

EFFECT OF THE FLIPPED CLASSROOM LEARNING MODEL ON SBdP LEARNING OUTCOMES IN THIRD GRADE

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ARTICLE INFO	ABSTRACT
Diterima: 05 juni 2025 Direvisi: 10 Juni 2025 Disetujui: 18 Juni 2025 Tersedia Daring: 22 Juli 2026 Keywords: Flipped Classroom Learning Model, Learning Outcomes Arts and Culture, Learning Arts and Culture.	<i>This research aim For know the influence of the flipped classroom learning model on results Study art culture and crafts (SBdP) in class III of SD Negeri 091263 Pematangsiantar. This research use approach quantitative with type Pre-Experimental Design research through One Group Pretest-Posttest design. The research was conducted on students class III with amount sample as many as 22 students. The data collection technique used in study This in the form of tests, namely pretest and posttest. Before used in research, instruments question moreover formerly tested validity, reliability, level difficulty, and power differentiator. Based on validity test results of 40 grains of the questions tested, 20 items were obtained questions that are declared valid and appropriate used as instrument research. Reliability test results show Cronbach's Alpha value of 0.957 which is included in very high category, so instrument stated reliable and consistent used in research. In addition, the results of the level test difficulties show part big question is in the category moderate and easy, whereas power test results differentiator show question is in the category sufficient, good, and very good. Implementation study started with administering a pretest for know ability beginning student before given treatment. The pretest results show an average value of student of 57.50 with mark highest 70 and value lowest 45. Of the 22 students, only 2 students or 9% who reached completeness studying, while 20 students or 91% not yet reach completeness. Condition the show that results Study Arts and Culture student Still classified as low. After that, the researcher implementing the flipped classroom model in the learning process SBdP. This model used For help student understand material in a way more easy, interesting, and increase activeness and motivation student during the learning process ongoing. After implementing the flipped classroom model, the posttest results showed existence improvement results significant learning. The average posttest score of students increase to 91.36 with mark highest 100 and value lowest 85. All student or 100% has been reach completeness learning. The results of the N-Gain test show the average value is 0.8107 or 81.07% which is included in category high. This is show that The use of the flipped classroom learning model is very effective in increase results Study SBdP. In addition, based on t-test results obtained t - value namely 42.264 while the t table namely 2,080 at the level significant 0.05, so obtained t count > t table. Then it can be concluded that Ho is rejected and Ha is accepted, which means there is influence the use of the flipped classroom learning model results Study Arts and Culture in Grade III of SD Negeri 091263 Karang Sari</i>
Kata Kunci:	ABSTRACT
Model Pembelajaran Flipped Classroom, Hasil Belajar SBdP, Pembelajaran SBdP..	Penelitian ini bertujuan untuk mengetahui pengaruh model pembelajaran flipped classroom terhadap hasil belajar seni budaya dan prakarya (SBdP) di kelas III SD Negeri 091263 Pematangsiantar. Penelitian ini menggunakan pendekatan kuantitatif dengan jenis

penelitian Pre-Experimental Design melalui desain One Group Pretest-Posttest. Penelitian dilaksanakan pada siswa kelas III dengan jumlah sampel sebanyak 22 siswa. Teknik pengumpulan data yang digunakan dalam penelitian ini berupa tes, yaitu pretest dan posttest. Sebelum digunakan dalam penelitian, instrumen soal terlebih dahulu diuji validitas, reliabilitas, tingkat kesukaran, dan daya pembeda. Berdasarkan hasil uji validitas dari 40 butir soal yang diujikan, diperoleh 20 butir soal yang dinyatakan valid dan layak digunakan sebagai instrumen penelitian. Hasil uji reliabilitas menunjukkan nilai Cronbach's Alpha sebesar 0,957 yang termasuk dalam kategori sangat tinggi, sehingga instrumen dinyatakan reliabel dan konsisten digunakan dalam penelitian. Selain itu, hasil uji tingkat kesukaran menunjukkan sebagian besar soal berada pada kategori sedang dan mudah, sedangkan hasil uji daya pembeda menunjukkan soal berada pada kategori cukup, baik, dan sangat baik. Pelaksanaan penelitian diawali dengan pemberian pretest untuk mengetahui kemampuan awal siswa sebelum diberikan perlakuan. Hasil pretest menunjukkan rata-rata nilai siswa sebesar 57,50 dengan nilai tertinggi 70 dan nilai terendah 45. Dari 22 siswa, hanya 2 siswa atau 9% yang mencapai ketuntasan belajar, sedangkan 20 siswa atau 91% belum mencapai ketuntasan. Kondisi tersebut menunjukkan bahwa hasil belajar SBdP siswa masih tergolong rendah. Setelah itu, peneliti menerapkan model flipped classroom dalam proses pembelajaran SBdP. Model ini digunakan untuk membantu siswa memahami materi secara lebih mudah, menarik, serta meningkatkan keaktifan dan motivasi siswa selama proses pembelajaran berlangsung. Setelah penerapan model flipped classroom, hasil posttest menunjukkan adanya peningkatan hasil belajar yang signifikan. Rata-rata nilai posttest siswa meningkat menjadi 91,36 dengan nilai tertinggi 100 dan nilai terendah 85. Seluruh siswa atau 100% telah mencapai ketuntasan belajar. Hasil uji N-Gain menunjukkan nilai rata-rata sebesar 0,8107 atau 81,07% yang termasuk dalam kategori tinggi. Hal ini menunjukkan bahwa penggunaan model pembelajaran flipped classroom sangat efektif dalam meningkatkan hasil belajar SBdP. Selain itu, berdasarkan hasil uji-t diperoleh nilai t hitung yaitu 42,264 sedangkan t tabel yaitu 2,080 pada taraf signifikan 0,05, sehingga diperoleh t hitung > t tabel. Maka dapat disimpulkan bahwa H_0 ditolak dan H_a diterima, yang berarti terdapat pengaruh penggunaan model pembelajaran flipped classroom terhadap hasil belajar SBdP di kelas III SD Negeri 091263 Karang Sari

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1. INTRODUCTION

The gap in quality and access to education between developed regions and frontier, remote, and underdeveloped regions has resulted in declining learning outcomes, especially in subjects that require practical skills such as Arts and Crafts. The phenomenon of low learning outcomes and active student involvement in Arts, Culture, and Crafts (SBdP) learning at SD Negeri 091263 Karang Sari reflects the difference between the ideal goals of national education and the reality that has been carefully formulated for the learning process at the educational unit level (Lestari, 2021). This condition certainly contradicts the mandate of Law Number 20 of 2003 concerning the National Education System (Sisdiknas), which expressly regulates the functions and

objectives of education. Article 3 of the Sisdiknas Law emphasizes that national education functions to develop abilities and shape the character and civilization of a dignified nation in order to educate the nation's life, with the aim of optimally developing students' potential so that they become human beings who believe in and fear God Almighty, have noble character, are healthy, knowledgeable, capable, creative, independent, and become democratic and responsible citizens (Sri Utami, 2017).

Students in the educational process must be directed to develop their potential, thinking skills, and the skills needed for social life. The current development of global education is also one of the guidelines in arts and culture education at the elementary school level that can contribute to the development of creativity, cultural values, and affective and social abilities of students (Suharno, 2020). Development in skills related to arts learning can increase self-confidence, appreciation of cultural values, and creative thinking skills that are essential for the 21st century era, including critical thinking and collaboration skills that are part of the 4C competencies (Critical Thinking, Creativity, Collaboration, Communication) of elementary school students. The integration of arts education in the curriculum not only enriches students' learning experiences but also strengthens the holistic competencies needed in the modern world of education (Zuhro, 2025). The increasingly developing education in Indonesia includes arts and culture learning that plays a strategic role in shaping the character and cultural identity of students at the elementary school level (Shih, H. C. J. & Huang, 2020). Through the Arts, Culture and Crafts (SBdP) subject, students are not only introduced to the theoretical aspects, but also trained to recognize the tools and materials for art materials that will be applied and appreciate the richness of local and national culture. This is in line with the view of Musa (Azizah et al., 2022) who emphasized that arts and culture education is able to increase students' understanding of cultural values as well as their ability to express themselves creatively.

The local and national cultural aspects required in the Indonesian basic education curriculum, particularly in Arts and Culture (SBdP), are designed to foster a generation that is not only intellectually intelligent but also culturally sensitive. However, the reality on the ground demonstrates conditions that contradict this ideal. Some students have been found to be less enthusiastic about participating in art lessons, less appreciative of existing regional arts, and a lack of creativity, reflected in the works they produce. This current unfavorable situation is due to various structural challenges, such as limited learning media, underutilization of local cultural resources, and teaching approaches that do not fully address the potential diversity of students (Uluçınar Sağır & Sakar, 2017).

Teaching approaches that are not fully able to adapt to the diversity of characteristics, learning styles, and abilities of students also involve the failure to achieve expected learning outcomes. The achievement of the evaluation results of the Arts, Culture, and Crafts (SBdP) subject in grade III of SD Negeri 091263 Karang Sari, did not adapt to self-potential in various factors that are early indicators of a problem in the learning process carried out directly (Haqiyah, 2021).

These various interrelated problems ultimately lead to one fundamental conclusion: the low achievement of students' knowledge, skills, and attitudes in Arts and

Culture subjects is a direct result of conventional learning models that are no longer adequate to meet the needs of 21st-century learning (Aburezeq, 2020). This condition is inseparable from the learning approach that is still traditional and lacks variety, where teachers dominate the learning process without providing adequate space for students to actively engage, explore, and develop their creative potential. As a result, students show limitations in understanding art concepts, making it difficult to translate main ideas into practical creative skills, and a lack of appreciation for the value of the beauty of art and culture as part of attitudinal competencies that should be formed through a meaningful learning process (Tsai et al., 2020).

Researchers found that third-grade students at SD Negeri 091263 were less enthusiastic about participating in Arts and Crafts learning, having difficulty recognizing tools and materials in simple printing techniques in real life in creating artwork, such as drawing or decorating shapes that can add aesthetics. Many students have not been able to demonstrate optimal artistic skills by combining colors in predetermined shapes to create interesting and unique artwork through techniques and experiments that have been carried out. The ongoing learning is still one-way so that interaction, exploration, concrete activities are still very limited and students are only centered on the teacher during the process of creating artwork. This can be seen when the teacher gives questions to students and conducts daily tests, there are several students who respond and get less than good test scores. This is an important concern for a teacher in teaching in the classroom (Strelan et al., 2020).

Learning quality can improve learning outcomes by implementing the Flipped Classroom learning model, which has a more flexible impact on the teaching and learning process. The Flipped Classroom model is expected to condition students to continue to receive complete material from the teacher and can provide time for students to take performance tests in front of the teacher. This learning model provides space for students to learn at their own pace (self-paced learning), so that students are no longer just recipients of information, but active subjects in the learning process (Yesilçinar, 2019). The Flipped Classroom model allows students to learn basic concepts of Arts and Culture first outside of class through video media or digital teaching materials, so that learning time in class can be focused on practical activities, discussions, and teacher guidance. Wulandari and Sukardi (2023) in the *Journal of Art Education* state that the Arts and Culture learning model ideally is able to integrate elements of direct experience, practice, and reflection (Jian, 2019).

The Flipped Classroom learning model has great potential in improving student learning outcomes because it encourages student independence, activeness, and responsibility in the learning process. Flipped Classroom is effective in improving learning outcomes and student activeness because classroom learning becomes more meaningful and in accordance with the characteristics of the subject that emphasizes practical aspects and creativity (Erbil, 2020). In the practice of Arts, Culture, and Crafts (SBdP) lessons, the model used allows students to learn basic materials such as art concepts and techniques independently at home efficiently, so that class time can be more focused on the learning process.

The learning process that takes place at SD Negeri 091263 Karang Sari provides guidance and direction that is still dominated by the use of conventional learning models that are less varied, where teaching and learning activities are more centered on the teacher as the provider of material, while students tend to act as listeners which makes the teaching and learning process less innovative. Research conducted by choosing the Flipped Classroom learning model includes innovative solutions for students, which are able to attract students' attention during the learning process that is not only centered on the teacher but towards more active, independent, and meaningful learning to be more confident in developing student potential. So that the quality of the process and student learning outcomes in the SBdP subject can increase significantly.

Based on the results of a similar study conducted by Rindu Melati et al. (2025), it was found that the Flipped Classroom approach was effective in improving students' conceptual understanding and skills in the Arts, Culture, and Crafts (SBdP) subject. Flipped Classroom helps students think more analytically and understand the material more deeply than traditional learning. Similarly, research by Agustini (2024) showed a sharp increase in student activity and learning outcomes, with class average scores increasing significantly and classical completion exceeding the KKTP, with a higher level of active student participation in the next cycle. Thus, the quality of the process and student learning outcomes in the SBdP subject is more interesting and efficient for elementary schools (Kawinkoonlasate, 2019).

One innovation needed by teachers is the use of learning models. By using learning models, the teaching and learning process runs effectively. Therefore, the model acts as an intermediary for teachers in conveying information to students. The Flipped Classroom learning model also needs to be used as a learning aid, its application appropriate to the subject matter and the characteristics of the students. The selection of this learning model in the teaching and learning process is expected to increase student interest in learning, improve student understanding of the learning, and improve student learning outcomes.

Based on the background above, the researcher in this study determined the research title "The Effect of the Flipped Classroom Learning Model on Students' Arts and Culture Learning Outcomes in Class III of SD Negeri 091263 Karang Sari".

2. RESEARCH METHODS

This study used quantitative research with an experimental method. This approach was chosen to test the effect of the Flipped Classroom model on student learning outcomes. Research methods can be defined as a scientific way to obtain valid data with the aim of discovering, developing, and proving specific knowledge so that it can be used to understand, solve, and anticipate problems in the field of education (Tampubolon et al., 2022)

In this study, the researcher used a quantitative method (Wahyuni, 2023). The reason for using quantitative research is because the data collection is in the form of numbers that can be analyzed using statistics to prove whether or not there is an

influence of the Flipped Classroom Learning Model on Arts and Culture Learning Outcomes in Class III of SD Negeri 091263 Karang Sari.

The research design used is a one group pretest–posttest design, namely a research design that only involves one class as an experimental class and is carried out without a comparison group with the aim of gaining an understanding of the description of "The Effect of the Flipped Classroom Learning Model on Arts and Culture Learning Outcomes in Class III of SD Negeri 091263 Karang Sari".

The pretest (initial test) questions were given before learning using the Flipped Classroom learning model, while the posttest (final test) was given after using the Flipped Classroom learning model (Suliawati et al., 2020).

This research design was designed to scientifically prove that the implementation of the Flipped Classroom learning model has a significant impact on improving Arts and Culture learning outcomes in grade III of public elementary schools. This research framework has steps that reflect a logical, systematic, and measurable thought process, starting from problem identification, implementing an innovative model, measuring results, and drawing conclusions that can be used as a reference for developing learning practices in elementary schools.

This research was conducted at SD Negeri 091263 Karang Sari (NPSN: 10259627) located in Karang Ayer, Karang Anyer Village, Gunung Maligas District, Simalungun Regency, North Sumatra. The researcher chose this school because the use of less varied learning models in the Arts and Crafts (SBdP) learning process, resulting in a lack of student learning outcomes in the material on recognizing tools and materials in printing techniques in grade III (Zou & Zhang, 2021).

The researcher conducted the research in April of the even semester of the 2025/2026 academic year in class III of SD Negeri 091263 Karang sari. The selection of the time in the even semester was based on the consideration that the material on recognizing tools and materials in printing techniques was being taught to students, thus allowing the researcher to apply the treatment in the form of using the Flipped Classroom learning model in the SBdP subject.

The population of this study was all third-grade students of SD Negeri 091263 Karang Sari totaling 22 people, with 11 boys and 11 girls. The sampling technique in this study used saturated sampling. According to Sugiyono referred to in Suryani et al. (2023) saturated sampling is a sampling technique using the entire population because the population is relatively small, namely <30 people. In this study, the sample used by the researcher was all students in grade III of SD Negeri 091263 Karang Sari. The following is a detail of the research sample (Kurniasih & Nofiana, 2023).

Data collection techniques were used Researchers For can collect data or information based on fact supporters on the field For Research needs and techniques used are largely determined by the research methodology chosen by the researcher. Data collection is carried out For get the data that has been implemented. The purpose of this technique data collection for research so that the data and theories contained therein are valid and also appropriate reality, so that Researchers must truly jump directly and

knowing technique data collection that will be used. With Thus, researchers will knowing the validity test, reliability test, level test difficulty and power test different.

3. RESULTS AND DISCUSSION

Description of Research Results

This research is quantitative research with use purposeful one group pretest-posttest design For know change results Study student before and after given treatment in the form of implementation of the Flipped Classroom learning model. The research was conducted in class III of SD Negeri 091263 Karang Sari with amount student as many as 22 people. The election design This based on considerations that Researchers want to get clear picture about improvement results Study through comparison condition initial (pretest) and conditions final (posttest) in the same group after given treatment learning.

initial stage of the research begins with Implementation of instrument testing on April 16, 2026 at SD Negeri 097806 Karang Sari. Selection instrument test location done by purposive sampling with consider similarities characteristics between pilot school and research school, both from aspect curriculum, level class, characteristics students, as well as condition environment learn. This is aims to ensure that the instruments used absolutely valid and accurate in measure ability students. Instrument test implemented for 60 minutes with using 40 grains question choice double. Next, the instrument test results data analyzed use SPSS version 24 help for know level validity and reliability question (Ramadhani et al., 2019).

Based on results instrument test analysis, obtained that of 40 grains There are 20 questions tested question declared valid with percentage by 75%, while 20 grains question other stated invalid because No fulfil criteria coefficient established correlation. In addition, the results of the reliability test show that instrument is in the category high, so that instrument the consistent and worthy used in a research process.

The research implementation stage begins with pretest administration on April 17, 2026. Pretest was given For know ability beginning students on the material know tools and materials in engineering print in eye lesson Arts and Culture. The pretest results show that average student grades Still be under Criteria Achievement of Learning Objectives (KKTP) that have been determined, namely as much as 70. Most of student Not yet reach completeness learning, which indicates that understanding beginning student to material Still low and requires effort For change technique in the learning process so that the process more effective.

After the pretest was conducted, the researcher give treatment in the form of implementation of the Flipped Classroom learning model as much as two meetings, namely on April 20, 2026 and April 22, 2026. At this stage this, students moreover formerly given material learning in form of learning videos and simple teaching materials For studied in a way independent at home before learning taking place. Then, at the time activity classroom learning, time learning utilized For activity discussion, ask answer, and practice direct know tools and materials technique print. The application of this model in a way real in the field show that student become more active, brave ask, and

more easy understand material Because has own knowledge beginning before learning taking place in class (Fauzi et al., 2022).

Treatment process finished implemented, Researchers provide a posttest for measure ability end students. The posttest results showed existence significant improvement compared to with pretest results. Average student scores experience quite an improvement high and partly big student has reach even exceeds the stipulated KKTP. Percentage completeness learning also experiences significant increase, which indicates that learning with the Flipped Classroom model providing impact positive to results Study students. After the posttest was administered, it was obtained results that show that all over students, namely as many as 22 people, have reach Criteria Achievement of the established Learning Objectives (KKTP). The highest score obtained student is 100, whereas mark lowest is 85. This result show that all over student has reach completeness learning. Next, it is done analysis on the pretest and posttest data for know There is or whether or not influence application of the Flipped Classroom learning model to results Study Arts and Culture in class III of SD Negeri 091263 Karang Sari.

Prerequisite Test

Prerequisite test is draft base For understand the data collected fulfil condition For analyzed with technique selected statistics. For make things easier calculation use SPSS help for windows 24. Previous conducting research, researcher do test instrument in the form of validity tests, reliability tests, power tests different, level test difficulties.

Validity is something size that shows level validity something instrument. In testing validity from grains questions that have been done by respondents, researchers use SPSS 24 application. After the researcher correct questions that have been done by students, researchers do data input in SPSS 24. Item the question that is said to be valid is If value $>$ with level significant 5% or 0.05 and vice versa if $<$ then grains question it is said invalid. In determining can seen from r product moment table with $N = 22$ then obtained $= 0.3598$ (Destriani & Warsah, 2022).

Based on validity test results grains the questions presented in Table 4.1, it is known that from a total of 40 grains test questions to respondents, there are 20 items questions that are declared valid and 20 items the question stated invalid.

The results of the validity test obtained in the explanation on there are 20 grains questions that are declared valid because own mark $r_{hitung} > r_{table}$. Condition This show that grains question capable measure ability students. This is in line with Mackenzie's opinion in Zayrin et al (2025) stated that validity is form instruments made capable measure what it should be measured. Item question in this study arranged based on indicator learning that has been set on the grid instrument. Questions that are declared valid, then will used as instrument in the research, namely in the form of a pretest which will given before treatment and posttest after given treatment.

Validity test results on there are 20 grains the question stated invalid because own mark $r_{hitung} < r_{table}$ capable measure ability student in a way right. Therefore that, the item invalid questions are not used in research, so that the instruments used only

consists of on grains questions that have been fulfil criteria validity so that research results obtained more accurate.

Reliability test is a process for know to what extent a tool measuring instruments Research can give consistent and stable results If used repeatedly on the subject or the same object, in the same conditions.

Based on reliability testing done against 20 grains previous question has declared valid through validity testing. Testing reliability This done with SPSS program assistance version 24 for know level consistency Research instruments. Analysis results show that Cronbach's Alpha value obtained of 0.957. This value ensure that instrument must own level consistency very high part, so that capable give stable results if used in the same conditions.

Researchers find consistent theory with opinion Suharsimi Arikunto (2021) stated that that whose reliability is in the range of 0.80–1.00 including in very high category. The Cronbach's Alpha value of 0.957 indicates that instruments used in this study own excellent reliability. every grains question in instrument capable measure in a way consistent and mutual correlated in represent measured ability.

Level of difficulty question is opportunity For answer Correct something questions at a certain level of ability or Can it is said For know A question That classified as easy or currently or difficult (Ulya et al., 2019).

According to Arikunto (2018), level difficulties question is ability something grains question For differentiate between capable students tall with capable students low. Classification Power differentiator question shared become four categories, namely 0.00–0.20 (poor), 0.20–0.40 (sufficient), 0.40–0.70 (good), and 0.70–1.00 (good) once). Based on Table 4.3, the results of the Level of Difficulty test using SPSS 24 which shows that of 20 grains questions that have been analyzed, there were 19 items questions included in category Good with mark range between 0.64–0.68, namely at numbers 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, and 20. There is 1 item questions included in category Good once, that is number 8 with mark level difficulties of 0.73. This is show that all over grains question own Power adequate differentiator, so that questions the capable differentiate students who have control material with students who have not Can control material optimally. The more tall coefficient level difficulties in something grains matter, the more capable grains question the differentiate between students who master competence with less students control competence. With Thus, the instrument questions used in this research worthy maintained and can be used as tool valid evaluation in measure ability student.

On power test differentiator, researcher using 22 students class III as samples originating from SD Negeri 091263 Karang Sari. Power test differentiator done in the lesson SBdP, in particular material know tools and materials in engineering print. Purpose of power test different that is For know ability every question in differentiate students who have ability height and ability low (Irianti et al., 2020).

According to Arikunto (2018), criteria Power differentiator shared become four, namely 0.00–0.20 (low), 0.21–0.40 (sufficient), 0.41–0.70 (good), and 0.71–1.00 (good) once). Based on Table 4.4, the results of the power test the distinction made with

using SPSS 24 shows that of 20 grains In the questions tested, there are 8 items questions that are in the very good category ($D = 0.71-1.00$), namely numbers 1, 8, 21, 24, 26, 27, 29, and 31. Items question the get mark Power differentiator consecutive of 0.76; 0.79; 0.90; 0.90; 0.90; 0.84; 0.78; and 0.78; where eight of them beyond limit of 0.71. The height mark Power differentiator in the items question the identified that question capable in a way consistent differentiate student capable tall from those who are capable low, so it's worth it maintained as instrument measurement. While there are 11 items questions that are in the category good ($D = 0.41-0.70$), namely numbers 2, 3, 4, 5, 9, 12, 16, 18, 20, 23, and 34, with mark Power the differentiators of each range between 0.51 to 0.70. Category good on the details question the show that instrument has capable differentiate between group above and group lower in a way adequate. There is 1 item questions that are in the category sufficient ($D = 0.21-0.40$), namely number 13 with mark Power differentiator of 0.35. This is still is at in limits that can be accepted, item questions in the category This need get attention more continue. With Thus, the results of the power test differentiator show that part large at 20 grains questions (95.2%), have fulfil criteria Good to very good.

Data Analysis Results

N-Gain Test

After it is implemented pretest and posttest activities, stage furthermore is do analysis improvement results Study student using the N-Gain test. The N-Gain test is used For know how much big improvement ability student after given treatment learning. The results obtained become reject measuring related to what extent does it influence application of learning models *flipped classroom* to results Study Arts and Culture in Grade III of SD Negeri 091263 Karang Sari. N -Gain is capable give a clearer picture objective about effectiveness a learning model in increase results Study student.

N-Gain Calculation in this Research done use help application *SPSS 24*. The results of calculation the Then used as base For determine level effectiveness of learning models *Flipped Classroom* learning is implemented. The criteria are level the effectiveness of N-Gain is as following :

1. If the N-Gain value is > 0.7 then level effectiveness from treatment is tall.
2. If the N-Gain value is ≥ 0.3 or ≤ 0.7 then level effectiveness from treatment is currently.
3. If the N-Gain value is < 0.3 then level effectiveness from treatment is low.

In the table N-Gain test results, there are part *Descriptive Statistics* that works For give description general data statistics. The explanation is as follows as following :

1. N (Number of Data): Shows amount of data or amount students analyzed. In this study, $N = 22$ students.
2. Minimum: The smallest value from the obtained N-Gain data students. Show lowest increase.
3. Maximum: The largest value from N-Gain data. Shows the highest increase.
4. Mean (Average): The average value of the entire N-Gain students, which describes level improvement in a way general.

5. Standard Deviation (Standard Deviation) Deviation): Shows level the spread of data from the average. The more small the value, the more data evenly ; increasingly big the value, the more data varies.

Following results N-Gain testing that has been done Researchers in application *SPSS 24* as following :

Table 1. N-Gain Test

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Standard Deviation
Gain_Score	22	0.67	1.00	0.8107	0.11501
Gain_percent	22	67	100	81.07	11,501
Valid N (listwise)	22				

Source : *SPSS 24 Output*

Based on results analysis of data that has been done, obtained N-gain value for measure improvement results Study student after application of learning models. According to Kurnianingsih In Oktavia and Prasasty (2019), the N-Gain value in the range of 0.70–1.00 is included in criteria high. Calculation results show that the average N-gain value is 0.8107 or in form percentage by 81.07%, with minimum value 0.67 and maximum 1.00. Based on criteria N-gain interpretation, value the including in category high, which shows that happen improvement results Study significant students after given treatment learning.

Hypothesis Test Results

After it is done analysis improvement results Study using the N-Gain test, steps furthermore is conduct a hypothesis test. Hypothesis test aim For give answer to formulation Research problems and prove in a way statistics whether there is significant influence from application of learning models *Flipped Classroom* vs. results Study students. In this study, the hypothesis test done using the *Paired Samples t*-test with help application *SPSS 24*. This test used because the data being compared originate from the same group, namely mark *pretest* and *posttest* of students. The hypothesis in this research is :

H_0 : None significant influence use of learning models *Flipped Classroom* vs. results Study Arts and Culture in class III of SD Negeri 091263 Karang Sari.

H_a : There is a significant influence of the learning model *Flipped Classroom* vs. results Study Arts and Culture in class III of SD Negeri 091263 Karang Sari.

With criteria :

1. If $t_{\text{count}} < t_{\text{table}}$ then H_0 is rejected, with level significant 0.05
2. If $t_{\text{count}} > t_{\text{table}}$ then H_a is accepted with significance level < 0.05

Paired Samples Test Table is the results of the statistical tests used For compare two data that are related to each other in pairs, in matter This students' pretest and posttest scores. Parts in table the includes :

1. *Mean* (Average difference): Shows the average difference between mark *posttest* and *pretest*.

2. *Standard Deviation* (Standard Deviation) deviation): Shows level variation or distribution from difference mark the.
3. *Std. Error Mean* : Shows level mean error of sample data to population.
4. *95% Confidence Interval of the Difference (Lower & Upper)*: Shows 95% confidence interval range of average difference. This means that the difference mark Actually is at in range the.
5. *t* (t count): *The* statistical value of the t-test used For determine There is or whether or not significant difference.
6. *df* (degree of freedom) freedom) : Calculated with N-1 formula. In this research : $20-1 = 19$.
7. *Sig.* (2-tailed) : Significance value used as base taking decision in hypothesis testing.

Following results from the Hypothesis Test that has been implemented at SD Negeri 091263 Karang Sari with assisted by SPSS 24 as following :

Table 2. Hypothesis Testing

Paired Samples Test		Paired Differences			95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
		Mean	Stand ard Devia tion	Std. Error Mean	Lower	Upper			
Pair 1	Posttest_Score - Pretest_Score	33,864	3,758	0.801	32,197	35,530	42, 264	21	.000

Based on The results of the Paired Sample t-Test in the table above are known that The average difference (mean difference) between the pretest and posttest was 33.864. According to Sugiyono (2019), testing hypothesis done with compare mark statistics count with mark table For determine accepted or rejected hypothesis. The calculated t value obtained is 42,264 with degrees freedom (df) = 21, where $(n-1) = 22-1 = 21$, then t- table value is 2,080 and the value its significance of 0.000. So the calculated $t > t$ table and the significance is $0.000 < 0.05$. The average posttest score is 91.36 more tall compared to with an average pretest score of 57.50. The mean difference of 33.864 indicates existence improvement results Study student after given treatment. With thus, it can concluded that there is significant influence from application of learning models *Flipped Classroom* to results Study Arts and Culture in class III of SD Negeri 091263 Karang Sari.

Research Discussion

This research implemented in class III of SD Negeri 091263 Karang Sari in the year 2025/2026 academic year in range from April 17th to by April 20, 2026. Subject study is all over student class III, which consisted of 22 people. This study aim For know influence application of learning models *flipped classroom* to results Study students in the eye Arts,

Culture and Crafts (SBdP) material know tools and materials in engineering print (Jayadi et al., 2022).

At the stage early, students given a pretest for measure ability beginning before given treatment. Based on pretest results, obtained the average value (mean) is 57.50 with mark highest 70 and value lowest 45. Of the total the results of the pretest are known that as many as 20 students (91%) obtained value below Criteria The achievement of Learning Objectives (KKTP) was 70, and only 2 students (9%) had reach mark complete. This is show that level results Study student before the implementation of the flipped classroom model is still classified as low, good from aspect average value and completeness Study in a way classical. Condition This in accordance with statement Saftri and Meilana (2022) stated that that learning conventional nature One direction tend make student passive and less capable build deep understanding, so learning model is needed innovative and capable push involvement active student since the beginning of the learning process (Walidah et al., 2020).

After being given treatment through application of learning models *flipped classroom*, student given a posttest for measure improvement results learning. Based on posttest results, obtained the average value (mean) is 91.36 with mark highest 100 and value lowest 85. All 22 students (100%) have reach value above KKTP, so that can stated that happen improvement results very significant learning after implementation of the *flipped classroom* model. When compared with pretest results, visible existence huge increase Good from aspect average value (57.50 to 91.36), minimum value (45 to 85), and completeness Study in a way classical (9% to 100%). Increase This prove that learning with the *flipped classroom* model capable create atmosphere learn more active and meaningful for student (Darwani et al., 2023).

Improvement from aspect mark can implemented with using the *flipped classroom* model which provides impact positive to activity Study students. Students become more active in follow learning, more brave put forward opinion, and more believe self in ask to the teacher. More learning process varied and interesting Because use of video media to create student more motivated and not easy feel bored (Khofifah et al., 2021). This is impact on increasing interests and passions student to eye lesson Arts and Culture, especially on the material know tools and materials in engineering print. Hal This in line with Melati *et.al's* (2025) opinion which states that *the flipped classroom* model allows student learn material in a way independent via video media before classroom learning taking place, so that time face advance can utilized optimally for activity discussion and in-depth study draft with the teacher. When compared between pretest and posttest results, it can be seen existence significant improvement, both from aspect average value and equality results learning (Savitri & Meilana, 2022). The mean difference between the pretest and posttest was 33.864 points, which indicates quite an improvement high on yield Study students. For know level improvement in a way more objectively, the N-Gain test was carried out. Based on results analysis, obtained the average value of N-Gain is 0.8107 or 81.07%, which is included in category high ($g > 0.7$). This is show that application of learning models *Flipped Classroom* effective in increase results Study student (Syajili & Abadi, 2021).

Effectiveness in improvement results Study more objective moment done calculation Normalized Gain (N-Gain) value (Harahap, 2019). Based on results analysis shown in the table descriptive, obtained the average N-Gain value is 0.8107 or 81.07% with The minimum N-Gain value is 0.67 and the maximum N-Gain value is of 1.00, and standard deviation of 0.115. Based on criteria N- Gain classification proposed by Syela (2023), the N-Gain value of 0.8107 is in the category tall Because exceed limit of 0.70. This is show that application of learning models *flipped classroom* proven effective in increase results Study student class III in the eye lesson Arts and Culture material know tools and materials in engineering print (Marita et al., 2022). The height this N-Gain value support opinion Safitri and Meilana (2022) stated that that *the flipped classroom* model in a way significant capable increase involvement active student in the learning process so that impact positive on improvement understanding and results learn, because student No only accept information in a way passive but participate active build his knowledge Alone (Apriska, 2020).

Hypothesis testing in study in a way statistics, paired samples t-test was conducted using help device SPSS 24 software. Based on results testing, obtained mean difference value between posttest and pretest scores of 33.864 with standard deviation of 3.758. The calculated t value obtained is amounting to 42,264 with degrees freedom (df) = 21 and the value significance (Sig. 2-tailed) = 0.000. The t- table value at the level of significance $\alpha = 0.05$ with df = 21 is of 2.080. Because the calculated t value (42.264) > t table (2.080) and the Sig. value (0.000) < 0.05, then H_0 is rejected and H_a is accepted. It is concluded that that there is significant influence from application of learning models *flipped classroom* to results Study student class III in the eye lesson Arts and Culture material know tools and materials in engineering print at SD Negeri 091263 Karang Sari

4. CONCLUSION

Based on results discussion research on the part previously can concluded things following :

- a. Implementation of learning models *Flipped Classroom* in a way significant increase results Study Arts and Culture student class III. This is proven from improvement average student grades from 57.5 on *the pretest* to 91.36 on *the posttest*.
- b. The N-Gain test results reached 0.8107, indicating that improvement results Study student is at in category high, indicates a learning model *Flipped Classroom* effective in increase results Study Arts and Culture student.
- c. The results of the hypothesis test show mark t_{count} as big as 42,264 more big from t_{table} 2.080 with level significance of 0.000 more small of 0.05, states that hypothesis null (H_0) is rejected and the hypothesis alternative (H_a) is accepted. This indicates existence influence significant from application of learning models *Flipped Classroom* effective in increase results Study Arts and Culture student.

SUGGESTION

After observing the field data in a way analysis and conclusions, then Researchers give some suggestions include For :

- a. Students of State Elementary School 091263 Karang Sari are expected more active in follow learning and utilizing experience learning gained through *the Flipped Classroom* model For understand draft mathematics in a way more in depth, especially on the material fractions.
- b. Teachers are advised For using a learning model *Flipped Classroom* as alternative in learning SBdP, because proven can increase results Study student as well as make learning more interesting and meaningful.
- c. School expected can support application of learning models innovative like *Flipped Classroom* with provide adequate learning facilities and media use support the learning process teach more effective.
- d. Researchers furthermore expected can develop study This with use variables, materials, or level different education, as well as use design further research area for results study become more comprehensive.

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