes, train children's eating skills, and also be responsible for their food. Another example, we often meet children who are not used to tidying up their toys or taking care of their school supplies. Then we, in the name of love, help day after day. Meanwhile, independence is actually closely related to the child's responsibility (Amaliana & Afrianti, 2022; Rambe et al., 2024). This also happened in the Dharma Wanita Deli Makmur Play Group, Kampa District, Kampar Regency, based on the results of initial observations, children were still found whining and protesting when they encountered things that were not in accordance with their wishes, there were still children who did not complete their assignments at school, and there were still children who don't clean up food leftovers that are scattered around, and there are still children who can't tidy up their toys after they've finished playing. Therefore, a teacher is required to be more creative in creating interesting ideas at school according to the child's age and stage of development.

Children's independence does not just appear, but rather by practicing easy things slowly and continuously. Parents must be patient and avoid being indulgent and obeying all their children's wishes because this is an obstacle to independence. In the school environment, students learn independently through existing regulations. Children do not cry if their parents leave them, nor do they complete tasks and can solve problems depending on their abilities (Nur et al., 2025b). As stated by Soetjiningsih, children who receive stimulation will develop independent behavior more quickly than children who receive little or no stimulation. Stimulation can also function as positive reinforcement. Providing positive reinforcement will be effective if it is given in accordance with the child's needs and desires (Nur, 2025). This positive reinforcement takes the form of rewards (rewards, gifts, or rewards), both verbally (words or words of praise) and non-verbally (gestures, smiles, gifts in the form of objects and food).

Children's independence can be stimulated by giving rewards or rewards. This is also in accordance with what is explained in Q.S.An-Naml: 35-36 regarding efforts to soften someone's heart by giving them gifts. These gifts are given by people with knowledge. In fact, rewards are not only non-physical, but there are also physical ones, one of which is economic tokens. The token economy is a form of behavior modification designed to increase expected behavior and reduce undesirable behavior by using tokens (signs) such as stickers or stars. Individuals receive tokens quickly after demonstrating the expected behavior. The tokens are collected and can be exchanged for prizes that the person wants. The main goal of a token economy is to increase expected behavior and reduce undesirable behavior (Assyifa & Rocmah, 2024).

2. METHODS

This research is quantitative experimental research using the pre-experimental design method, one group pretest-posttest type. The experimental research method is a research method used to find the effect of treatment on others under controlled conditions (Arib et al., 2024). According to the classical concept, an experiment is research to determine the effect of a treatment variable (Independent Variable) on an impact variable (Dependent

Variable) (Akbar et al., 2023). The independent variable in the research is the use of economic tokens (X), and the dependent variable is early childhood learning independence (Y).

In this design there is a pretest, before treatment and a posttest, after treatment. In this way, the results of the treatment can be known more accurately, so that conditions can be compared before and after treatment. This design can be described in **Table 1**.

Table 1 One Group Pretest – Posttest Design

Group	(Pretest)	Treatment	Posttest
A	O ₁	X	O ₂

Remarks:

O₁ : pretest

X : Treatment

O₂ : posttest

The research was carried out in the Dharma Wanita Deli Makmur Playgroup, Kampa District, Kampar Regency, namely the Use of Economic Tokens to Stimulate Independent Learning in Children Aged 4-5 Years in the Dharma Wanita Deli Makmur Playgroup, Kampa District, Kampar Regency. Meanwhile, the research was carried out in March – May 2023. The subjects in this research were 15 children at the Dharma Wanita Deli Makmur KB. Meanwhile, the object of this research is the use of economic tokens to stimulate learning independence in children aged 4-5 years in the Dharma Wanita Deli Makmur play group, Kampa District, Kampar Regency. These conditions are illustrated in **Figures 1** and **Figure 2**.



Figure 1. Children who do not complete their tasks at school.



Figure 2. Children who are not yet able to tidy up their toys after playing.

The data analysis technique in this research uses the following t-test formula:

$$t = \frac{X_1 - X_2}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2} - 2r \left[\frac{s_1}{\sqrt{n_1}} \right] \left[\frac{s_2}{\sqrt{n_2}} \right]}}$$

Keterangan:

X_1 : Sample Mean 1

X_2 : Sample Mean 2

S_1 : Sample Standard Deviation 1

S_2 : Sample Standard Deviation 2

S_1^2 : Sample Variance 1

S_2^2 : Sample Variance 2

r : Correlation Between Two Samples

3. RESULTS AND DISCUSSION

3.1. Results

The first data collection was carried out with Pretest. The pretest was carried out for 1 day starting on March 7 2023, precisely at meeting I, the independent learning ability of children aged 4-5 years in the Dharma Wanita Deli Makmur Play Group was categorized as moderate. Based on the results of the pretest and posttest that were conducted, the data on the independence of 5–6-year-old children at the Dharma Wanita Preschool are presented in **Table 1**.

Tabel 1. Recapitulation Table Independence Learning for Children Aged 5-6 Years at KB Dharma Wanita

No.	Criteria	Score Range	Pre-exam		Post-exam	
			F	%	F	%
1	BSB	76% - 100%	0	0	13	86.66
2	BSH	56% - 75%	0	0	2	13.33
3	MB	41% - 55%	15	100	0	0
4	BB	<40%	0	0	0	0
Amount			15	100	15	100

Comparison before and after above can be seen that overall population in research that has been given treatment use of Token Economy in class experiment experience improvement. In class experiment before and after without given Token Economy treatment, occurs independence Study the child who was originally be on the criteria start developing (MB) as many as 15 children with 100%. Furthermore, based on the results of experiments conducted in the research class before and after the intervention using the Token Economy method, an increase in the children's level of independence was observed. After the intervention, 13 children (86.66%) were in the "Developing Very Well" (BSB) category, while 2 children (13.33%) were in the "Developing as Expected" (BSH) category.

The highest final score is in indicators 1, 6, 7 with a score of 29, and the percentage is 48.33% which is in the MB criteria, while the lowest final score is in indicators 2, 4 with a final score of 28, and the percentage is both 46.66% are in the MB criteria. There is no children in the BSB, BSH and BB categories with a percentage of 0%, and there are 15 children in the MB category with a percentage of 100%.

The second data collection was carried out by administering 4 treatments, including; T1 with an average percentage of Economic Token usage is 50% or in the poor category. T2 with the theme water, air, fire/benefits of air, with the data obtained, the average percentage of use of Economic Tokens was 68.75% or in the quite good category. T3 with the data obtained, the average percentage of Economic Token usage is 87.5% or in the very good category. And T4 data reached 78.12% in the very good category. Data was also obtained from the results of the posttest, namely in the experimental class with a final score of 56, a percentage of 93.33% which was in the BSB criteria while the lowest final score was in indicator 2 with a final score of 50, a percentage of 83.33% which was in the BSB criteria of 13 children and BSH 2 children.

3.2. Discussion

The discussion of the results of this research was carried out through the results of a comparative analysis of the types of experiments on the influencing variables, namely the use of economic tokens (X) and variables (Y) to stimulate children's learning independence. To see changes before and after treatment is given to the sample. After determining the research results before (Pretest) and after (Posttest). The next step is to see an increase in independence with the treatment that has been given. The use of economic tokens to stimulate independent learning for children aged 4-5 years in the Dharma Wanita Deli Makmur Play Group was given 4 treatments. After giving treatment using Economic Tokens in the Dharma Wanita Deli Makmur Play Group, the first finding is that children have confidence in themselves in showing their independence, this can be seen when children are interested in showing an attitude of being willing and able to try to have a sense of wanting to show their abilities in carrying out activities and tasks.

The second finding indicated that children demonstrated creativity and initiative in selecting learning materials, such as using a variety of colors when completing coloring activities. Providing appreciation in the form of sticker-based economic tokens may reinforce these positive behaviors and encourage children's active participation in learning. This finding is consistent with Rosyida & Hayati (2025), whose systematic review found that token economy interventions can support positive behavior development in early childhood, including responsibility, discipline, and self-control. The third finding showed that children

demonstrated responsibility by completing tasks, tidying up toys after playing, and returning materials to their designated places. These behaviors reflect the development of learning independence through daily routines and opportunities to practice self-management. Similarly, Anista et al., (2023) examined the application of the token economy method to improve independence among children aged 5–6 years in early childhood education. Together, these findings suggest that economic tokens can serve as a positive reinforcement strategy to encourage initiative, responsibility, and independent behavior among young children.

The fourth finding indicated that children demonstrated intrinsic motivation, as evidenced by their willingness and enthusiasm to answer questions posed by the researchers at the beginning and end of learning activities. This behavior reflects children's active engagement and growing ability to regulate their own learning. Manuel et al. (2024) explained that self-regulated learning involves learners' active participation in their learning processes through motivational, behavioral, and cognitive strategies. In early childhood, such motivation may be observed through children's enthusiasm, curiosity, willingness to participate, and interest in exploring new experiences. The fifth finding showed that children were able and confident in making their own choices, as demonstrated by their ability to select play materials and learning tools independently, including choosing colors for coloring activities without repeatedly seeking confirmation from the teacher. This finding is consistent with Castelo et al. (2022), who identified opportunities for children to make choices as an important component of autonomy-supportive interactions associated with the development of executive function in preschool-aged children. These findings suggest that providing opportunities for children to participate actively and make independent choices may support the development of learning independence in early childhood.

The sixth finding is that almost all children are able to adapt to their environment, which can be seen when children no longer feel unfamiliar with the environment in play groups (KB) and even want to join in playing and learning together with their friends. Child's independence goes through a stage of separation followed by a process of individualization. The separation stage is characterized by a child moving away from his mother or caregiver. In line with the opinion above, an attitude of trying to escape from parents with the intention of finding oneself through the process of searching for an ego identity is a development towards a steady direction to stand alone (Sulaeman & Mulyadi, 2025). The seventh finding of not depending on other people is seen when children can do their own learning activities, starting from coloring, adding numbers, trying to blow up balloons, sticking them to completion with little or no help at all. Independence is a person's ability to direct themselves and not depend on other people. The eighth finding was that children felt happy and enthusiastic about doing an activity better, after receiving a reward in the form of star stickers, the children felt interested. It is explained which states that appreciation exists educational value and can motivate children to improve their behavior. Researchers can conclude that economic tokens function as a reward for good behavior, so that children continue to be motivated to carry out good activities (Zahrok, 2025).

After evaluating children's learning independence when using Economic Tokens before being given treatment, it was found that several children had not achieved the abilities as applied. Based on the analysis of data management and the percentage results above, it can be seen that the results of the pretest of children's learning independence at KB Dharma

Wanita Deli Makmur in the experimental class obtained a total of 199 with an average of 47.38%. The highest final score was in indicators 1.6 and 7, namely "Children have confidence in themselves when expressing opinions during discussions, children are able to adapt to their environment when learning together and want to join in playing with their friends and children no longer depend on other people when doing coloring tasks, adding numbers, trying to blow up balloons, and sticking letters" with a total score of 29. This ability received the highest score because almost all children have confidence in themselves, are able to adapt to their environment and do not depend on other people. The lowest scores are in indicators 2 and 4, namely "Children already have high intrinsic motivation when they are enthusiastic about answering questions and children are able to be creative and innovative when coloring pictures with lots of colors" with a total score of 28. This ability gets the lowest score because not all children able to follow directions given by the teacher.

After giving treatment through the use of Economic Tokens in the Dharma Wanita Deli Makmur Play Group, Kampa District, Kampar Regency, the children felt happy and enthusiastic about showing good behavior and increasing their independence, the children also seemed able to be responsible when doing their assignments and could tidy up their toys. Children also show a creative and innovative attitude in choosing tools for learning and are interested in showing an attitude of being willing, able to try, and have a sense of wanting to show their abilities in carrying out daily activities and tasks. Following are the data after treatment and final observations, in the experimental class that was given treatment, the number was 370 with an average score of 88.10%. The highest final score was in indicator 5, namely "Children can be responsible for accepting the consequences that accompany their choices when doing assignments. and completing assignments" with a total score of 56. This ability received the highest score because it was given treatment. Then the lowest score is in indicator 2, namely "children already have high intrinsic motivation when they are enthusiastic about answering questions" with a total score of 50.

Based on the data above, this means that children's learning independence with the use of Economic Tokens in children aged 4-5 years in the Dharma Wanita Deli Makmur Play Group, Kampa District, Kampar Regency at the time of the posttest has increased. This can be seen from the comparison of pretest and posttest data, it can be seen that the entire population in the study that has been given treatment in the use of Economic Tokens has experienced an increase. There were 15 children who initially met the MB criteria with a percentage of 100%. Then there was an increase in the experimental class which had been given the use of Economic Tokens, experiencing an increase in learning independence in children aged 4-5 years who were in the very well developed (BSB) criteria, as many as 13 children with a percentage of 86.66%, and children who met the developing criteria. according to expectations (BSH) there were 2 children with a percentage of 13.33%.

This experimental research was carried out to determine whether there was a significant effect before and after treatment in the use of economic tokens to stimulate children's independence. Test the significance of this difference with t statistics in the experimental class obtained $t = 18.754$ with $\text{sig} = 0.00$. Because the sig value < 0.05 means it is significant. Based on the research above, it is identified that there is an influence of using Economic Tokens to stimulate children's independent learning. Based on the research results above, it is concluded that the use of Economic Tokens to stimulate independent learning for children aged 4-5 years in the Dharma Wanita Deli Makmur Play Group, Kampa District, Kampar

Regency, is in a very good development stage. The use of Economic Tokens aims to strengthen children to carry out positive activities, one of which is independent learning.

4. CONCLUSION

Based on the results of research at the Dharma Wanita Deli Makmur Play Group, pretest and posttest comparison data were obtained using the Paired sample T-Test, showing a Sig. (2-tailed) is $0.000 < 0.05$, so there is a significant effect after using economic tokens. It can be seen that $t_{count} = 18.754$ is greater than $t_{table} = 2.160$. Thus H_0 = rejected and H_a = accepted. Based on the research results, it was concluded that there is an influence of using economic tokens to stimulate the independent learning of children aged 4-5 years in the Dharma Wanita Deli Makmur Play Group, Kampa District, Kampar Regency. In the experimental class before and after being treated with Economic Tokens, there was a high increase in learning independence at the very well developed (BSB) criteria as many as 13 children with a percentage of 86.66%, and 2 children whose criteria developed according to expectations (BSH). children with a percentage of 13.33%, while in the experimental class before and after without treatment with Economic Tokens there were 15 children learning independence who were at the starting to develop (MB) criteria with a percentage of 100%. When compared between the experimental classes after and before, the increase in children's learning independence was higher in the experimental class after being given treatment.

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