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Development of a Teaching Module Based on the Talking Stick Model to Foster Creativity

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Abstract: The creativity of third-grade students at MI Jabal Nur still needs to be improved due students not maximizing their ability to express ideas, concepts, and opinions. This study aims to: 1) design a teaching module grounded in the Talking Stick approach; 2) evaluate the feasibility of the resulting module; 3) examine its effectiveness in fostering third graders' creativity. This research procedure used Research and Development (R&D) methodology with the five phases of the ADDIE framework (Analysis, Design, Development, Implementation, and Evaluation), the study involved third-grade learners at MI Jabal Nur during the 2025/2026 academic year. Data were gathered through classroom observation and documentation utilizing pre- and post-observation creativity rubrics alongside product validation sheets. Student creativity was assessed across four core dimensions: fluency, flexibility, originality, and elaboration. Because the dataset violated normality assumptions, statistical analysis was performed via the Mann-Whitney U test. The findings demonstrate three key outcomes: 1) a Talking Stick based teaching module was successfully constructed following the ADDIE procedure; 2) expert assessments rated the product as highly feasible, achieving a 100% validation score for the model design and a mean feasibility rating of 95.15% for the module itself; and 3) the developed module exerted a statistically significant positive impact on learners' creativity, evidenced by a Mann-Whitney U significance value of 0.000 ($p < 0.05$), confirming a substantial performance gap favoring the experimental group over the control group.

Keywords: *teaching module, talking stick model, creativity*

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INTRODUCTION

Education is not merely the transfer of knowledge but also a process of reconstructing the life experiences undergone by the individual. Everyone requires education, as without it, human development is difficult to achieve. According to Article 3, Chapter II of Law of the Republic of Indonesia Number 20 of 2003 concerning the National Education System, the objective of education is "to develop and shape the character and civilization of the nation serving to enlighten the nation's life and to develop the potential of learners so that they become individuals who possess faith and piety toward God Almighty, noble character, health, education, competence, creativity, and independence, and who become democratic and responsible citizens" (Undang-Undang Republik Indonesia Nomor 20 Tahun 2003 Tentang Sistem Pendidikan Nasional, 2003).

Based on these objectives, education should provide students with opportunities to develop their potential comprehensively. Learning should not only focus on students' ability to memorize information but also encourage them to think, communicate, collaborate, solve problems, and produce creative ideas. Therefore, the learning process needs to be designed in an active, interactive, meaningful, and student-centered manner. Through appropriate learning activities, students can gain meaningful experiences that support the development of their knowledge, skills, attitudes, and creativity.

The achievement of educational objectives is closely related to the quality of the learning process. Teachers need to select appropriate teaching materials, learning methods, and learning models based on the characteristics and needs of students. Teaching materials are important because they provide systematic guidance for teachers and students during the learning process. In addition, the use of an appropriate learning model can encourage students to participate actively, express their opinions, and develop their potential. Therefore, the integration of teaching materials and learning models is necessary to create effective and meaningful learning experiences for elementary school students.

In this technological era, media plays a crucial and strategic role in supporting the success of the learning process within education. Furthermore, media helps students gain a direct understanding during learning activities. Through the use of instructional media, material that was previously difficult or abstract can be presented more clearly, making it easier for students to comprehend.

One aspect that needs to be developed in learning is creativity. Creativity is the ability to discover or create something new such as an idea, method, or concept that is beneficial to oneself and society (Sudarti, 2020). In the learning process, creativity is evident in students' ability to generate diverse ideas, develop concepts, and respond to the challenges they encounter. Fostering creativity is crucial from the primary school level, as it equips students to

navigate various challenges and adapt to a changing environment. This study examines student creativity using the indicators of fluency, flexibility, originality, and elaboration.

Such creativity needs to be nurtured through instructional approaches that actively engage students. One suitable topic for fostering this engagement is the life cycle of living organisms within the Natural and Social Sciences (IPAS) curriculum. Understanding life cycles is vital for primary school students, as the subject relates to the growth and development of living things and their interactions with the environment. Furthermore, given that primary school students are at the concrete operational stage of development, instruction requires engaging models and media to facilitate conceptual understanding. However, mastering this material remains challenging, with students often struggling to grasp the concepts and express their creativity effectively (Juita et al., 2025).

This situation was also observed in the third-grade class at MI Jabal Nur Watu Lendo. Interviews with the third-grade teacher on November 10, 2025, revealed that instruction was still dominated by lectures, discussions, and question-and-answer sessions. The teaching models employed failed to fully encourage students to actively express opinions, develop ideas, or participate optimally. Furthermore, the limited range of instructional media restricted to images and textbooks prevented the learning process from being truly interactive and failed to sufficiently stimulate students' imagination and creativity. Students tended to be passive, waiting for teacher instructions and following provided examples rather than independently generating their own ideas. Researcher observations indicated that approximately 65% of the students possessed low levels of creativity. This highlights a gap between the instructional goal of fostering creativity and the reality of students' limited ability to express and develop their own ideas.

One strategy to address this issue is to provide systematically organized teaching materials and integrate instructional models that promote active student engagement. Teaching modules can incorporate learning objectives, content, activities, student worksheets, and assessments tailored to the students' characteristics. In this study, a teaching module was developed by integrating the Talking Stick model, thereby creating opportunities for students to discuss, share ideas, answer questions, and cultivate their creativity.

The Talking Stick model is a cooperative learning approach that uses a baton passed among students to give each individual a turn to provide answers or express opinions. Previous studies have shown that this method enhances student engagement, facilitates peer interaction, and provides opportunities for every student to participate actively in the learning process (Rizky et al., 2024). Furthermore, research indicates that the Talking Stick method can improve students' creativity and activeness in learning (Anggreni et al., 2021) Ramdani, 2024). Similarly, Nilayanti et al. (2019) found that the Talking Stick learning model had a positive and significant

effect on the creative thinking skills and scientific literacy of fourth-grade elementary school students.

Regarding the current implementation of science education in elementary schools, significant challenges remain. Although the Kurikulum Merdeka (Independent Curriculum) has been implemented to improve the approach to teaching IPAS (Natural and Social Sciences), student learning outcomes in this subject remain low falling below the average. This suggests that there are challenges regarding the understanding and application of the material within this subject (Sari et al., 2024).

To address these instructional challenges, the Talking Stick learning model offers an effective and engaging approach with clear learning objectives. It encourages students to be more creative during the learning process by providing opportunities for group discussion to solve problems, where the student holding the stick must prepare an answer to any question posed by another group (Margaretha et al., 2024). Furthermore, researchers emphasize that this method fosters students' creativity, learning motivation, and self-confidence by incorporating physical movement, peer interaction, and varied activities that encourage optimal thinking and participation (Pertiwi et al. 2019; Rimawati & Haryanto, 2017). Consequently, the Talking Stick model is effective not only for enhancing conceptual understanding but also for honing students' social skills and creativity.

According to Wahyudi et al. (2021), creativity encompasses the ability to envision various possibilities for problem-solving, generate numerous ideas from a single issue, and create something new from what already exists. Badriah & Sholicha (2016), notes that one hallmark of a creative person is the ability to either invent something entirely new or to utilize existing elements and combine them to produce something novel. In this sense, creativity is viewed as an individual's potential to manifest tangible work through a thought process that proves beneficial to their life (Putri, 2018).

Forthmann et al. (2019) also state that creativity generally centers on four key components developed by Guilford: fluency, which refers to an individual's ability to generate a large number of ideas within a given timeframe; flexibility, which denotes the capacity to shift between different categories or types of ideas; originality, which emphasizes the ability to produce ideas that are rare, unique, and distinct from common or conventional ideas; and elaboration, which signifies the skill of expanding, detailing, and enriching an idea to make it more comprehensive and complete.

Regarding the instructional syntax of the Talking Stick model, various scholars propose structured stages that share core pedagogical principles despite slight variations in procedural steps. Nawanksari (2020) outlines six sequential steps: preparing the stick, delivering the learning material, providing time for students to discuss the reading, passing the stick among

students accompanied by music or singing, posing questions to the student holding the stick when the music stops, and concluding the lesson. Similarly, Faizah (2025) expands this framework into eight detailed phases conveying learning objectives, organizing students into small groups of four to six, delivering information, facilitating group discussions to prepare answers, implementing the talking stick turn taking with group representatives, drawing joint conclusions, conducting evaluations, and closing with reflection which provides the structured procedural foundation adapted for the teaching module in this study.

The talking stick model, which previously lacked a comprehensive learning module within the Independent Curriculum framework, is now supplemented with other teaching resources, such as student worksheets and supporting instructional materials. Although previous studies have demonstrated the model's potential to enhance student engagement, language proficiency, and creative thinking skills, the present study differs in terms of the research subjects, subject matter, and the specific product developed. Specifically, this study developed a Talking Stick-based teaching module integrating the model's syntax into lessons on the life cycles of living things to foster creativity among third-grade students at MI Jabal Nur. Thus, the novelty of this research lies in designing an instructional module that not only delivers learning content but also systematically guides students through discussions, question andanswer sessions, opinion expression, and idea generation through the Talking Stick approach. Therefore, this study aims to develop a valid, practical, and effective Talking Stick-based teaching module to enhance third-grade students' creativity in science learning.

METHOD

This research utilized a Research and Development (R&D). This method aimed at producing a specific instructional product and evaluating its effectiveness in learning. To structure the development process, this study adopted the ADDIE model, which consists of five sequential phases: Analysis, Design, Development, Implementation, and Evaluation. The analysis stage involved analyzing student characteristics, subject matter, and needs to identify learning issues and the requirements of third-grade students. The design stage encompassed the creation of a teaching module based on the Talking Stick model, as well as the development of instructional materials and research instruments. The Development stage involved creating the teaching module and validating the developed product. The teaching module is validated by one media expert and one subject matter expert before being implemented. The Implementation stage involved using the teaching module to teach the topic of the life cycle of living things. The Evaluation stage was conducted to assess the outcomes of the module's development and implementation.

Product testing employed a quasi-experimental approach with a non-equivalent control group design. The study population consisted of all third-grade students at MI Jabal Nur Watu Lendo, Siru, Lembor District, West Manggarai Regency, East Nusa Tenggara during the 2025/2026 academic year. The sample comprised Class IIIA (28 students) as the experimental group and Class IIIB (30 students) as the control group; class assignment was determined via random sampling. Pre-observation of creativity skills was conducted for both classes. Subsequently, the experimental group received instruction using the Talking Stick-based teaching module, while the control group followed the teacher's standard instructional method. Following the intervention, post-observation of creativity skills was conducted for both classes. The study was carried out at MI Jabal Nur from May 4 to May 25, 2026. Data were collected through observation and documentation. The instruments used included creativity pre-observation and post-observation sheets, as well as a product feasibility validation sheet. Student creativity was measured based on four indicators: fluency, flexibility, originality, and elaboration.

Validation data were analyzed to determine the feasibility level of the developed teaching module. Student creativity data were analyzed using statistical tests. A normality test was conducted using the Shapiro-Wilk test. The results indicated that the data were not normally distributed; therefore, hypothesis testing was performed using the Mann-Whitney U test to determine the difference in student creativity between the experimental and control groups.

RESULTS AND DISCUSSION

Results

Development of the Talking Stick-Based Teaching Module

The development of the teaching module was carried out using the ADDIE development model, which consists of five stages: *Analysis, Design, Development, Implementation,* and *Evaluation*. The development process was conducted to produce a teaching module based on the *Talking Stick* learning model that could be used in IPAS learning on the topic of the life cycle of living things and support the development of students' creativity.

At the analysis stage, the development was directed toward the learning conditions and needs of third-grade students. The developed product was designed to provide students with more opportunities to participate actively in learning activities. The design stage then focused on preparing the structure and learning activities contained in the module. The *Talking Stick* learning syntax was integrated into the learning activities, including material delivery and group formation, explanation of procedures, assignment, stick rotation, and questioning activities. These stages were designed to provide opportunities for students to interact, discuss, answer questions, and express ideas during learning. The validation instrument also assessed the

conformity of the *Talking Stick* syntax with creativity indicators, namely fluency, flexibility, originality, and elaboration.

At the development stage, the teaching module was prepared and subsequently validated before implementation. The validation process involved assessment of the product and provided input for revision and improvement. The validation results were used as the basis for determining whether the developed product could proceed to the implementation stage. The implementation stage was conducted at MI Jabal Nur using two third-grade classes. Class IIIA was determined as the experimental class, while class IIIB was the control class through random selection. The experimental class used the teaching module based on the *Talking Stick* learning model, whereas the control class used a module based on the learning model commonly applied in the school, namely *Discovery Learning*. Pre-observation was conducted before the treatment and post-observation after the learning process to identify changes in students' creativity.

The evaluation stage was conducted by reviewing the results of validation and implementation. The evaluation was used to ensure that the developed module was suitable for learning and could support the research objective of fostering students' creativity. Thus, the ADDIE stages were not only used to produce the module but also to ensure that the product underwent validation, revision, and implementation before its effectiveness was examined.

Feasibility of the Teaching Module

The feasibility of the developed teaching module was assessed based on four aspects: content feasibility, usability, appearance, and presentation. The academic journal reports a total of 33 assessment items with a total obtained score of 377 and an overall feasibility percentage of 95.15%. The product was categorized as very feasible.

The validation of the developed *Talking Stick* model obtained a score of 100%, while the teaching module obtained an average feasibility percentage of 95.15%. These results indicate that the developed product met the feasibility criteria for use in learning.

Table 1. Feasibility Results of the Talking Stick-Based Teaching Module

No.	Assessment Aspect	Number of Items	Score Obtained	Percentage
1	Content Feasibility	11	125	94.7%
2	Usability	6	68	94.4%
3	Appearance	8	91	94.7%
4	Presentation	8	93	96.8%
Total		33	377	95.15%

The results in Table 1 show that all four assessment aspects obtained percentages above 90%. The highest percentage was obtained for the presentation aspect (96.8%), followed by content feasibility (94.7%), appearance (94.7%), and usability (94.4%). The overall feasibility

percentage of 95.15% indicates that the Talking Stick-based teaching module was categorized as very feasible.

The Effect of the Teaching Module on Students' Creativity

The effect of the Talking Stick-based teaching module was determined by comparing students' creativity before and after the implementation of the learning treatment. The results showed that the average creativity score in the experimental class increased from 61% in the pre-observation to 84% in the post-observation. Meanwhile, the control class showed only a slight increase, from 60% to 61%.

Table 2. Normality Test

Class	Shapiro-Wilk		
	Statistic	df	Sig.
preobserve eksperimen	909	24	.034
postobserve eksperimen	779	25	.000
Preobserve control	893	23	.018
postobserve control	888	23	.014

These results indicate that the data are not normally distributed. Since one of the requirements for a parametric test is not met, the hypothesis testing is instead conducted using the non-parametric Mann-Whitney U test.

Table 3. Mann-Whitney U test

Data	Score
Mann-Whitney U	*,000*

The difference between the two classes was further tested using the Mann-Whitney U test. The analysis resulted in an Asymp. Sig. (2-tailed) value of 0.000, which was lower than the significance level of 0.05. Therefore, H_0 was rejected and H_a was accepted. These results indicate a significant difference in students' creativity between the experimental and control classes after different learning treatments.

Discussion

Development of the Talking Stick-Based Teaching Module

The development results indicate that the ADDIE model provided a systematic framework for producing the *Talking Stick*-based teaching module. The development process began by identifying the learning context and continued with product design, validation, implementation, and evaluation. The integration of the *Talking Stick* syntax into the module was important because the activities were directly connected to students' opportunities to participate and express ideas.

The learning activities contained in the module were designed to provide opportunities for students to work together, exchange information, express opinions, and respond to questions. The *Talking Stick* syntax includes material delivery and group formation, explanation of procedures, assignment, stick rotation, and questioning. These activities create

opportunities for students to participate rather than only receive information from the teacher. The research instrument itself connected the *Talking Stick* syntax with four creativity indicators: fluency, flexibility, originality, and elaboration.

The implementation findings further show that the characteristics of the *Talking Stick* model were visible during learning. Group formation allowed students to exchange information and opinions. The assignment stage encouraged students to discuss and generate alternative answers, while the stick-rotation stage provided opportunities for students to take turns responding to questions. These activities were intended to create learning conditions in which students could actively develop and communicate their ideas.

Feasibility of the Talking Stick-Based Teaching Module

The feasibility result of 95.15% demonstrates that the developed module fulfilled the criteria assessed by the validators. The four assessment aspects obtained consistently high percentages, with the presentation aspect reaching 96.8%. This indicates that the module was considered appropriate not only in terms of its learning content but also in terms of usability, appearance, and presentation.

The 100% validation result for the *Talking Stick* model also supports the feasibility of the product. The validation process was conducted before implementation, and the feedback obtained from validators was used as a basis for improving the product. Thus, the final product was not directly implemented without review but underwent a validation and revision process. The high feasibility score is relevant to the purpose of the development research because a learning module needs to meet the required content and presentation standards before it is applied to students. In this study, the very feasible category provided the basis for implementing the module in the experimental class.

The Effect of the Talking Stick-Based Teaching Module on Students' Creativity

The implementation of the module resulted in an increase in students' creativity in the experimental class from 61% to 84%, while the control class increased only from 60% to 61%. This finding indicates that learning using the Talking Stick-based teaching module provided greater opportunities for students to develop creativity.

The improvement can be attributed to the characteristics of the Talking Stick model, which encourages students to participate actively, answer questions, express opinions, and interact with their peers. These activities provide opportunities for students to generate and develop ideas during the learning process. This finding is in line with Rimawati & Haryanto (2017) who found that the Talking Stick learning model can encourage active student participation while supporting the development of confidence and creativity.

This approach requires students to be better prepared when asked to answer questions and more confident in expressing their opinions. Previous research indicates that implementing the Talking Stick model significantly enhances classroom dynamics by improving students' attentiveness, focus, and active listening skills during peer interactions (Zega et al., 2024). Similarly, these findings align with Alham et al. (2026) who demonstrate that the Talking Stick model effectively promotes active participation, structured peer interaction, and conceptual understanding in elementary Integrated Science and Social Studies (IPAS) learning within the *Merdeka* Curriculum framework.

The positive influence of the Talking Stick model on student creativity is further supported by research findings from (Anggreni et al., 2021) and (Dewi et al., 2022) which indicate that the Talking Stick method can enhance both student creativity and active participation in Indonesian language lessons. Students become more engaged in answering questions and develop a better understanding of the material being studied.

CONCLUSIONS

The development of the Talking Stick-based teaching module was carried out using the ADDIE development model, consisting of five stages: *Analysis, Design, Development, Implementation,* and *Evaluation*. The Talking Stick mt based teaching module was categorized as very feasible, with an average feasibility score of 95.15%. The assessment covered four aspects: content feasibility (94.7%), usability (94.4%), appearance (94.7%), and presentation (96.8%). Thus, the developed teaching module was considered feasible for use in IPAS learning for third-grade students at MI Jabal Nur. The implementation of the Talking Stick-based teaching module also showed a significant effect on students' creativity. The Mann-Whitney U test produced a significance value of 0.000 (<0.05), indicating a significant difference in creativity between the experimental and control classes. Therefore, the developed Talking Stick-based teaching module was feasible and significantly contributed to fostering the creativity of third-grade students at MI Jabal Nur.

Author's Declaration:

Artificial Intelligence Statement: Generative artificial intelligence (AI) tools were utilized exclusively to refine language, correct grammar, and enhance the overall readability of this paper. Following AI-assisted editing, the authors thoroughly examined and validated all revisions, assuming complete accountability for the accuracy, originality, and scholarly integrity of the final work.

Author Contribution Statement: Sukma Wati served as the primary researcher and contributed to the conceptualization, research design, development of the teaching module, data collection, data analysis, and preparation of the original manuscript. Mufida Awalia Putri, Laelatul Badriyah, and Ni'mah Afifah contributed to the research and manuscript preparation in their respective academic capacities. Their specific contributions to research supervision, methodological guidance, data interpretation, and manuscript review and editing should be confirmed before submission. All authors must review and approve the final version of the manuscript before submission.

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