

The Effect of the Progressive Art Trail Board on Art Elements among Foundation Phase Children Aged 5–6 Years

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Abstract

The development of artistic abilities in early childhood plays an important role in fostering creativity, self-expression, and aesthetic sensitivity during the foundational phase, highlighting the need for learning media that align with children's developmental characteristics and learning experiences. This study aimed to analyze changes in the artistic development of children aged 5–6 years following the implementation of the Progressive Art Trail Board as an educational play medium. A quantitative approach was employed using a *pre-experimental one-group pretest-posttest design* involving eight Group B children at RA Al-Ihsan. Data were collected through structured observation and documentation and analyzed using descriptive statistics and a *paired-samples t-test*. The results showed an increase in the mean artistic development score from 21.88 at pretest to 31.38 at posttest. Hypothesis testing yielded a t-value of 9.029, exceeding the critical t-value of 2.365 at the 0.05 significance level, indicating a significant difference between scores before and after the intervention. These findings suggest that the Progressive Art Trail Board has the potential to support children's artistic development through active, creative, and enjoyable learning activities. This study provides an alternative educational play medium that educators may use to support artistic development during the foundational phase; however, the findings should be interpreted in light of the study's pre-experimental design and relatively small sample size.

Keywords: Artistic development, Early childhood, Educational play medium, Progressive Art Trail Board, Visual arts.

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I. INTRODUCTION

Early Childhood Education plays an important role in establishing the developmental foundations children need before entering subsequent levels of education. The period from birth to six years of age is commonly regarded as the *golden age* because brain development occurs rapidly during this stage and reaches approximately 80% of its developmental capacity (Fitriani, 2025). During this period, education focuses on providing developmentally appropriate stimulation across moral, physical-motor, cognitive, social-emotional, language, and artistic domains (Listiwati et al., 2021). Therefore, early childhood learning experiences need to be designed actively and in accordance with children's developmental characteristics to provide optimal stimulation across these domains.

One important aspect of the foundational phase is the development of artistic abilities through exploration, expression, and appreciation, which contribute to children's imagination and creativity (Badan Standar, Kurikulum & Indonesia, 2025). Through artistic activities, children have opportunities to express their feelings and ideas, use their imagination to create works, and learn to appreciate their own and others' creations. Developing these abilities requires systematically planned stimulation through activities that enable children to participate directly in creative processes and artistic experiences (Pebrianty & Pamungkas, 2023).

Previous studies have demonstrated the importance of artistic experiences and learning media that promote children's active participation. Henny et al. (2023) found that systematically and continuously implemented artistic stimulation can support creativity and children's ability to express their ideas. Similarly, Mancar et al. (2025) explained that artistic activities can contribute to creativity, self-confidence, and social-emotional development in early childhood. Regarding instructional media, Lestandy et al. (2024) showed that Educational Play Tools can promote creativity and active participation in learning, while Simatupang et al. (2023) demonstrated that learning activities involving children's active participation contribute positively to their development. Learning media do not necessarily require complex materials; Kresnawaty (2024)

demonstrated that recycled materials can be utilized as creative and innovative learning media to provide engaging learning experiences while stimulating children's creativity.

These findings indicate that developing children's artistic abilities requires learning media that are not only engaging but also provide opportunities to explore, express ideas, create works, and actively respond to artistic creations. One medium developed to address these needs is the Progressive Art Trail Board, an educational play tool adapted from the mechanics of the Monopoly board game and aligned with artistic learning outcomes in early childhood education. The medium is designed to provide progressive artistic experiences through exploratory, expressive, and appreciative activities. This approach is consistent with Divanti et al. (2026), who showed that learning media involving sensorimotor activities can increase children's engagement through direct interaction with the media. Object manipulation and concrete experiences allow children to participate actively in learning in ways that correspond with their developmental characteristics.



Figure 1. Progressive Art Trail Board and Progressive Art Trail Board Challenge Cards

The Progressive Art Trail Board adopts the movement mechanics of Monopoly but shifts the orientation from accumulating assets or winning the game toward the progressive development of artistic work. Children move along the game path and select challenge cards according to the colors or symbols of the spaces they reach. Each card contains an activity that encourages children to express feelings and ideas, use their imagination, develop their artwork, and respond to their own and their peers' creations. The challenges progress from relatively simple activities to more complex ones, allowing children's artistic experiences to develop gradually throughout the game.

During implementation, children begin at the starting point and move flexibly along the designated path. At each point, they select a challenge card corresponding to the symbol they encounter and complete an artistic activity, such as drawing, developing shapes, or describing their artwork. The resulting work is not limited to a single activity but can be retained and further developed in subsequent stages. Children are also given opportunities to observe and respond to their peers' work, while at the end of the activity they present their creations as part of a reflective process. Accordingly, the Progressive Art Trail Board does not position winning as the primary objective; instead, it emphasizes the continuity of the creative process through exploration, development, appreciation, and reflection on artistic work.

Although previous studies have demonstrated the benefits of artistic activities, educational play tools, and activity-based learning for children's development, their implementation needs to be aligned with developmental needs identified within specific learning contexts. Preliminary observations of eight Group B children aged 5–6 years at RA Al-Ihsan indicated that some children still experienced difficulties expressing their feelings and ideas through artistic activities, developing artwork based on their imagination, and demonstrating appreciation for their own and their peers' work. These conditions indicate the need for a learning medium that provides

progressive artistic experiences and enables children to engage directly in exploration, expression, and appreciation. Based on this problem, the present study aimed to analyze the effect of implementing the Progressive Art Trail Board on the artistic development of children aged 5–6 years in Group B at RA Al-Ihsan during the foundational phase. The findings are expected to provide an alternative educational play medium that teachers can use to support active, creative, and enjoyable arts learning in early childhood.

II. METHOD

This study employed a quantitative approach using a *pre-experimental one-group pretest-posttest design*. This design was used to analyze changes in children's artistic development before and after the implementation of the Progressive Art Trail Board. The participants first completed a pretest (O_1) to establish their initial level of artistic development, followed by the intervention (X) involving learning activities using the Progressive Art Trail Board, and subsequently completed a posttest (O_2) to assess their development after the intervention. The research design is presented in Table 1.

Table 1. One-Group Pretest–Posttest Design

Pretest	Intervention	Posttest
O_1	X	O_2

Note: O_1 = measurement before the intervention; X = learning activities using the Progressive Art Trail Board; O_2 = measurement after the intervention.

The study was conducted in April 2026 at RA Al-Ihsan, located on Cibiru Hilir Street, Cileunyi District, Bandung Regency. The participants comprised all eight Group B children aged 5–6 years, including three boys and five girls. Given the relatively small population, all members of the population were included in the study. The research procedure consisted of three main stages: pretest, intervention, and posttest. First, the pretest was administered to establish the children's initial artistic abilities. The children then participated in learning activities using the Progressive Art Trail Board, which was designed according to indicators of artistic development. Their development was observed throughout the learning activities, and the posttest was administered after the intervention to identify changes relative to their initial performance.

Data were collected through structured observation and documentation. The primary research instrument was an observation sheet accompanied by scoring guidelines. Observations were conducted during the pretest, intervention, and posttest stages. The observed indicators included children's abilities to independently create shapes or drawings, add elements to their artwork, further develop previous work, express feelings through drawings, communicate ideas and imagination, describe their artwork, observe peers' work, respond to peers' work, and demonstrate appreciation for others' creations.

The data were analyzed using descriptive and inferential statistics. Descriptive statistics were used to describe changes in artistic development by comparing the mean pretest and posttest scores. A paired-samples t-test was subsequently employed to determine whether there was a statistically significant difference between scores before and after the implementation of the Progressive Art Trail Board at a significance level of 0.05. Given the use of a single-group design without a control group, the findings were interpreted as changes observed following the intervention rather than as definitive causal effects beyond the limitations of the research design.

III. RESULTS AND DISCUSSION

A. Results

1. Descriptive Analysis

The data were obtained by assessing the artistic development of children aged 5–6 years before and after the implementation of the Progressive Art Trail Board. Assessment was conducted using an observation sheet comprising nine indicators. Each indicator was rated across four developmental levels: *Not Yet Developed*, *Beginning to Develop*, *Developing as Expected*, and *Very Well Developed*, scored from 1 to 4, respectively. The study involved all

eight Group B children at RA Al-Ihsan. A summary of the pretest and posttest scores is presented in Table 2.

Table 2. Summary of Pretest and Posttest Descriptive Statistics

Measurement	Mean	Median
Pretest	21.88	22
Posttest	31.38	32

As shown in Table 2, artistic development scores increased following the implementation of the Progressive Art Trail Board. The mean score increased from 21.88 at pretest to 31.38 at posttest, representing a difference of 9.50 points. The median also increased from 22 to 32. Descriptively, these results indicate an improvement in children's artistic development following participation in learning activities using the Progressive Art Trail Board.

2. Comparison of Pretest and Posttest Scores

More detailed descriptive statistics for scores before and after the intervention are presented in Table 3.

Table 3. Descriptive Statistics for Pretest and Posttest Scores

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Pretest	8	17	26	21.88	2.71
Posttest	8	26	36	31.38	2.87
Valid N (listwise)	8				

Pretest scores ranged from 17 to 26, with a mean of 21.88 (SD = 2.71), whereas posttest scores ranged from 26 to 36, with a mean of 31.38 (SD = 2.87). The upward shifts in the minimum, maximum, and mean scores indicate a consistent pattern of improvement in artistic development following the intervention.

3. Inferential Analysis

Inferential analysis was conducted to determine whether the difference between pretest and posttest scores was statistically significant. Because the same participants were measured before and after the intervention, the primary analysis employed a *paired-samples t-test*. Prior to hypothesis testing, the normality of the data was examined using the Shapiro-Wilk test.

a. Normality Test

The Shapiro-Wilk test was employed because of the relatively small sample size (N = 8). Analysis using SPSS version 27 yielded significance values of 0.888 for the pretest scores and 0.814 for the posttest scores. Both values exceeded 0.05, indicating no statistically significant departure from normality.

Table 4. Shapiro-Wilk Normality Test Results

Measurement	Statistic	df	Sig.
Pretest	0.969	8	0.888
Posttest	0.960	8	0.814

These results indicate that the pretest and posttest score distributions did not significantly deviate from normality. However, because the primary analysis involved a paired-samples t-test, the statistically relevant normality assumption concerns the distribution of the difference scores between the two measurements.

b. Homogeneity Test

The preliminary analysis also included an examination of variance homogeneity using Levene's Test. The analysis yielded a Levene statistic of 0.063 with a significance value of 0.805 (> 0.05), as presented in Table 5.

Table 5. Levene's Test Results

Variable	Levene Statistic	df1	df2	Sig.
Pretest and Posttest	0.063	1	14	0.805

The result indicates no statistically significant evidence of unequal variances between the pretest and posttest scores. Nevertheless, homogeneity of variance is not a primary assumption of the paired-samples t-test because both measurements were obtained from the same participants.

c. Hypothesis Testing

Differences in children's artistic development before and after the implementation of the Progressive Art Trail Board were analyzed using a paired-samples t-test at the 0.05 significance level. The analysis yielded a mean pretest-posttest difference of -9.50 (SD = 2.98, SE = 1.05). The resulting t-value was -9.029 with 7 degrees of freedom and $p < 0.001$. The 95% confidence interval for the mean difference ranged from -11.99 to -7.01.

Table 6. Paired-Samples t-Test Results

Pair	Mean Difference	SD	SE	95% CI Lower	95% CI Upper	t	df	p
Pretest-Posttest	-9.50	2.98	1.05	-11.99	-7.01	-9.029	7	<.001

The results demonstrate a statistically significant difference in children's artistic development scores before and after the implementation of the Progressive Art Trail Board, $t(7) = -9.029$, $p < .001$. Descriptively, this difference represents an average increase of 9.50 points following the intervention. Given the use of a one-group pretest-posttest design without a control group, these findings provide evidence of a significant improvement following the implementation of the Progressive Art Trail Board, although causal interpretations should be made cautiously.

B. Discussion

The findings showed an improvement in children's artistic development following the implementation of the Progressive Art Trail Board. The mean score increased from 21.88 at pretest to 31.38 at posttest, representing an increase of 9.50 points. The *paired-samples t-test* also revealed a statistically significant difference between the pretest and posttest scores, $t(7) = -9.029$, $p < .001$. Empirically, these findings indicate that children achieved higher artistic development scores after participating in learning activities using the Progressive Art Trail Board than they did at baseline. Improvements were observed in abilities related to creating and developing artwork, expressing feelings and ideas, using imagination, describing artistic creations, and appreciating peers' work. Nevertheless, because the study employed a single-group design without a control group, the observed improvement should be interpreted as a change following the implementation of the medium rather than being attributed exclusively to the Progressive Art Trail Board.

The observed improvement can be understood in relation to the characteristics of the Progressive Art Trail Board, which provides children with opportunities to engage directly in artistic experiences. The medium does not merely present visual stimuli but encourages children to complete a series of activities through challenge cards, including creating or developing drawings, adding elements to their artwork, expressing ideas and feelings, and describing their creations. Children are therefore positioned as active participants rather than passive recipients of information. This characteristic is consistent with early childhood learning principles that emphasize concrete experiences, direct activities, and multisensory engagement. Rupnidah and Suryana (2022) explained that concrete media allow children to directly observe and interact with objects through their senses, making learning experiences more tangible and comprehensible.

The concrete nature of the medium is particularly relevant because artistic development in early childhood involves more than the ability to produce visually appealing products or drawings. It also encompasses children's processes of exploring possibilities, selecting forms of representation, communicating ideas, and assigning meaning to their creations. Through the Progressive Art Trail Board, these processes are facilitated by challenges that enable children not only to produce artwork but also to develop it progressively. Artwork created during one activity can be revisited or further developed in subsequent stages. This structure allows children to move beyond simply producing a piece of work by encouraging them to observe, add new elements, modify previous creations, and elaborate on earlier ideas. Such continuity is an important characteristic of the medium because it allows children to experience art as an evolving creative process rather than merely as the production of a final product.

The findings can also be associated with the opportunities provided for exploration and self-expression. Through drawing, developing forms, creating patterns or traces, and communicating ideas about their artwork, children are given space to use their imagination and construct representations based on their own experiences and ideas. Primata (2023) stated that visual arts activities provide opportunities for children to develop creativity and express their creative abilities. Similarly, Pebrianty and Pamungkas (2023) emphasized that learning activities that provide opportunities for exploration and active creation can support the development of creativity and artistic abilities in early childhood. The higher posttest scores can therefore be understood in the context of increased opportunities for children to engage directly and actively in artistic activities during the intervention.

Another important characteristic of the Progressive Art Trail Board is the progressive nature of its activities. The challenges are structured so that children can move from relatively simple activities toward those requiring further elaboration of ideas. This structure enables children to build new experiences upon activities they have previously completed. They are not only asked to create shapes or drawings but also to develop their artwork, communicate its meaning, and respond to the work of others. Consequently, the stimulation encompasses exploratory, expressive, and appreciative dimensions that are integral to artistic development during the foundational phase.

The play-based characteristics of the medium may also contribute to children's engagement during learning. The board-game format, movement along designated paths, and challenge cards create an activity structure that differs from arts learning based solely on direct instruction. Children experience learning through play while simultaneously completing artistic challenges. This finding is consistent with Renawati and Suyadi (2021), who reported that board-based educational play tools can provide enjoyable learning experiences for young children. In the present study, however, gameplay was not positioned as the ultimate objective; rather, it served as a mechanism for engaging children in a sequence of artistic activities. Maintaining this distinction is important to ensure that the play elements remain aligned with the intended developmental outcomes.

The improvement in artistic development may also be related to opportunities for children to communicate about and appreciate artistic work. Throughout the game, children not only produce artwork but are also encouraged to describe their creations, observe their peers' work, provide responses, and demonstrate appreciation for others' creations. These activities extend artistic experiences from an individual process into a social experience. When children describe their artwork, they learn to connect visual representations with the ideas and experiences they intend to communicate. When observing and responding to their peers' work, they are exposed to the idea that similar themes or ideas may be represented in different ways. Thus, the medium potentially provides broader stimulation by integrating the processes of creating, expressing, communicating, and appreciating artwork within a single learning sequence.

From a pedagogical perspective, the findings also highlight the importance of the teacher's role in implementing the Progressive Art Trail Board. Although the medium provides a game structure and challenge cards, children's learning experiences still require appropriate facilitation. Teachers play an important role in providing instructions, encouraging children to elaborate on their ideas without excessively determining the form of their artwork, asking

stimulating questions, and facilitating opportunities to describe and appreciate artistic creations. Therefore, the potential value of the medium lies not only in its physical design but also in how it is used to facilitate active and child-centered learning interactions. The Progressive Art Trail Board should consequently be understood not as a stand-alone medium, but as part of an instructional approach integrating learning media, children's activities, and teacher facilitation.

This study provides a practical contribution by introducing the Progressive Art Trail Board as an alternative educational play medium for supporting artistic development during the foundational phase. The medium integrates board-game characteristics with a sequence of artistic activities involving exploration, expression, artwork development, communication, and appreciation. For early childhood educators, it may provide an alternative for creating more active, varied, and child-centered arts learning experiences. The medium can also be adapted by modifying challenge cards, levels of activity complexity, materials, and artistic themes according to children's ages, abilities, and developmental needs.

Despite the statistically significant improvement, the findings should be interpreted in light of several limitations. The study involved only eight children from a single group at one institution, which limits the generalizability of the findings to broader early childhood populations. Furthermore, the use of a *one-group pretest-posttest design* without a comparison group prevents the observed changes from being attributed exclusively to the Progressive Art Trail Board. Other factors, including learning experiences during the study period, repeated measurement, teacher interactions, or children's natural development, may also have contributed to the observed changes. Observation-based assessment additionally requires consistent scoring criteria and procedures to minimize potential evaluator subjectivity.

Future studies should therefore involve larger samples across multiple early childhood education settings and employ comparison or control groups to provide stronger evidence regarding the effectiveness of the medium. Further research could also examine changes in individual indicators of artistic development to determine which aspects benefit most from the intervention and investigate how the complexity of challenge cards and the intensity of media use relate to developmental outcomes. Considering both the findings and these methodological limitations, the present study provides preliminary evidence that the Progressive Art Trail Board has the potential to support the artistic development of children aged 5–6 years through concrete, active, progressive, expressive, and appreciative learning experiences.

IV. CONCLUSION

Based on the findings from eight Group B children at RA Al-Ihsan, the implementation of the Progressive Art Trail Board was followed by an increase in artistic development scores, from a mean of 21.88 at pretest to 31.38 at posttest. The mean increase of 9.50 points was statistically significant, $t(7) = 9.029$, $p < .001$, with a large effect size (Cohen's $d_z = 3.19$). These findings provide preliminary evidence that the Progressive Art Trail Board has the potential to support children's artistic development through progressively structured activities involving exploration, expression, artwork development, appreciation, and reflection. However, given the single-group design without a control group and the very small number of participants, the findings should be interpreted as within-group changes following the intervention rather than as causal evidence of the medium's effectiveness. Future studies involving larger samples and comparison groups are needed to provide stronger evidence regarding the consistency and effectiveness of the medium.

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