



Effect of Tutesin Media Utilization on Learning Outcomes Reviewed from Learning Motivation of Second Grade Students at SDN Sidoklumpuk Sidoarjo

Noviana Desiningrum*, Savitri Suryandari
Universitas Wijaya Kusuma Surabaya, Indonesia
Email: noviana10@uwks.co.id*

Abstract:

This study aimed to determine (1) the difference in learning outcomes between students who participated in learning using *Tutesin* media and those who followed conventional learning, (2) the interaction effect between learning strategies and student learning motivation on learning outcomes, and (3) differences in learning outcomes among students with high learning motivation. The data obtained were analyzed using two-way analysis of variance with the F-test. The results showed that: (1) there was a difference in learning outcomes between students who participated in learning using *Tutesin* media and those who participated in conventional learning ($F_A = 5.008$ with $p < 0.05$), (2) there was an interaction effect between learning strategies and learning motivation on learning outcomes ($F_{AB} = 36.762$ with $p < 0.05$); (3) among students with high learning motivation, there was a difference in learning outcomes between those who followed learning using *Tutesin* media and those who followed conventional learning ($t\text{-count} = 5.870 > t\text{-table} = 1.960$), and (4) among students with low learning motivation, there was a difference in learning achievement between those who followed learning using *Tutesin* media and those who followed conventional learning ($t\text{-count} = 2.705 > t\text{-table} = 1.960$). It can be concluded that the implementation of learning using *Tutesin* media affected learning outcomes in grade II students of SDN Sidoklumpuk Sidoarjo.

Keywords: Use of TUTESIN media, Learning Outcomes, Learning Motivation, SDN Sidoklumpuk Sidoarjo



INTRODUCTION

Taking into account the cultural diversity, different backgrounds, and characteristics of students, as well as the demands to produce qualified graduates, the learning process for each subject must be flexible, multifaceted, and aligned with the standards of the learning process in each elementary school unit. It must be interactive, inspiring, entertaining, and challenging; it should encourage students to participate actively and provide ample space for initiative, creativity, and independence according to their abilities, interests, and physical and psychological development.

In order to achieve educational goals, teachers must select models and learning media that suit the material to be delivered (Mayer, 2019; Clark & Felton, 2020). In the learning process, teachers play a key role in choosing the appropriate learning model and media to match the presented material and achieve learning objectives (Anderson & Krathwohl, 2020; Hattie, 2021). In classroom teaching and learning, there is a close relationship among teachers, students, curriculum, facilities, and infrastructure (Wiggins & McTighe, 2019; Marzano, 2020; K-12 Teaching & Learning, 2021).

Children attending primary school are in early childhood, a short but crucial period in a person's life (Alharthi, 2023; Peak, 2023). Therefore, all of children's potential must be nurtured to develop optimally. Discussing education means focusing on the next generation,

particularly children, as they shape the future. Thus, improving educational quality must begin at the lowest level—elementary school.

However, challenges persist at the elementary school level, particularly at SDN Sidoklumpuk Sidoarjo. These can be broadly categorized as follows: First, many elementary school teachers lack adequate training, even those who have completed bachelor's programs in primary school teacher education (Mulyasa, 2020; Widodo & Nugroho, 2021). Second, uniformity and standardization of governance stifle innovation and creativity (Sutrisno & Nugraha, 2019; Harris & Jones, 2021). Teachers' activities are often limited to routine administrative tasks, leaving no time for updates or creative innovations (Wardani, 2020; Rahman et al., 2021).

Psychologically, such consistency and standardization make teachers fear mistakes or rule-breaking if they deviate, resulting in minimalist plans that merely meet official curriculum requirements. Third, teachers lack direct creative innovations, leading to a monotonous and boring learning atmosphere. Children, who naturally crave challenging and stimulating activities to spark curiosity, instead become disengaged. School activities become uninteresting and tedious, with children's tasks limited to workbook exercises.

Moreover, learning has traditionally been teacher-centered, with teachers supervising classroom activities such as delivering all teaching materials via lectures in a short time. Teaching is still viewed primarily as knowledge transmission rather than fostering knowledge, process skills, and scientific attitudes. Additionally, students face internal difficulties (originating from within themselves, such as low cognitive abilities, interests, talents, and motivation) and external difficulties (such as inadequate facilities or unsuitable teacher strategies). Consequently, educational goals are not achieved optimally, and student performance remains weak.

Given these limitations, applying student-centered learning media is appropriate, based on the view that the curriculum should connect to children's real-life experiences. In other words, curriculum plans—including objectives, content, materials, and processes—must align with children's actual experiences.

Teaching in elementary schools (grades 1–6) is ideal for all types of media. Learning occurs integrally, blending disciplinary and cross-curricular aspects with subject-specific teaching materials. This is especially recommended for grades 1–3, as students are still young, with rapid growth in all intelligence aspects (IQ, EQ, SQ).

At this stage, children perceive everything holistically and easily grasp interconnections between concepts. Learning depends on real objects and direct experiences. Isolated subject-based learning fails to develop general thinking skills and hinders connecting concepts to real life, causing students to miss the subject's practical benefits. Such fragmentation leads to partial, disjointed thinking.

Tutes media learning emphasizes the "learning by doing" concept. Thus, teachers should design learning experiences that meaningfully impact students. Experiences highlighting conceptual relationships enhance effectiveness, forming knowledge diagrams for comprehensive understanding. Holistic media in elementary school also aids students, who view everything totally according to their developmental stage.

Key properties of learning with *Tutesin* media include: 1) Prioritizing experiences and activities aligned with elementary students' developmental levels and needs; 2) Selecting activities based on students' interests and needs; 3) Making learning more meaningful and memorable, leading to lasting outcomes; 4) Developing students' thinking skills; 5) Presenting pragmatic activities tied to everyday environmental problems; and 6) Fostering social skills like cooperation, tolerance, communication, and openness to others' ideas.

Applying this thematic method offers advantages: 1) Efficiency by integrating core competencies, indicators, and subjects, reducing material duplication; 2) Enabling meaningful connections, with content serving as a vehicle rather than an end; 3) Promoting continuous, non-fragmented understanding of processes and materials; 4) Enhancing concept mastery through subject integration.

Tutesin media learning is comprehensive and integrated, adapted to the child's environment. "Comprehensive" means combining activities across developmental aspects— aesthetic, cognitive, social, emotional, linguistic, and physical. "Integrated" refers to weaving subjects into cohesive material packages. Together, they boost learning intensity, quality, and meaningfulness.

Tutesin media learning organizes around specific themes. According to Helm and Katz (2019), a theme is a broad concept or topic, such as "environment, animals, [or] plants." Teachers prepare books, photos, and materials on the theme, drawing from various developmental areas (aesthetic, cognitive, social, emotional, linguistic, physical).

Based on these problems, it is hypothesized that *Tutesin* media learning at SDN Sidoklumpuk differentially affects student learning outcomes. This study analyzes the influence of *Tutesin* media on grade II students' learning outcomes at SDN Sidoklumpuk Sidoarjo, considering learning motivation's role. Theoretically, it enriches basic education research on innovative media, motivation, and outcomes. Practically, it provides references for teachers and schools to select effective media, boosting motivation and outcomes, and informs policymakers on interactive media suited to elementary students.

RESEARCH METHOD

This study employed a quasi-experimental design using a posttest-only control group approach with learning motivation as a covariate. The independent variable was the learning method (*Tutesin* media vs. conventional), the dependent variable was learning outcomes, and learning motivation served as the moderating variable (categorized as high or low). This resulted in a 2×2 factorial design (Suryabrata, 2020).

The specific objectives were: 1) to identify differences in learning outcomes between students who learned with *Tutesin* media and those who experienced conventional learning; 2) to analyze the interaction effect between learning method and learning motivation on learning outcomes; 3) to examine differences in learning outcomes between students using *Tutesin* media and those using conventional methods among students with high learning motivation; and 4) to detect differences in learning outcomes between *Tutesin* media users and conventional learners among students with low learning motivation.

The subjects were grade II students from SDN Sidoklumpuk Sidoarjo, which comprised six classrooms across two schools: SDN Sidoklumpuk I (three classrooms) and SDN Sidoklumpuk II (three classrooms). Sampling used random techniques. From these six classrooms, two were selected as the experimental group and two as the control group via lottery. SDN Sidoklumpuk I served as the experimental group (*Tutesin* media), and SDN Sidoklumpuk II as the control group (conventional learning). The total sample was 90 students: 45 in the experimental group (23 with high motivation, 22 with low) and 45 in the control group (matching motivation levels).

After validity analysis, 38 items met the criteria (valid). The reliability of the 38-item learning outcomes test yielded a KR-20 coefficient of 0.928, indicating very high reliability (Guilford, 2020:142). Research data analysis proceeded in stages: descriptive statistics, pretest analysis, and hypothesis testing. Preliminary tests included normality of data distribution and homogeneity of variance. Normality was assessed across six data groups using the chi-square test.

Data collected included student learning outcomes from a posttest on *Tutesin* media learning materials and learning motivation scores from a questionnaire. Normality tests showed all data were normally distributed ($\lambda_{count} < \lambda_{table}$). Homogeneity of variance, tested via Bartlett's test on motivation data, yielded $\chi^2 = 0.002 < \chi^2_{table} = 3.481$, confirming homogeneity. Data collection used tests and questionnaires to ensure content quality after *Tutesin* and conventional learning. Expert assessments (two experts) confirmed quality, with $\chi^2_{table} = 7.211 < \chi^2_{table} = 7.815$.

Instruments were validated using Microsoft Excel. The learning motivation questionnaire achieved content validity of 1.00; of 42 items, 39 were valid (items 4, 14, and 37 were rejected). Its reliability (39 items) was 0.945 (high). The learning outcomes test also had content validity of 1.00; of 40 items, 38 were valid.

All groups were homogeneous and comparable. Normality and homogeneity tests confirmed that data followed normal distributions with equal variances. Thus, parametric hypothesis testing proceeded using two-way ANOVA with the F-test. This technique analyzes total variance into intergroup and intragroup components and tests differences among two or more means. Data were analyzed manually and with SPSS software.

RESULTS AND DISCUSSION

The data obtained in this study are data on learning motivation and data on the learning outcomes of the student group participating in learning using *Tutesin* media and the student group following it using conventional learning. Here you will find a summary of the results of the research on student performance as shown. It appears that the average learning outcome score of students who participated in the use of *Tutesin* media learning was 26,643 points higher than the average learning score of students participating in conventional learning which was an average of 24,000.

For the average learning score, students who participated in learning with tutoring media showed high learning motivation, which was 31.762% more than the average learning outcome. The learning motivation of students who participate in conventional learning is relatively high,

which is 21,958. Meanwhile, the average learning motivation of students who participate in Tutesin Media learning is relatively low, which is 21,524, lower than the average learning motivation of students who participate in traditional learning, which is low which is 26,042.

Based on the results of the hypothesis test with two-way variance analysis (ANOVA) with manual calculations and using the SPSS program version 16.00, the results were obtained according to Table 1 as follows.

Table 1. Summary of Two-Variance Analysis

Variant source	Db	JK	RK	Calculation	Table	Remarks
Inter A	1	156,457	156,457	5,008*)	3,95	Significant
Inter B	1	152,100	152,100	4,868*)	3,95	Significant
Inter AB	1	1148,579	1148,579	36,762*)	3,95	Significant
In the	86	2686,964	31,244	-	-	-
Total	86	4144,100	-	-	-	-

The results of this research hypothesis test show that: First, based on Tables 1 and 2, it was obtained that the average learning outcome (A1) of students who participated in learning with Tutes media was 26,643, while the average learning score of students who participated in learning was 26,643. After conventional learning (A2) 24,000. Based on the results of the two-way variance analysis shown in Table 2, the score of FAcoun = 5.008 ($p < 0.05$). Therefore, the null (H_0) hypothesis states that there is no difference in learning outcome paths.

Student learning between students who take part in learning using Tutesin media and students who take part in traditional learning in Class II of SDN Sidoklumpuk Sidoarjo Regency is rejected. So that there is a difference in student performance between students who use Tutesin media and conventional learning of Class II students of SDN Sidoklumpuk II in Sidoarjo.

Second, the results of the second hypothesis test succeeded in refuting the null hypothesis that there was no interaction between the application of learning and student learning motivation on the learning outcomes of Group 1 students of Sidoarjo II Regency. The FAB score = 36.762 and the FAB table = 3.95 ($p < 0.05$). These results show that the number of FABs is important. Therefore, the FAB score is important, and it can be concluded that there is an interaction between learning and learning motivation in its influence on the learning outcomes of Class II students of SDN Sidoklumpuk Sidoarjo Regency.

The use of learning models can affect student learning outcomes, but student learning motivation is a factor that teachers must pay attention to in determining and choosing a learning model. The more specific the learning model applied, the better the student's motivation to learn, because there is negotiation, interaction and agreement between students and teachers. Learning with holistic media is learning that is organized around a specific topic. Theme When learning how to use teaching media, teachers prepare books, photos, and others and provide other related materials. Experience from different areas of learning and development (aesthetic, cognitive, social, emotional, linguistic and physical) related to the subject. This increases students' motivation to learn.

Third, the analysis revealed that the results of the t-Scheffe test gave $t_{count} = 5.870 > t_{table} = 1.960$, successfully rejecting the zero hypothesis that there was no difference in student learning achievement between students who used Tutesin media and students who participated in conventional learning, both of which had high learning motivation in Class II students of SDN Sidoklumpuk Sidoarjo Regency.

The average learning motivation of students to participate in learning using Tutesin media is high = 31,762 and the average learning motivation of students to follow traditional learning is high = 21,958, student learning follows learning with Tutesin media. In groups of students who both have high learning motivation, the support of Tutesin media is higher than traditional learning.

Learning with Tutes media emphasizes more on the application of the concept of learning by doing. Therefore, teachers should focus or plan learning experiences that have an impact on the meaning of students' learning. Learning experiences that show the interconnectedness between conceptual elements encourage learning. The conceptual relationship between the subjects studied forms a diagram, so that students receive completeness and completeness of knowledge. In addition, the application of learning through Tutesin media in elementary schools is very helpful for students because they still see everything as a whole (holistic) according to their level of development.

Learning with holistic media is learning that is organized around a specific topic. According to Helm and Katz (2020), a theme is a broad concept or topic, such as "environment, animals, plants". While learning with holistic media, teachers prepare and provide books, photos and other materials about the subject. Experience from different areas of learning and development (aesthetic, cognitive, social, emotional, linguistic and physical) related to the subject. Therefore, learning with tutoring media requires students who have high motivation.

In traditional learning, the teaching and learning process is more often oriented towards the "flow of information" or "transfer of knowledge" from teacher to student. Almost all the concepts taught to students come from "what the teacher says". Teachers view learning only as the collection or memorization of facts presented in the form of information or subject matter. Sadia (2019:12) defines that the traditional learning model is a learning activity that begins with the introduction and presentation of information related to the concept to be learned, followed by the presentation of pictures or sample questions from the teacher, discussions and questions and answers, until finally the teacher feels that what he teaches can be understood by students.

In these conditions, learning is controlled by the teacher, whereas the student only accepts what the teacher gives and only does what the teacher asks of him, which in turn makes the student passive. Because in traditional learning, where students more easily accept the content of teaching from the teacher, there is not much motivation needed to learn. Looking at the essence of holistic media learning and traditional learning and combining it with the characteristics of students who have high learning motivation, it seems that holistic media learning is more suitable for students who have high learning motivation.

Fourth, the analysis revealed that the results of the t-Scheffe test gave $t_{cal} = 2.705 > t_{table} = 1.960$, thus successfully rejecting the zero hypothesis that the learning outcomes of

students who participated in Tutesin media learning were lower than traditional learning. Learning among students who both have low learning motivation, second and first grade students in Sidoarjo Regency. If the learning motivation of students who use conventional learning is low = 21.524 and the average learning motivation of students who do conventional learning is low = 26.042, then the learning outcomes of students who do conventional learning are higher.

Both have low motivation to learn. Djamarah (2020) defines motivation as a change in energy in a person that is characterized by the occurrence of an emotion and preceded by a response to a goal. A person's energy changes occur in the form of real activity in the form of physical activity. Since a person has a specific goal with his actions, one has a strong motivation to achieve it with all his might to achieve it. Woolfolk (2019) expresses the same thing: defines motivation as an internal state of the self that can arouse, direct, and sustain behavior. Motivation motivates people to engage in a variety of activities, such as eating, studying, working, shopping or looking for a job.

In traditional learning, the teaching and learning process is more often oriented towards the "flow of information" or "knowledge transfer" from teacher to student. Almost all the concepts taught to students come from "what the teacher says". Teachers see learning only as a collection or memorization of facts presented in the form of information or subject matter. Sadia (2018:12) Defining the conventional learning model is learning that begins with learning and presenting information related to the concepts being learned, followed by the presentation of pictures or examples of teacher questions, discussions and questions and answers until finally the teacher feels that what he is teaching can be understood. Student. In these conditions, learning is controlled by the teacher, whereas the student only accepts what the teacher gives and only does what the teacher asks of him, which in turn makes the student passive.

If students are able to do so. Students with low motivation imposed with Tutesin media learning face difficulties due to their inability to solve the problems they face. In traditional learning, where the role of the teacher is very dominant, students receive detailed guidance from the teacher about the concepts to be learned. Additional information is provided by the teacher so that students become good listeners, take notes and listen to the teacher's explanations. In traditional learning, students are more likely to accept what the teacher teaches. Therefore, traditional learning does not require much learning motivation from students.

CONCLUSION

This study on grade II students at SDN Sidoklumpuk Sidoarjo found significant differences in learning outcomes favoring *Tutesin* media over conventional methods; an interactive effect between learning method and motivation influenced results; and superior outcomes for *Tutesin* users among both high- and low-motivation students. Recommendations include adopting *Tutesin* media as an alternative, tailoring it to students' motivation levels, introducing it early, and providing teacher training to ensure effective implementation. For future research, longitudinal studies could explore *Tutesin* media's long-term effects on

cognitive, social, and emotional development across multiple grades and diverse socioeconomic contexts in Indonesian elementary schools.

REFERENCES

- Alharthi, M. (2023). Parental involvement in children's online education during COVID-19: A phenomenological study in Saudi Arabia. *Early Childhood Education Journal*, 51(2), 345–359. <https://doi.org/10.1007/s10643-022-01320-5>
- Anderson, L. W., & Krathwohl, D. R. (2020). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives*. Pearson Education.
- Clark, R. C., & Felton, S. (2020). *Designing effective instruction* (8th ed.). Wiley.
- Djamarah, S. B. (2019). *Psikologi belajar*. PT Rineka Cipta.
- Harris, A., & Jones, M. (2021). Improving teacher quality and fostering creativity in education systems. *International Journal of Educational Management*, 35(1), 85–101. <https://doi.org/10.1108/IJEM-06-2020-0218>
- Hattie, J. (2021). *Visible learning for teachers: Maximizing impact on learning*. Routledge.
- K–12 Teaching & Learning. (2021). Effective strategies and models in teaching: Research and practice. *Educational Leadership*, 79(4), 54–60.
- Marzano, R. J. (2020). *The art and science of teaching: A comprehensive framework for effective instruction*. ASCD.
- Mayer, R. E. (2019). *Multimedia learning* (3rd ed.). Cambridge University Press.
- Mulyasa, E. (2020). *Manajemen berbasis sekolah: Konsep, strategi, dan implementasi* (6th ed.). Remaja Rosdakarya.
- Peak, L. (2023). *Learning to go to school in Japan: The transition from home to preschool life*. University of California Press.
- Rahman, A. A., Li, S., & Sihombing, F. (2021). Time management and teacher creativity in elementary schools: Challenges and solutions. *Journal of Educational Administration*, 58(3), 275–293. <https://doi.org/10.1108/JEA-03-2020-0070>
- Suryabrata. (2021). *Metodologi penelitian*. Rajawali Pers.
- Sutrisno, E., & Nugroha, P. (2019). The impact of standardization on teacher creativity in Indonesian schools. *Asia Pacific Journal of Education*, 39(4), 532–546. <https://doi.org/10.1080/02188791.2019.1682045>
- Wardani, D. (2020). Teacher autonomy in Indonesia: Enhancing creativity in a highly regulated environment. *Journal of Educational Policy and Practice*, 32(1), 45–59. <https://doi.org/10.1080/00220272.2020.1781760>
- Widodo, W., & Nugroho, A. (2021). Teacher professional development in Indonesia: Barriers and strategies for improvement. *Journal of Teacher Education and Practice*, 34(2), 78–91. <https://doi.org/10.1080/20961542.2021.1877345>
- Wiggins, G., & McTighe, J. (2019). *Understanding by design* (2nd ed.). ASCD.