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THE EFFECT OF THE MIND MAPPING LEARNING MODEL ON THE LEARNING INTEREST OF FOURTH-GRADE STUDENTS AT SDN 3 TANGGUNG, TULUNGAGUNG

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***Abstract*: This study investigates the effect of the mind mapping learning model on students' interest in Natural and Social Sciences (IPAS) among fourth-grade students at SDN 3 Tanggung, Tulungagung. The research was prompted by the low level of student engagement in IPAS learning, partly due to limited variation in instructional models. Employing a quantitative approach with a one-group pretest-posttest design, the study involved 21 fourth-grade students. Data were gathered through a validated and reliable questionnaire instrument (Cronbach's Alpha = 0.828). The analysis using a paired sample t-test revealed a significance value of 0.01, which is lower than 0.05, indicating a statistically significant increase in learning interest after applying the mind mapping model. The findings suggest that the mind mapping learning model positively influences students' learning interest in IPAS.**

Keywords: IPAS, learning interest, mind mapping, elementary education, instructional model

I. INTRODUCTION

Education plays a crucial role in enhancing the intellectual capacity of a nation. A country's success in educating its citizens and developing human resources (HR) with strong character, ethical values, and good behavior is an indicator of high-quality education. This is in line with Article 1 of Law No. 20 of 2003 concerning the National Education System, which states:"Education is a conscious and planned effort to create a learning environment and learning process in which students actively develop their potential to have spiritual strength, self-control, personality, intelligence, noble character, and the skills needed by themselves, society, the nation, and the state."

Learning is a process of managing and organizing the environment around students to stimulate and motivate them to engage in learning activities. Furthermore, learning can also be defined as an effort to provide guidance or assistance to students throughout the learning process (Rohmah, 2017, as cited in Safitri et al., 2023)[23]. Optimal learning requires strategies that encourage students to be more active and interested in the learning process. When students do not show strong interest during learning activities, the process becomes less effective, and they tend to struggle in achieving satisfactory outcomes. At the elementary school level, students need a learning approach that not only facilitates conceptual understanding but also fosters learning interest.

Low student interest in learning remains a challenge in the learning process at the elementary school level, particularly in the subject of Natural and Social Sciences (IPAS), which is often perceived as unappealing by students. According to the Ministry of Education and Culture (Kemendikbud, 2022, as cited in Nihayatul Fadlilah et al., 2024). IPAS combines elements from both natural and social sciences into a cohesive subject. Scientific-based learning within this context emphasizes understanding natural phenomena and social interactions encountered in everyday life. The goal of the IPAS approach is to offer meaningful learning experiences while simultaneously developing students' skills. The Merdeka Curriculum merges the fields of Natural Sciences (IPA) and Social Sciences (IPS) into one integrated subject referred to as Natural and Social Sciences (IPAS).

The teacher's role is crucial in fostering students' learning interest, as it provides support and services that facilitate students in engaging with the learning process. In fulfilling this role, teachers are also responsible for providing various facilities, tools, and infrastructure that support the continuity of teaching and learning activities. Consequently, the learning process can proceed efficiently and seamlessly, aligning with the needs of the students (Fauzi & Mustika, 2022)[5].

The teacher plays a crucial role in the successful execution of classroom activities. As professional educators, teachers are tasked with educating, teaching, guiding, instructing, training, and assessing students' progress throughout the learning process (Putra et al., 2021, as cited in Amelia et al., 2022)[3]. Teachers are expected to be present in the classroom to create a learning atmosphere that supports effective instruction. To increase students' learning interest, teachers also need to carefully select and apply appropriate learning models so that learning outcomes can be optimized.

Observations conducted with fourth-grade students at SDN 03 Tanggung, Tulungagung, revealed several weaknesses among learners, such as a lack of learning interest due to unengaging and monotonous teaching. As a result, students tended to be passive and showed limited concern for the learning process. In implementing IPAS instruction, teachers are expected to create a supportive, healthy, and innovative learning environment so that students become actively involved as the main participants in learning, rather than merely passive recipients of information (Hamzah & Khoiruman, 2021, as cited in Maula et al., 2024)[13].

Existing research indicates that studies on the use of mind mapping within the context of Natural and Social Sciences (IPAS) learning are still quite scarce. Therefore, this study is expected to contribute to expanding knowledge and adding references regarding the effectiveness of the mind mapping model in increasing students' learning interest in the IPAS subject.

Based on this background, the implementation of the mind mapping learning model is considered necessary, as it is expected to stimulate students' interest and encourage their active engagement in the learning process. In response to this issue, a research study was conducted under the title: "The Effect of the Mind Mapping Learning Model on Students' Learning Interest in IPAS Material among Fourth-Grade Students at SDN 3 Tanggung, Tulungagung."

II. Theoretical Review

a. Learning Interest

Interest is a stable tendency within an individual to pay attention to and recall a particular activity or task. Individuals with interest in an activity tend to focus consistently and engage in it with enjoyment. According to Jalilah (2021)[9], interest is a natural internal drive that leads a person to like or be attracted to something. Yunitasari and Hanifah (2020)[30] add that interest can be defined as an attraction that arises naturally from within the individual toward an object or activity, independent of external influences.

According to Slameto (2010: 57, as cited in Heriyati, 2017), interest can be defined as a stable drive to pay attention to and remember an activity, which is usually carried out with enjoyment. Similarly, B. Suryosubroto (1997: 109, as cited in Heriyati, 2017)[7] describes interest as a tendency within an individual to feel attracted to or to like a particular object. Interest may arise spontaneously emerging naturally or through deliberate efforts. Based on these perspectives, interest can be understood as a form of attraction that encourages someone to pay attention and actively participate in learning activities. Interest plays a significant role in determining the success of the learning process. Just as people tend to be enthusiastic when engaging in activities they enjoy, the learning process should also be accompanied by genuine interest. When students are interested in what they are learning, they tend to engage with enthusiasm and intrinsic motivation.

According to Suyono (2011, as cited in Yuni Rahayu & Megan Asri Humaira, 2021)[29], learning is a process or activity aimed at acquiring knowledge, developing skills, shaping behavior and attitudes, and strengthening one's personality. It serves as a crucial stage in improving intellectual capacity and character. Ria Fajrin Rizqy Ana (2021)[1] states that learning interest grows as a result of an individual's desire to know and understand something, which subsequently directs and reinforces student motivation to participate more seriously in the learning process. Based on this, learning interest is an internal motivation that draws students to engage in the learning process sincerely and voluntarily to achieve optimal learning outcomes.

Tumanggor (2017)[28] emphasizes that learning interest is an internal motivation that encourages students to enjoy participating in the learning process without coercion, thereby facilitating transformation in cognitive, psychomotor, and affective domains. Therefore, student learning interest can be understood as a tendency or inner desire to engage actively in the learning process. Based on the above explanation, it can be concluded that students' learning interest is the tendency or desire within students to actively engage in the learning process. This interest reflects their attraction, attention, and enthusiasm toward the learning materials or activities provided. According to Safari (in Wasti, 2013, as cited in Febrian et al., 2022)[6], indicators of learning interest include feelings of enjoyment, attraction, attention, and student engagement in learning activities.

Each student's learning interest is influenced by various factors that differ according to individual characteristics, these factors can be classified into three main categories:

a) Internal Factors

These are factors that originate from within the student and are divided into two key aspects: Physiological aspects, which refer to the student's physical condition and fitness level that may affect their enthusiasm, endurance, and concentration during the learning process. Psychological aspects, which include intellectual abilities, talents, attitudes, interests, and motivation—all of which directly contribute to the intensity and quality of student learning.

b) External Factors

These are factors that originate from outside the student and consist of two types of environments: Social environment, which includes influences from family, school, the community, and peers or classmates. Non-social environment, which involves physical aspects such as school building conditions, school location, learning materials, learning tools, study time, and the condition of the student's home environment.

c) Learning Approach Factors

These refer to the strategies, methods, or techniques used by students in learning a subject. An appropriate learning approach supports the effectiveness and efficiency of the learning process, thereby positively influencing learning outcomes.

According to Zakiah Daradjat et al., in general, there are several ways to stimulate an individual's interest, namely: Developing a sense of need spiritual, physical, or social which drives feelings of dissatisfaction and the desire to fulfill those needs. Connecting new experiences with previous ones so that

the material or experience provided feels relevant and easier to understand. Providing opportunities for participation by assigning tasks that align with the individual's abilities. Tasks that are not well-matched may lead to feelings of discouragement and a decline in interest. Utilizing various teaching aids and learning methods, such as instructional media and diverse teaching strategies, to make the learning process more engaging and suited to students' needs and capabilities.

b. Mind Mapping Model

According to Fathurrohman (2015, as cited in Saputra et al., 2021)[24], the mind mapping learning model is an approach that presents information through diagrams or charts, with the main topic at the center. This model emphasizes the active involvement of students in analyzing the information they receive, then organizing it into a concept map using their own language style and creativity. The resulting understanding is then communicated by the students using language that they comprehend.

According to Nurroeni (2013)[16], the mind mapping learning model also provides opportunities for students to engage in discussions both with peers and teachers—when determining the structure and flow of their mind maps. Thus, this learning model is not solely teacher-centered but instead positions students as the central agents of the learning process.

This approach is enjoyable and helps students more easily recall and comprehend complex material. The use of mind mapping is expected to have a positive impact on students' learning interest, as it encourages them to identify relationships between pieces of information and assists them in sorting and organizing content more effectively. Buzan (2010, as cited in Nurroeni, 2013)[16] describes mind mapping as the simplest method of storing and retrieving information in the brain. This model emphasizes students' active involvement in analyzing received information and organizing it into a concept map using their own language and creativity.

Based on the above definition, it can be concluded that mind mapping is a creative note-taking technique that utilizes words, images, colors, and elements of imagination to visualize a person's thought patterns. Through this method, students do not need to write lengthy notes; instead, they can organize a mind map according to their individual creativity.

The process of mind mapping begins with writing the main theme at the center of the page, then expanding it into branches of ideas or sub-themes that are directly connected to the core topic, while also identifying the interconnections among these sub-themes. This approach enables students to gain a clear overview of the concepts they have already understood, as well as the parts that still require further study.

Tony Buzan (2008:171, as cited in Munasti et al., 2021)[14] outlines several specific benefits of mind mapping for children, including: Facilitating the retention of information by students. Helping them store and recall data, numbers, or formulas more efficiently. Increasing learning motivation and focus.Enhancing memorization and recall speed.

According to Tony Buzan in (Aryani et al., 2024)[4], the mind mapping model was developed in the late 1960s to early 1970s to help students visually organize ideas and information, thereby facilitating comprehension and encouraging creative problem solving. The steps for implementation are as follows: The teacher presents an overview of the topic to be studied to focus students' attention. Students observe and understand the teacher's explanation to build initial comprehension. The teacher forms small groups of four to five students to encourage collaborative learning. Each group discusses the given material to deepen understanding through interaction. Groups present their discussion results in the form of a summary or diagram they have created. The teacher gives positive reinforcement through appreciation and evaluation of group work. Each group concludes the lesson as a form of reflection and conceptual reinforcement.

According to Swadarma (2013, as cited in Saputra et al., 2021)[24], the advantages of the mind mapping model are as follows: It enhances brain function in managing knowledge, making it easier for students to understand and retain information. It optimizes the brain's ability to process and organize information both verbally and visually. It encourages the emergence of new ideas during the presentation and processing of learned information. It develops students' creativity in designing and constructing diagrams or charts as tools for understanding material. It facilitates easier retrieval of information when needed in the future.

According to Warseno and Agus (2011, as cited in Erlisa Kambera Nauli Lumban Tobing & Oky Fardian Gafari, 2023)[11], some disadvantages of the mind mapping model include: Student participation in learning activities may still be limited. Not all students show high levels of motivation or desire to learn. The process of evaluating mind mapping results can be time-consuming, as students create them with creativity and varying methods.

c. IPAS Learning (Integrated Natural and Social Sciences Learning)

The Indonesian national curriculum has undergone several revisions in response to the rapid development of the times and the evolving characteristics of learners. The Merdeka Curriculum was introduced as a more flexible intradisciplinary learning model, enabling students to explore concepts and develop their competencies optimally (Khoirurrijal et al., 2022, as cited in Rahmawati et al., 2023)[21].

According to the Ministry of Education and Culture (Kemendikbud, 2022)[10], Natural and Social Sciences (IPAS) is a field of study that explores both living organisms and inanimate objects within the universe, as well as the interactions that occur between them. In addition, IPAS examines the dynamics of human existence, focusing on individuals and communities as they engage with their surrounding environment. As stated by Safitri et al. (2023, as cited in Alwi et al., 2024)[2], IPAS learning is intended to help students understand and apply scientific concepts in daily life, as well as explain various natural phenomena around them.

The integration of Natural Sciences (IPA) and Social Sciences (IPS) into IPAS aims to enable students to perceive

and manage the natural and social environments as a unified and interconnected system. This highlights the importance of learning IPAS at the elementary school level (Alwi et al., 2024)[2]. To help elementary students understand their environment scientifically, IPAS learning should focus on activities that provide direct and concrete experiences, thereby enhancing their exploratory skills.

IPAS is an integrated subject that combines science and social science concepts to strengthen students' understanding of both natural and social environments. The Merdeka Curriculum recognizes this integration as a strategic effort to improve the quality of elementary education (Rahmah & Harahap, 2024)[20]. However, Nugraha et al. (2023, as cited in Ilham et al., 2024)[8] observed that in classroom practice, teachers often deliver science and social studies content separately. The approach typically emphasizes informational delivery, making it easier for students to memorize the material.

Science learning tends to focus on mastering concepts, terms, and theories, while other crucial aspects such as scientific processes, scientific attitudes, and real-life applications often receive less attention. According to Rahman & Fuad (2023)[19], IPAS learning in the Merdeka Curriculum is carried out contextually and collaboratively, emphasizing students' real-life experiences. Learning activities are conducted in groups, while the teacher acts as a facilitator who monitors progress, assists students facing difficulties, and ensures active participation. Observations and interviews indicate that students showed enthusiasm and enjoyment during IPAS learning activities. The implementation of IPAS under the Merdeka Curriculum is expected to stimulate students' curiosity about phenomena in their surrounding environment.

III. RESEARCH METHODOLOGY

The method used in this study is a quantitative approach, which emphasizes the processing of numerical data to test the formulated hypotheses. According to Sugiyono (2020: 8)[26], quantitative research is also referred to as a conventional, positivistic, scientific, and exploratory method. It is considered a traditional approach because it has long been used in various studies and is one of the most commonly applied methods. This approach is also known as the positivistic method, as it is based on the philosophy of positivism. As a scientific method, it adheres to the principles of science being concrete, empirically observable, objective, measurable, logical, and systematically organized.

This research employed a pre-experimental approach, using a one-group pretest–posttest design to observe changes before and after the treatment (Sugiyono, 2020: 77)[26]. It involved a single group of students serving as the experimental group, which received treatment through the implementation of the Mind Mapping learning model. Before the treatment, students were given a pretest to assess their initial problem-solving abilities. After the treatment, a posttest was conducted to evaluate their problem-solving skills and self-regulated learning after the intervention. The research comprised two main types of variables: the independent variable and the dependent variable. The independent variable is the element that the researcher manipulates or applies during the study, whereas the dependent variable represents the outcome that is observed or measured in response to the intervention.

All fourth-grade students at SDN 3 Tanggung were designated as the population for this research. According to Sugiyono (2020:80)[26], a population is a group of objects or subjects possessing certain characteristics determined by the researcher, which become the central focus of the research. The sample, on the other hand, is a portion of the population chosen for analysis, enabling the researcher to draw conclusions that can be generalized to the broader population (Subhaktiyasa, 2024)[25]. Sugiyono (2020:81)[26] states that a sample is a portion of the population chosen because it possesses characteristics representative of the entire group. Data Collection Techniques

The questionnaire is a data collection method conducted by providing a set of written questions or statements to respondents, which they answer based on their actual conditions or personal perspectives. In the context of this study, the questionnaire instrument was used to obtain data on students' level of learning interest.

This research employed a non-probability sampling technique, meaning that not every individual in the population had an equal opportunity to be selected as a sample. As stated by Sugiyono (2020:84)[26], non-probability sampling is a method in which the chances of each member of the population being chosen are not the same. Specifically, saturation sampling was used, meaning all members of the population were included as the sample.

The primary instrument used in this study was a questionnaire designed to assess students' learning interest. A questionnaire is a data collection tool consisting of a series of written questions or statements, which respondents answer based on their actual conditions or personal perceptions. In this context, the questionnaire was utilized to obtain data on students' interest in learning.

The instrument consisted of 15 statement items with the following rating scale: for positive items, a response of "strongly agree" was given a score of 5, "agree" a score of 4, "undecided" a score of 3, "disagree" a score of 2, "strongly disagree" a score of 1, and no response was scored 0. For negative items, the scoring was reversed: "strongly agree" received a score of 1, up to "strongly disagree" with a score of 5, while unanswered items remained scored as 0.The questionnaire was developed by the researcher based on indicators from Safari in Wasti (2013), as cited in Febrian et al. (2022)[6].

Table 1. Alternative Score Values for Respondents' Answers

Response Option	Score
Strongly Agree	5
Agree	4
Undecided	3
Disagree	2
Strongly Disagree	1

Documentation Method, documentation serves as a valuable source of data required for conducting research,

including written materials, visual media, films, and significant works that provide essential information for the research process. Documentation is collected during the observation period as legally valid evidence that cannot be denied, and serves as a foundation to protect against accusations, misinterpretations, and defamation (Luthfiyah, 2017)[12].

The documentation method is a data collection technique conducted by tracing, gathering, and analyzing various documents relevant to the research focus. These documents may include archives, reports, written records, photographs, video recordings, or other materials related to the subject under study. In this research, documentation was used to assess students' initial skills and their progress throughout the learning process. The information collected was used to evaluate overall balance and development.

The data analysis was conducted using Jamovi version 2.3.28. Data collected through the questionnaires underwent several stages of analysis, including comparison of pretest and posttest results, a normality test was carried out to verify that the data conformed to a normal distribution. Once this assumption was met, a Paired Sample t-Test was employed to determine whether a statistically significant difference existed between the scores obtained before and after the treatment.

In the operational product testing phase, this research adopted a quasi-experimental design. Before data analysis, prerequisite tests such as the normality test were conducted to determine whether the distribution of each variable conformed to a normal pattern, which is essential for selecting the appropriate statistical analysis method.

To determine whether there was a statistically significant difference between the mean scores of the pretest and posttest, a Paired Sample t-Test was utilized. The hypothesis testing process was initiated only after all prerequisite statistical assumptions had been confirmed. This analysis aimed to investigate the influence of the independent variable on the dependent variable. All statistical computations were carried out using Jamovi software version 2.3.28. At a significance level of 5% ($\alpha = 0.05$), the decision criteria were as follows: if the p-value exceeds 0.05, the null hypothesis (H_0) is accepted, suggesting no significant difference; whereas if the p-value is below 0.05, the null hypothesis is rejected, indicating a statistically significant difference.

IV. Results and Discussion)

The research was carried out at SDN 3 Tanggung in Tulungagung Regency, with a sample consisting of 21 fourth-grade students. The primary aim of this study was to investigate the impact of implementing the Mind Mapping learning model on students' interest in learning, specifically in the subject of Natural and Social Sciences (IPAS). The specific focus of the material in this study was the topic of energy sources, taught during the 2024–2025 academic year.

The following is the data on the learning interest questionnaire of fourth-grade students at SDN 3 Tanggung, Tulungagung:

Table 1. Data on Learning Interest of Fourth-Grade Students SDN 3 Tanggung, Tulungagung

No.	Nama	Hasil Angket	
		Pre-test	Post-test
1.	ZIN	73	88
2.	ANL	83	87
3.	FLO	89	96
4.	NSY	93	96
5.	RKH	83	93
6.	AQL	88	96
7.	VNS	85	92
8.	RFK	67	89
9.	FJR	72	92
10.	NMR	68	80
11.	MNJ	76	89
12.	ALF	79	87
13.	RVI	75	88
14.	DNV	75	81
15.	RDR	77	89
16.	NZH	71	79
17.	NNR	84	95
18.	ALN	91	96
19.	ALF	68	89
20.	MRC	61	80
21.	LTF	85	93

To offer a clearer understanding of students' learning interest prior to and following the application of the Mind Mapping model, a descriptive statistical analysis was carried out. This analysis includes the median, standard deviation (SD), and standard error (SE) of the students' scores. The findings are summarized in Table 2 below.

Table 2. Descriptive Statistics of Learning Interest Data

	N	Mean	Median	SD	SE
Pre-test	21	78.2	77	8.78	1.92
Post-test	21	89.3	89	5.55	1.21

This section outlines the results of the descriptive statistical analysis of students' learning interest, as measured through a distributed questionnaire. The analysis aims to provide an overall picture of the learning interest levels among

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the participating students. Data collected from 21 students revealed an average pre-test score of 78.2 and a post-test score of 89.3.

The pre-test average of 78.2 reflects a moderate level of learning interest, indicating that while students were engaged in the learning process, their involvement had not reached its full potential. After the implementation of the Mind Mapping learning model, the post-test average increased to 89.3, categorizing it as high. This improvement demonstrates a positive development in students' learning interest. Therefore, the findings reinforce the conclusion that the application of the Mind Mapping model significantly boosts students' interest in learning, raising it from a moderate to a high level.

The validity of the instrument was assessed using Exploratory Factor Analysis (EFA) due to the initial uncertainty regarding whether the learning interest construct shared common underlying factors. Bartlett's Test of Sphericity produced a significance value of $p < .001$, indicating sufficient sample size for factor analysis (Retnawati, 2016)[22].

Table 3. Bartlett's Test of Sphericity for Learning Interest Questionnaire

χ^2	df	p
17.4	1	<.001

The validity test aims to determine whether the items in the questionnaire truly measure the intended construct, which in this case is learning interest. The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy yielded a value of 0.500, indicating that the data is sufficiently adequate for factor analysis, although it is at the minimum recommended threshold. This suggests that the inter-item correlations within the instrument are still adequate for further analysis using exploratory factor analysis. Based on the analysis, the value of Bartlett's Test of Sphericity was found to be $p < 0.001$. Referring to Retnawati (2016)[22], a significance value lower than 0.01 indicates that the test results can be considered valid, and thus the data is suitable for further analysis using factor analysis.

This study employed a learning interest questionnaire comprising 15 statement items. To assess the validity and reliability of the instrument, it was administered to 21 fourth-grade elementary students. The testing process was supported by the use of the Jamovi application, and the analysis results are detailed below:

Table 4. Scale Reliability Statistics of the Learning Interest Questionnaire

	Mean	Cronbach's α
scale	83.8	0.828

Based on this result, the test is declared valid and the data is considered suitable for further analysis using factor analysis. Instrument reliability testing was performed using Cronbach's Alpha, which measures internal consistency. The result showed a coefficient value of 0.828, which is categorized as high reliability (Retnawati, 2016)[22]. This suggests that the questionnaire items are strongly interrelated and jointly measure the same construct students' learning interest.

To determine the appropriateness of parametric statistical analysis, a normality test was conducted using the Shapiro-Wilk test.

Table 5. Normality Test (Shapiro-Wilk) of the Learning Interest Questionnaire

		W	p
Pretest	**Posttest**	0.925	0.108

As the p-value is greater than 0.05, the data is considered to follow a normal distribution, thus satisfying the assumption necessary for parametric testing.

To test the hypothesis, a paired samples t-test was conducted, producing a significance value of 0.01, which is below the 0.05 threshold. Consequently, the null hypothesis (H_0) is rejected, and the alternative hypothesis (H_1) is accepted. This outcome demonstrates a statistically significant change in students' learning interest before and after the use of the Mind Mapping learning model.

Tabel 6. Paired Samples T-Test of the Learning Interest Questionnaire

			statistic	df	p
Pre test	**Post test**	**Student's**	-8.99	20.0	<.001

Note. H_a $\mu_{\text{Measure 1 - Measure 2}} \neq 0$

In summary, the analysis and hypothesis testing indicate that students' learning interest improved following the integration of the Mind Mapping learning model. This enhancement is reflected in the significant increase in average scores from the pre-test to the post-test

This finding is supported by previous studies such as that of Purwiningsih & Sari (2022)[17], which also found that the use of Mind Mapping enhances student learning interest. The model emphasizes collaborative group work, allowing all group members to actively engage in creating conceptual maps, which fosters greater student involvement and motivation.

The results of statistical analysis using the paired sample t-test revealed a significance value of 0.01, which is below the 0.05 threshold. This signifies a meaningful difference between students' pre-test and post-test scores in terms of learning interest before and after the application of the Mind Mapping learning model. As such, the alternative hypothesis (H_1) is accepted, while the null hypothesis (H_0) is rejected. These findings indicate that the Mind Mapping learning model has a significant positive impact on enhancing learning interest in

the IPAS subject among fourth-grade students at SDN 3 Tanggung, Tulungagung.

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