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Evaluation of the RABAKATA Program (Wednesday Reading, Thursday Questioning) Using the CIPP Model to Support Students' Biodiversity and Digital Literacy at Kombot Junior High School

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ABSTRACT

This study evaluated the RABAKATA (Wednesday Reading, Thursday Questioning) Program at Kombot Junior High School, South Bolaang Mongondow Regency, to support students' biodiversity and digital literacy using the CIPP (Context, Input, Process, Product) model. This evaluative study employed a descriptive qualitative approach involving the school principal, two supervising teachers, and ten students selected through stratified random sampling from five classes. Data were collected through observations of eight sessions, semi-structured interviews, documentation, digital product assessments by two assessors, scoring of Thursday Questioning responses based on indicators, and a perception questionnaire. The data were then analyzed using the Miles, Huberman, and Saldaña model and descriptive statistics. The results showed that (1) the program context aligned with students' needs, as 46.15% of students had not yet achieved minimum literacy competency. However, the program objectives lacked measurable targets; (2) the inputs were fairly adequate, but only one of the 37 biodiversity reading titles addressed conservation, internet access was limited, and no dedicated budget had been allocated; (3) implementation was very good (95.67%; attendance rate: 91.86%), but only 10 of the 106 students served as presenters over four weeks, and no written monitoring had been conducted; (4) the products were rated in the very good category (digital products: 88.06; biodiversity-related Thursday Questioning: 85.83%; digital literacy: 85.89%), with the lowest scores in conservation principles (80.0%), digital ethics (77.5%), digital communication (75.0%), and originality (70.0%). Questionnaire scores were 10.5–12.8 points higher than performance scores on indicators requiring reasoning. Weaknesses in the inputs and processes appeared to carry over into the outcomes. The program is recommended for continuation with improvements but is not yet ready for dissemination.

Keywords: program evaluation; CIPP model; biodiversity literacy; digital literacy; school literacy movement

INTRODUCTION

In 21st-century education, literacy is no longer defined solely as the ability to read and write but also encompasses the ability to

understand, interpret, evaluate, and use information critically (OECD, 2018; United Nations, 2017). In Indonesia, literacy development is supported through the School Literacy Movement and the Character Development Policy, which emphasizes positive habit formation as part of the school ecosystem. Many schools have since developed regular literacy programs, but evaluations have generally focused on implementation and the perceptions of school community members (Saputra & Hardini, 2022; Oktaviani, 2024).

Kombot Junior High School, located in South Bolaang Mongondow Regency, faces a clear need to strengthen literacy. The 2025 Education Report rated the school's literacy performance as moderate, with an achievement rate of 53.85%, up from 42.22% in 2024. However, 46.15% of students remained below or well below the minimum competency level, and reading comprehension of informational texts declined by 1.97 points to 54.14 (Ministry of Primary and Secondary Education, 2025). In response, the school introduced the RABAKATA Program in the 2025/2026 academic year. Every Wednesday, students read for 15 minutes, and every Thursday, student representatives present their reading summaries in digital formats, such as PowerPoint presentations, posters, or videos, followed by a question-and-answer session.

The program focuses on two dimensions of literacy. The first is biodiversity literacy, defined as the ability to understand biodiversity, recognize the importance of conservation, and develop environmentally responsible attitudes and behaviors (Katili et al., 2021; Katili et al., 2022; Aminullah et al., 2025). This dimension is relevant because students live in a coastal area with mangrove ecosystems, coral reefs, and endemic wildlife such as the maleo bird. The second is digital literacy, defined as the ability to access, evaluate, manage, create, and communicate information through technology safely and ethically (Gilster, 1997; Law et al., 2018; Vuorikari et al., 2022).

Previous studies on biodiversity literacy at the junior secondary and higher education levels have found that students understand the benefits of biodiversity well but show lower achievement in conservation and ethics (Hastuti et al., 2025; Fajri et al., 2024). Other research has shown that positive attitudes toward biodiversity are not always accompanied by adequate knowledge (Aslan Et al., 2022). Meanwhile, evaluations of school literacy programs using the CIPP model have generally relied on interviews and questionnaires (Nilasari & Astuti, 2024; Ponto et al., 2025), while evaluations of digital literacy programs have identified input-related constraints, including internet connectivity, facilities, and teacher training (Suratman et al., 2024). Based on the literature reviewed, no previous evaluation of a school literacy program has simultaneously assessed biodiversity and digital literacy using performance-based instruments and compared the results with students' perceptions.

The CIPP model was selected because its primary purpose is to improve programs rather than merely demonstrate their success (Stufflebeam, 2007), and because its four components allow outcomes to be traced back to the context, inputs, and processes. Based on this rationale, this study aims to describe the evaluation of the context, input, process, and product of the RABAKATA Program in supporting students' biodiversity and digital literacy at Kombot Junior High School, and to examine the relationships among findings across the four components as a basis for program-related decisions.

MATERIALS & METHODS

Research Design

This study used an evaluative design with a descriptive qualitative approach based on the CIPP model (Stufflebeam, 2007). Qualitative data from observations, interviews, and documentation served as the primary data, while questionnaire and performance assessment data were analyzed using descriptive statistics to strengthen the findings. The study did not statistically test

the program's effects. The study compared data for each component against predefined evaluation criteria to determine whether the program should be terminated, improved, continued, or disseminated.

Research Site, Period, and Participants

The study was conducted at Kombot Junior High School, Pinolosian District, South Bolaang Mongondow Regency. Data were collected from September 2 to October 6, 2026, during the program's second year. The program involved approximately 106 students from five classes. There were 13 informants: the school principal and two supervising teachers, selected purposively, and ten students selected through stratified random sampling, with two students from each class (VII A, VII B, VIII, IX A, and IX B). An Informatics teacher served as the second assessor of the digital products. Informants' identities were anonymized using codes (KS, GR-01, GR-02, SI-01 to SI-10).

Instruments and Data Collection

The instruments consisted of: (1) an observation sheet for Wednesday Reading (7 indicators) and Thursday Questioning (6 indicators), using a 4-point scale; (2) a digital product assessment rubric comprising 9 aspects, rated on a 4-point scale by two assessors; (3) a documentation form; (4) semi-structured interview guides for the school principal, teachers, and students; (5) a 30-item biodiversity literacy questionnaire using a 5-point scale, based on six indicators from Katili et al. (2022); (6) a 21-item digital literacy questionnaire using a 5-point scale and covering seven aspects; and (7) a Thursday Questioning scoring sheet for assessing students' responses from video recordings using six biodiversity literacy indicators and seven digital literacy indicators, each rated on a 4-point scale. Observations were conducted during four Wednesday Reading sessions and four Thursday Questioning sessions.

The eight instruments were validated by two biology education experts through expert judgment, covering content, construct, and language aspects. The validation results are presented in the Results section. Some of the validators' suggestions were implemented before data collection, such as the procedure for combining scores from the two assessors on the rubric, while suggestions that had not been implemented were addressed during the analysis stage, including treating questionnaire responses as perception data. The trustworthiness of the qualitative data was maintained through source and method triangulation.

Data Analysis

Qualitative data were analyzed through data reduction, data display, and conclusion drawing (Miles et al., 2014), with coding based on the CIPP components. Data from questionnaires, rubrics, observations, and scoring sheets were calculated as achievement percentages (score obtained/maximum score × 100%). Rubric and Thursday Questioning scores were categorized as very good (>85–100), good (>75–85), adequate (60–75), and poor (<60). Inter-rater agreement was reported as the percentage of score agreement. All summary calculations were recalculated from the original sheets; discrepancies with school documents were corrected and documented.

RESULT

1. Overview of the Research Site and the RABAKATA Program

Kombot Junior High School has five classes (VII A, VII B, VIII, IX A, and IX B), with a total of 106 students participating in the RABAKATA Program. The program was first implemented in the 2025/2026 academic year under Principal's Decree No. 91/C.10/SMPNKOMBOT/VII/2025 and continued in the 2026/2027 academic year under Decree No. 10/C.10/SMPNKBT/VII/2026. Thus, at the time of data collection, the program had entered its second year. The activity schedule is presented in Table 1.

Table 1. RABAKATA Program Activity Schedule

Day	Time	Activity	Implementation Format
Wednesday	07:00–07:15	Wednesday Reading	Reading for 15 minutes in the school yard and writing a summary of the reading
Thursday	07:00–07:30	Thursday Questioning	Retelling or presenting the reading through a PowerPoint presentation, video, or poster, followed by a question-and-answer session

Source: RABAKATA Literacy Movement Reports for the 2025/2026 and 2026/2027 Academic Years.

2. Instrument Validation Results

The results of the validation by two experts are presented in Table 2. Four instruments were classified as highly feasible and four as feasible, with an overall mean score of 3.31 (highly feasible). Both validators assigned the lowest scores to the student interview guide and the digital literacy questionnaire. Validator 2 assigned higher scores to all instruments, with a mean difference of 0.36. Therefore, the categories were determined based on both validators' mean scores.

Table 2. Validation Results for the Research Instruments

Instrument	Mean V1	Mean V2	Final Mean	Category
Observation sheet	3.50	3.63	3.56	Highly feasible
Digital product assessment rubric	2.89	3.44	3.17	Feasible
Documentation form	3.43	3.71	3.57	Highly feasible
Principal interview guide	3.44	3.78	3.61	Highly feasible
Teacher interview guide	3.00	3.44	3.22	Feasible
Student interview guide	2.78	2.89	2.83	Feasible
Biodiversity literacy questionnaire	3.27	3.80	3.53	Highly feasible
Digital literacy questionnaire	2.73	3.18	2.95	Feasible
Mean	**3.13**	**3.48**	**3.31**	**Highly feasible**

V1 = Validator 1; V2 = Validator 2.

The validators' main comments were as follows: observation indicators such as "enthusiasm" needed to be operationalized; conceptual accuracy in the rubric needed to be separated from media quality, and the method for combining the two assessors' scores needed to be specified; interview questions needed to be phrased neutrally and supplemented with requests for supporting evidence; and questionnaire results reflected perceptions only and therefore needed to be triangulated with performance data. Before data collection, the digital product assessment rubric was revised to include separate score columns for the two assessors and a formula for calculating the final score. The principal interview guide was also expanded from 12 to 26 questions requesting supporting evidence. Other suggestions that had not been implemented were addressed during the analysis stage, including treating questionnaire responses as perception data.

3. Context Evaluation Results

The RABAKATA Program addressed the school's literacy needs, but its objectives were not formulated with measurable targets. The 2025 Education Report Card, which served as the basis for program development, indicated that literacy achievement was in the moderate category (Table 3).

The data indicate two key findings: literacy achievement improved, but 46.15% of students remained below the minimum competency level; and reading comprehension of informational texts actually declined, even though biodiversity readings include informational texts. The principal identified low interest in reading and limited abilities to comprehend and evaluate information as the most urgent problems. The program was selected because it "combines the habit of reading (Wednesday Reading) with activities for expressing ideas (Thursday Questioning), thereby not only fostering reading habits but also developing critical thinking and communication skills" (Principal). All

students interviewed (10 out of 10) stated that they needed activities such as RABAKATA, and teachers reported that students had begun connecting their reading materials to mangrove forests and maleo birds, which are characteristic of South Bolaang Mongondow.

Table 3. Literacy Achievement at Kombot Junior High School Based on the Education Report Card

Indicator	2024	2025	Change
Literacy proficiency (% achieving minimum competency)	42.22%	53.85%	Increased by 11.63 percentage points
Above minimum competency	13.33%	15.38%	Increased by 2.05 percentage points
Meeting minimum competency	28.89%	38.46%	Increased by 9.57 percentage points
Below minimum competency	31.11%	20.51%	Decreased by 10.60 percentage points
Well below minimum competency	26.67%	25.64%	Decreased by 1.03 percentage points
Mean literacy proficiency score	54.36	59.98	Increased by 5.62 points
Reading comprehension of informational texts	56.11	54.14	Decreased by 1.97 points

Source: Ministry of Primary and Secondary Education (2025).

The program aligns with four of the school's nine missions: Mission 2 (critical, creative, and independent thinking), Mission 3 (a disciplined learning culture), Mission 5 (sustained literacy), and Mission 7 (environmental awareness). It is also positioned as an implementation of the School Literacy Movement (GLS) and Character Development. The program objectives expanded from six items in 2025 to seven in 2026, two of which explicitly address biodiversity literacy and digital literacy. However, all the objectives remain general and do not specify achievement targets.

4. Input Evaluation Results

The program inputs were considered reasonably adequate. The organizing committee decree assigned responsibilities to all teachers, including the person in charge, chairperson, secretary, discipline coordinator, homeroom teachers as material collectors, and all teachers as implementation assessors. Teachers were prepared through a meeting held before the decree was issued. However, no specific training was provided on biodiversity literacy, digital source evaluation, or questioning techniques.

Table 4. Classification of the Biodiversity Book Collection

Content Category	Number of Titles	Sample Titles
Agricultural cultivation and livestock farming	22	Goat Farming, Raising Free-Range Chickens, Water Spinach Cultivation
Introduction to flora and fauna	14	Animal Encyclopedia, Javan Hawk-Eagle, Amazing Flora
Environment and conservation	1	Caring for the Environment, Caring for Others
Total	37	120 copies, published between 2006 and 2020

Source: Biodiversity Book Inventory of Kombot Junior High School (processed authors).

Most of the collection focuses on economic utilization, with only one title addressing conservation (Table 4). Out of the 10 presentation topics covered by the sampled students, only three were sourced from the library collection, while the other seven topics (including mangrove forests, maleo birds, leatherback turtles, and coral reefs) were obtained from digital books and the internet. Teachers considered the facilities highly adequate, whereas the principal stated that the available devices and internet access were limited relative to the number of students. Nine out of 10 students reported

that the facilities were supportive, but 7 out of 10 reported network disruptions. The committee established the schedule in writing, and the decree stated that expenses would be charged to "relevant budget allocations." However, the principal stated, "So far, the school has not allocated a budget for the RABAKATA program, particularly for reading materials and operational activities" (Principal).

5. Process Evaluation Results

Program implementation was rated very good, with an observation achievement score of 199 out of 208 (95.67%). However, active participation as presenters was uneven. The observation results are presented in Table 5.

Table 5. Observation Results for Wednesday Reading and Thursday Questioning

Activity	W1	W2	W3	W4	Total	Mean Score
Wednesday Reading (maximum 28/week)	24	26	28	28	106/112 (94.64%)	3.79
Wednesday Reading (maximum 28/week)	21	24	24	24	93/96 (96.88%)	3.88
Combined					**199/208 (95.67%)**	

W = Week. Source: Observation sheets, September 2026.

The lowest scores for Wednesday Reading were recorded for maintaining an orderly atmosphere and student enthusiasm (3.50). In the first week, the activity ran from 07:05 to 07:30 due to the time required to organize the students, whereas all indicators received a score of 4 in the third and fourth weeks. During Thursday Questioning, the use of digital sources, teacher feedback, and closing reflection consistently received a score of 4 from the first week onward. The maximum scores should be interpreted with caution, as the observations were conducted by a single observer.

The average attendance rate across the eight sessions was 91.86% (Wednesday Reading: 92.22%; Thursday Questioning: 91.51%), with the lowest rate recorded in the first week (87.74%) and the highest in the third week (95.28%). Unexcused absences accounted for 35 of the 69 total absences, 14 of which involved two students from Class IX A. Over the four-week period, only 10 students served as presenters (2–3 students each Thursday), while the other students participated as listeners and questioners. One student stated, "Although I was sometimes already prepared, the teacher had not yet selected me to present because only class representatives were allowed to present during Thursday Questioning" (SI-03). GR-01 reported that students took turns presenting each week, whereas the principal and GR-02 considered student participation to be uneven.

All students (10 out of 10) used the internet or digital devices to search for articles and videos, and then prepared PowerPoint presentations or posters using Canva. The Thursday Questioning mechanism involved four stages: preparing presentation materials on Wednesday, delivering presentations on Thursday, answering questions from other students, and receiving further explanations from the teacher. Implementation challenges are summarized in Table 6.

Regular internal monitoring and evaluation were not documented. The 2025 and 2026 program reports did not include attendance data, the number of student presenters, or product quality assessments. Furthermore, the challenges recorded in both reports were identical, indicating that the challenges identified in the first year had not been addressed in the second year.

Table 6. Challenges in the Implementation of the RABAKATA Program

Challenges	Data Source	Frequency/Description
Internet connectivity disruptions	Student interviews	7 out of 10 students
Difficulty summarizing lengthy books into PowerPoint presentations or videos	Student interviews	6 out of 10 students
Nervousness when presenting and answering questions	Student interviews	4 out of 10 students
Difficulty creating or editing PowerPoint presentations	Student interviews	3 out of 10 students
Limited reading time	Student interviews	2 out of 10 students
Uneven student participation	Interviews with the principal and GR-02; attendance records	35 unexcused absences across 8 sessions
Scheduling conflicts with other activities	Interviews with the principal and GR-02	Occasional
Hot weather in the school yard	Interview with GR-01	Recorded in both years
Student tardiness and limited book preparation time	2025 and 2026 program reports	Recorded in both years

6. Product Evaluation Results

The RABAKATA Program supported biodiversity and digital literacy among the sampled students, but weaknesses remained consistent in summary originality, source evaluation and citation, and conservation principles.

a. Digital Product Quality. The products created by the 10 students were assessed by a science teacher and an Information Technology teacher (Table 7). Eight products were classified as very good and two as good. The two assessors assigned identical scores to 54 out of 90 items (60%), and all score differences were no greater than 1 point. Assessor 1 assigned higher scores to 7 out of the 10 products.

Table 7. Digital Product Assessment Results by Aspect (n = 10)

Aspect	Literacy Domain	A1	A2	Mean	Achievement
Content relevance to the topic	Biodiversity	3.90	3.60	3.75	93.8%
Information accuracy	Biodiversity	3.80	3.80	3.80	95.0%
Biodiversity literacy content	Biodiversity	3.80	3.50	3.65	91.3%
Use of digital media	Digital	4.00	3.60	3.80	95.0%
Presentation clarity	Digital	3.50	3.20	3.35	83.8%
Visual creativity	Digital	3.20	3.20	3.20	80.0%
Language and communication	Digital	3.60	3.20	3.40	85.0%
Credibility of information sources	Digital	4.00	3.90	3.95	98.8%
Originality/academic integrity	Digital	3.10	2.50	2.80	70.0%
Final mean score		91.39	84.72	88.06	Very good

A1 = Assessor 1 (Science teacher); A2 = Assessor 2 (Information Technology teacher)

b. Biodiversity Literacy. The students' achievement in answering questions during Thursday Questioning is presented in Table 8. Students performed strongest in explaining the benefits of biodiversity and the causes of its degradation. For example, S-02 explained that coral reef degradation was caused by "the use of explosives, the removal of corals for sale, and pollution from waste and chemicals," as well as describing the resulting impact on fish populations. The solutions students proposed generally remained broad, such as "refraining from illegal hunting and protecting natural habitats" (S-05). Individual scores ranged from 75.00% to 95.83%: six students scored very good, three scored good, and one scored adequate.

Table 8. Results of Thursday Questioning on Biodiversity Literacy by Indicator (n = 10)

Indicator (Katili et al., 2022)	Mean Score	Achievement	Students Scoring 4
Defining biodiversity and its uses	3.80	95.0%	8
Distinguishing among genetic, species, and ecosystem diversity	3.30	82.5%	3
Explaining biodiversity loss and its causes	3.60	90.0%	6
Understanding the principles of biodiversity conservation	3.20	80.0%	2
Distinguishing biodiversity conservation efforts	3.40	85.0%	4
Communicating and developing solutions to biodiversity-related problems	3.30	82.5%	3
Overall mean (20.6 out of 24)		**85.83%**	

The biodiversity-related aspects of the digital products scored between 91.3% and 95.0%, featuring local coastal ecosystem topics and conservation messages. One example was S-08's presentation: "The maleo is a bird endemic to Sulawesi and is threatened with extinction due to illegal hunting and habitat disturbance. Therefore, we must raise awareness about protecting the maleo's habitat to prevent its extinction." The biodiversity literacy questionnaire yielded a mean score of 140.3 out of 150 (93.53%), with all dimensions ranging from 92.8% to 94.4%. Four students achieved perfect scores, indicating a ceiling effect. Teachers observed that more students voluntarily chose environment-themed reading materials and related them to local conditions. All students also reported a better understanding of topics related to the environment, animals, plants, and ecosystems.

c. Digital Literacy. The students' responses during Thursday Questioning were assessed by two assessors, with an agreement rate of 90% (63 out of 70 items) (Table 9). All students received a score of 4 for content creation. For the ethics indicator, students generally responded "Yes" when asked whether they cited their sources, while for the communication indicator, they only mentioned the names of applications. Assessors' comments for 9 of 10 students called for improvements in source citation or the ability to summarize information in their own words. Individual scores ranged from 80.36% to 96.43%.

Table 9. Results of Thursday Questioning on Digital Literacy by Indicator (n = 10)

Indicator	A1	A2	Mean	Achievement
Accessing digital information	3.80	3.70	3.75	93.8%
Evaluating digital information	3.40	3.20	3.30	82.5%
Managing and understanding information	3.30	3.40	3.35	83.8%
Digital communication and collaboration	3.00	3.00	3.00	75.0%
Digital content creation	4.00	4.00	4.00	100.0%
Digital ethics and safety	3.10	3.10	3.10	77.5%
Basic technical problem-solving	3.60	3.50	3.55	88.8%
Overall mean (out of 28)	**24.2**	**23.9**		**85.89%**

A1 = Assessor 1 (author); A2 = Assessor 2 (Science teacher

The digital literacy questionnaire yielded a mean score of 92.4 out of 105 (88.00%), with seven students in the very high category and three in the high category. Teachers observed that students were becoming more proficient at finding digital sources and transforming the information into digital products, although product quality remained uneven: "Improvement was evident, although it was not consistent across students, some were able to create well-organized and informative products" (GR-02).

d. Student Achievement. A summary of each student's achievement on the performance-based instruments is presented in Table 10.

Table 10. Student Achievement on Performance-Based Instruments

Code	Class	Topic	Digital Product (%)	Biodiversity TQ (%)	Digital TQ (%)
S-01	VIII	Water spinach	87.50	83.33	82.14
S-02	VIII	The Plight of a Little Fish	87.50	95.83	87.50
S-03	VII A	The Most Unique Plants	84.72	87.50	82.14
S-04	VII A	Leatherback Turtles	88.89	87.50	87.50
S-05	VII B	Reptiles	87.50	75.00	85.71
S-06	VII B	Social Insects	80.56	87.50	82.14
S-07	IX A	Flora and Fauna	90.28	79.17	80.36
S-08	IX A	Maleo Birds	88.89	87.50	87.50
S-09	IX B	Benefits of Mangrove Forests	91.67	95.83	96.43
S-10	IX B	Medicinal Plants	93.06	79.17	87.50
Mean			**88.06**	**85.83**	**85.89**

TQ = Thursday Questioning.

7. Summary and Triangulation of CIPP Evaluation Results

Table 11. Summary of the RABAKATA Program Evaluation Results

Component	Key Findings	Evaluation Result
Context	46.15% of students were below the minimum competency level; aligned with Missions 2, 3, 5, and 7; objectives lacked measurable targets	Appropriate
Input	Decree and schedule were available; the collection was dominated by books on cultivation; internet connectivity was limited; no dedicated budget had been allocated	Reasonably adequate
Process	Implementation achievement of 95.67%; only 10 students served as presenters over four weeks; no written monitoring system was in place	Implemented very well, but participation was uneven
Product	Digital products: 88.06; Thursday Questioning: 85.83% for biodiversity literacy and 85.89% for digital literacy; originality and source evaluation were the weakest areas	Supportive of literacy development, but weak in higher-order skills

Source and method triangulation showed that most findings were mutually corroborative, with four discrepancies. First, teachers rated the digital facilities as "highly adequate," whereas the principal and students reported limitations in devices and internet connectivity. This suggests that presentation equipment was adequate, but internet access for preparation was limited. Second, GR-01 stated that students took turns presenting, whereas other data indicated that only class representatives served as presenters. Third, the committee decree specified a funding source, but it was not translated into a dedicated budget allocation. Fourth, the rubric yielded a source credibility score of 98.8%, whereas Thursday Questioning showed a score of only 77.5% for ethics and source citation. The rubric assessed whether sources were included in the products, while Thursday Questioning revealed that students had not yet fully understood the reasons for and methods of citing sources.

A comparison of the questionnaire and Thursday Questioning results for the same indicators (Table 12) showed that students' perceptions were higher than their actual performance in skills requiring reasoning, whereas performance exceeded perceptions in content creation, information access, information management, and technical problem-solving. This comparison is indicative, as the two instruments used different scales (1–5 and 1–4).

Table 12. Comparison of Student Perceptions (Questionnaire) and Performance (Thursday Questioning)

Indicator	Questionnaire	Thursday Questioning	Difference (percentage points)
Principles of biodiversity conservation	92.8%	80.0%	+12.8
Genetic, species, and ecosystem diversity	94.4%	82.5%	+11.9
Digital communication and collaboration	86.0%	75.0%	+11.0
Digital ethics	88.0%	77.5%	+10.5
Accessing digital information	91.6%	93.8%	−2.2
Digital content creation	86.4%	100.0%	−13.6

Positive differences indicate that perceived competence exceeded demonstrated performance.

DISCUSSION

The CIPP model views the primary purpose of evaluation as improving a program rather than merely demonstrating its success (Stufflebeam, 2007). Accordingly, this discussion addresses the model's four key questions: What needs to be done? How should it be done? Is it being done? And has the program succeeded?

1. Discussion of the Context Evaluation

The RABAKATA Program emerged in response to genuine and documented needs. Context evaluation examines needs, problems, assets, and opportunities to establish program objectives (Stufflebeam, 2003, as cited in Sopha & Nanni, 2019) and addresses why a program needs to be implemented (Kurniasari, 2024). The conditions at Kombot Junior High School clearly demonstrate this need: 46.15% of students had not achieved minimum competency, and reading comprehension of informational texts declined by 1.97 points. This decline further reinforces the relevance of biodiversity-themed materials, as texts about plants, animals, and ecosystems fall within the category of informational texts. This aligns with OECD (2018), which views literacy as the ability to understand and evaluate information.

The program's alignment with the school's mission is also evident, consistent with Sutanti (2026) view that context evaluation includes an analysis of the school's vision and mission, policies, and student characteristics. However, the vision stated by the principal differed from that in the official document, indicating that the program's connection to the school vision was not understood in a consistent manner. The main weakness in the context component was the absence of measurable targets in the program objectives. According to Stufflebeam (2007), context evaluation findings are used to assess program effectiveness at the end of implementation. Therefore, objectives need to be formulated as targets that can serve as a basis for evaluating outcomes. Without such targets, the school has difficulty assessing the program's success, as the principal acknowledged, stating that pre- and post-program data were not yet available.

2. Discussion of the Input Evaluation

Policy and human resource inputs were adequate, but the reading materials were not aligned with the biodiversity literacy objectives. Input evaluation assesses the adequacy of program design, teaching staff, facilities, funding, and management systems (Kurniasari, 2024), as well as the strategies, work plans, and budgets required to achieve program objectives (Stufflebeam, 2007). The assignment of responsibilities to all teachers through an official decree indicates a sound institutional framework.

The most prominent weakness in the input component was the reading material. The collection, which was dominated by books on cultivation, better supported the utilization indicator than the preservation and conservation indicators proposed by Katili et al. (2022). This aligns with the lowest achievement score recorded for the principles of biodiversity conservation

(80.0%). Argiyanti and K (2024) emphasize that students need to understand the value of biodiversity, actions that reduce biodiversity loss, and conservation efforts; cultivation-focused reading materials address only the first aspect. Hastuti et al. (2025) also found that the lack of biodiversity-related book collections and limited internet access contributed to junior high school students' biodiversity literacy remaining at the adequate level.

Students compensated for the limited print collection by using digital sources. Although this supported digital literacy development, it placed additional demands on internet access. This situation differs from the programs evaluated by Saputra and Hardini (2022) and Nilasari and Astuti (2024), which were supported by adequate facilities, but resembles the findings of Suratman et al. (2024), who reported that digital literacy program inputs were only adequate due to limitations in internet connectivity, facilities, and teacher training. Harjono (2019) emphasizes that digital literacy requires adequate access for both students and teachers. Without training in questioning techniques, teachers tend to ask closed-ended questions such as "Did you cite your sources?", which elicit only responses such as "Yes" and help explain the low digital ethics score. Regarding funding, program evaluation can provide recommendations on how funds should be allocated (Roswati, 2008, as cited in Munthe, 2015). A similar lack of a dedicated budget was reported by Ponto et al. (2025), resulting in frequent delays in procuring reading materials.

3. Discussion of the Process Evaluation

The RABAKATA Program was implemented consistently according to schedule, reflecting the function of process evaluation in monitoring, documenting, and assessing program activities (Stufflebeam, 2007). The increase in scores from the first week to the fourth indicates adjustments made during implementation, a characteristic of formative process evaluation (Ghani et al., 2026).

The main process-related issue was the unequal distribution of student roles. Kurniasari (2024) identifies student involvement as a key aspect of process evaluation. With only two to three students presenting each Thursday, most of the 106 students would not have an opportunity to present within a single semester. Consequently, only a small proportion of students would experience the benefits of digital content creation and oral communication. The use of digital sources was effective and consistent with Gilster's (1997) view that digital literacy is the ability to understand and use information from various digital sources. However, the difficulty experienced by six out of ten students in summarizing lengthy books helps explain the low originality scores of their products, as students who struggle to summarize may be more inclined to copy from their sources. DigComp 2.2 identifies copyright awareness as part of content creation competence (Vuorikari et al., 2022). Another weakness was the absence of written monitoring. Process evaluation should provide feedback through activity records and periodic progress reports (Stufflebeam, 2007), and it should examine potential obstacles throughout implementation (Sutanti, 2026; Ponto et al., 2025) likewise found that a junior high school literacy program lacked a formal monitoring system. In the RABAKATA Program, challenges documented in 2025 were also documented in 2026, indicating that the program had not yet established a quantitative record of its progress.

4. Discussion of the Product Evaluation

The program achieved good results in basic skills but showed weaker performance in higher-order skills. Students performed well in defining the benefits of biodiversity (95.0%) and explaining the causes of biodiversity degradation (90.0%), but showed weaker performance in distinguishing levels of biodiversity (82.5%), understanding conservation principles (80.0%), and developing solutions (82.5%).

However, biodiversity literacy encompasses the ability to solve problems and make decisions based on scientific considerations (Katili et al., 2021). A similar pattern was found by Hastuti et al. (2025) among seventh-grade junior high school students and by Fajri et al. (2024) among biology education students. A distinctive strength of the program was its use of local contexts, as students discussed mangroves, maleo birds, and coral reefs found in their own surroundings. This is consistent with Aminullah et al. (2025), who link biodiversity literacy to human–environment relationships and conservation behavior.

In digital literacy, content creation (100%) and information access (93.8%) achieved high scores, whereas source evaluation (82.5%), ethics (77.5%), and communication (75.0%) scored lower. This is particularly relevant because both the UNESCO framework (Law et al., 2018) and DigComp 2.2 (Vuorikari et al., 2022) identify information evaluation and safety as core competencies. Students could already create good digital products but had not yet fully developed the ability to evaluate and take responsibility for their sources, as reflected in the low originality score (70.0%).

The discrepancy between the questionnaire and Thursday Questioning results highlights the importance of triangulation. Nusantari et al. (2025) used a questionnaire to measure digital literacy, but the present study suggests that questionnaires should be supplemented with performance-based tasks. A similar gap was reported by Aslan et al. (2022) among 787 secondary school students in Turkey, who demonstrated positive attitudes but limited biodiversity knowledge. Unlike the studies by Oktaviani (2024), Nilasari and Astuti (2024), and Ponto et al. (2025), which demonstrated changes using comparative data, the present study cannot establish quantitative improvement because the school did not retain baseline data. These findings also differ from those of Faizin (2021), who found that all CIPP components were in the very good category.

5. Interrelationships Among the CIPP Components

Weaknesses in one CIPP component carried over into subsequent components. Program outcomes need to be traced back to the context, inputs, and processes that shaped them (Stufflebeam, 2003, as cited in Sopha & Nanni, 2019), as presented in Table 13.

Table 13. Relationships Among Findings Across the CIPP Components

Context/Input	Process	Product
Program objectives lacked measurable targets	No written monitoring was in place; challenges identified in 2025 recurred in 2026	Literacy improvement could not be measured
The book collection was dominated by cultivation-related titles, with only one title on conservation	Students sought conservation-related topics from digital sources	Conservation principles received the lowest score (80.0%)
Teachers had not received training in questioning techniques and source evaluation	Thursday Questioning tended to involve closed-ended questions	Digital ethics (77.5%) and communication (75.0%) received the lowest scores
The print collection was limited, but presentation devices were available	All students used the internet and Canva	Content creation (100%) and information access (93.8%) received the highest scores
Lengthy reading materials were provided without guidance on summarizing	Six out of ten students had difficulty summarizing	Originality received the lowest score (70.0%)
Presenters were selected as class representatives	Only 10 out of 106 students served as presenters	Performance evidence represented only the students who presented

Program improvement cannot focus solely on the product component, for example, by adding more digital product assignments. Weaknesses in the outcomes stem from the reading materials and teacher preparedness provided as inputs, as well as the design of

the Thursday Questioning process. Conversely, the strength in content creation also stems from the availability of presentation devices as an input and a process that encourages students to seek out sources independently.

6. Research Novelty

This study offers four contributions. Empirically, it is the first systematic evaluation of the RABAKATA Program, which had previously been reported only in narrative form. Conceptually, whereas previous evaluations of literacy programs focused on general literacy and reading interest (Saputra & Hardini, 2022; Oktaviani, 2024; Nilasari & Astuti, 2024; Ponto et al., 2025), this study evaluates specific, context-based outcomes, namely biodiversity literacy based on the six indicators proposed by Katili et al. (2022). In terms of integration, this study combines the evaluation of biodiversity literacy as the content of reading materials with digital literacy as the means of processing that content within a single CIPP framework, whereas Suratman et al. (2024) evaluated digital literacy separately. Methodologically, this study uses indicator-based scoring of Thursday Questioning performance and compares the results with a perception questionnaire, revealing that perceived competence can exceed demonstrated performance by as much as 12.8 percentage points.

7. Evaluation Decision

According to Arikunto (2013, as cited in Faizin, 2021), there are four possible policy decisions following a program evaluation: continue the program, continue it with improvements, modify it, or discontinue it. The RABAKATA Program does not need to be discontinued because the need it addresses is genuine, its implementation rate is high, and the sampled students demonstrated good achievement. The program also does not require fundamental modification, as the Wednesday Reading and Thursday Questioning activities already align with the identified needs. However, the program cannot be continued without changes because it lacks measurable targets, baseline data, and written monitoring. Therefore, the most appropriate decision is to continue the program with improvements. This decision is consistent with the purpose of evaluation, which is to inform decisions on program improvement (Sukmadinata, 2006, as cited in Ananda & Rafida, 2017), and with the decisions made by Nilasari and Astuti (2024) and Ponto et al. (2025). For the same reasons, the program is not yet suitable for dissemination to other schools.

CONCLUSION

The RABAKATA Program at Kombot Junior High School addresses the school's literacy needs, has been implemented consistently, and supports students' biodiversity and digital literacy at the knowledge and basic skills levels. The program's weaknesses include objectives that lack measurable targets; reading materials that cover conservation only to a limited extent; the absence of teacher training; unequal distribution of presenter roles; and a lack of monitoring. These weaknesses appear to contribute to lower achievement in skills requiring reasoning, namely conservation principles, digital ethics, digital communication, and originality. The program is recommended for continuation with improvements but should not be disseminated to other schools until it has established measurable targets, collected baseline data, and implemented written monitoring for at least one academic year.

The recommended improvements include setting semester-based targets (e.g., requiring each student to present at least once and maintaining an attendance rate of at least 95%); adding reading materials on conservation and local ecosystems; allocating a dedicated budget; training teachers in open-ended questioning and source evaluation; replacing class-representative presentations with rotating small-group presentations; providing structured summary sheets; maintaining weekly records; and measuring literacy at the

beginning and end of the academic year. Future research is recommended to employ a pre- and post-assessment design, include non-presenting students in the sample, involve external evaluators, and statistically test inter-rater reliability.

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