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FIGHTING CLASSROOM BOREDOM: INNOVATIVE ACTIVE LEARNING MODELS TO ADDRESS STUDENT MOTIVATION CHALLENGES IN ELEMENTARY SCHOOLS A LITERATURE STUDY WITH CASE SIMULATIONS AT A PRIMARY SCHOOL IN NABIRE

MENGATASI KEBOSANAN DI RUANG KELAS: MODEL PEMBELAJARAN AKTIF INOVATIF UNTUK MENGATASI TANTANGAN MOTIVASI SISWA DI SEKOLAH DASAR STUDI LITERATUR DENGAN SIMULASI KASUS DI SEBUAH SEKOLAH DASAR DI NABIRE

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Abstract

Boredom in the learning process at elementary schools (SD) is a significant factor in declining student motivation and academic achievement. In regions with unique geographical and cultural characteristics, such as Papua, this challenge is often exacerbated by the limitations of conventional learning media and teaching methods, which tend to be monotonous. This research aims to analyze the effectiveness of active learning model innovation as a strategic solution to increase elementary school students' learning motivation. The research method used is library research by analyzing literature from the last 10 years and integrating observational case studies from an elementary school in Nabire, Papua. The results show that the implementation of Game-Based Learning and Outdoor Collaborative Learning models can significantly reduce student boredom levels. The case in Papua shows that the use of local wisdom (ethno-pedagogy) as part of active learning increases student engagement by up to 50%. Analysis of literature data confirms that physical and emotional involvement in learning strengthens memory retention and intrinsic interest. The conclusion of this research affirms that teachers must transform from information providers to creative facilitators to create a dynamic classroom ecosystem. The proposed solutions include diversifying activity-based methods and adapting environment-based curricula to ensure the sustainability of children's learning motivation at the elementary education level.

Keywords : Boredom, Active Learning, Learning Motivation, Elementary School, Papua.

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Abstrak

Kebosanan dalam proses pembelajaran di Sekolah Dasar (SD) merupakan determinan utama menurunnya motivasi dan prestasi akademik siswa. Di wilayah dengan karakteristik geografis dan budaya unik seperti Papua, tantangan ini seringkali diperparah oleh keterbatasan media pembelajaran konvensional dan metode mengajar yang cenderung monoton. Penelitian ini bertujuan untuk menganalisis efektivitas inovasi model pembelajaran aktif (active learning) sebagai solusi strategis dalam meningkatkan motivasi belajar siswa SD. Metode penelitian yang digunakan adalah studi kepustakaan (library research) dengan menganalisis literatur dari 10 tahun terakhir serta mengintegrasikan studi kasus observatif dari salah satu Sekolah Dasar di Nabire, Papua. Hasil penelitian menunjukkan bahwa implementasi model Game-Based Learning dan Outdoor Collaborative Learning mampu mereduksi tingkat kejenuhan siswa secara signifikan. Kasus di Papua menunjukkan bahwa penggunaan kearifan lokal (etno-pedagogi) sebagai bagian dari pembelajaran aktif meningkatkan keterlibatan siswa hingga 50%. Analisis data literatur mengonfirmasi bahwa keterlibatan fisik dan emosional dalam belajar memperkuat retensi memori dan minat intrinsik. Kesimpulan dari penelitian ini menegaskan bahwa guru harus bertransformasi dari penyampai informasi menjadi fasilitator kreatif untuk menciptakan ekosistem kelas yang dinamis. Solusi yang ditawarkan meliputi diversifikasi metode berbasis aktivitas dan adaptasi kurikulum berbasis lingkungan untuk menjamin keberlanjutan motivasi belajar anak di jenjang pendidikan dasar.

Kata Kunci : Kebosanan, Pembelajaran Aktif, Motivasi Belajar, Sekolah Dasar, Papua.

1. INTRODUCTION

21st-century education presents education practitioners with a complex paradox: while access to information is becoming easier, student attention spans are actually decreasing. At the Elementary School (SD) level, this phenomenon manifests as academic boredom. Boredom in the classroom is not merely an uncomfortable feeling, but a negative emotion that deactivates the brain's cognitive circuits required for deep information processing.

Nationally, the curriculum in Indonesia has shifted toward Student-Centered Learning through the *Kurikulum Merdeka* (Independent Curriculum). However, implementation in 3T regions (Frontier, Outermost, and Disadvantaged), particularly in Papua, faces a dual challenge. On one hand, students are children growing up with dynamic local wisdom and active physicalities; on the other hand, classroom teaching methods are often still stuck in the old behavioristic paradigm—the teacher speaks, the students listen.

Preliminary observations in Nabire Regency, Papua, show a disconnection between teaching materials and the reality of students' lives. When students are forced to sit still for 4–5 hours to listen to abstract lectures irrelevant to their forest or coastal environments, their brains respond with a self-defense mechanism by "switching off" focus, which teachers often misinterpret as laziness or lack of intelligence. Therefore, the urgency to reform teaching methods is no longer an option, but a pressing necessity to save the golden potential of the Papuan generation.

a. Problem Analysis

Based on the phenomena above, the root causes can be mapped as follows:

- ✓ Dominance of Expository Methods: More than 70% of classroom interaction is dominated by teacher lectures, causing students to become mentally and physically passive.

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- ✓ Psychological Incompatibility: Elementary-aged children (7–12 years old) are in the concrete operational phase (Piaget), which requires the manipulation of real objects. Abstract learning without teaching aids triggers an excessive cognitive load, leading to boredom.
- ✓ Cultural Relevance Crisis: Centralized teaching materials often use examples foreign to Papuan students (e.g., skyscrapers or trains), causing students to fail in building associative bridges between new knowledge and existing prior knowledge.

b. Research Objectives And Benefits

This research aims to:

- ✓ Unravel the psychological mechanisms behind the boredom of elementary students in conventional learning settings.
- ✓ Evaluate the effectiveness of Active Learning models, such as Gamification and Contextual Teaching and Learning (CTL), in increasing intrinsic motivation.
- ✓ Formulate active learning implementation strategies that are adaptive to local Papuan culture. Practically, this research is expected to serve as a guide for teachers in both the inland and coastal areas of Papua to create vibrant classrooms using limited resources.

2. RESEARCH METHOD

a. Research Method

This research employs a Descriptive Qualitative approach with a Library Research design, reinforced by a Single Case Study. This hybrid approach was chosen to ensure that the theoretical foundation built from global literature can be verified for its relevance to real-world conditions on the ground in Papua.

b. Data Sources

- ✓ Primary Data (Literature): Reputable international journal articles (Scopus Q1–Q4) and accredited national journals (Sinta 1–3) published between 2015 and 2025. Search keywords include: *"Active learning in elementary school"*, *"Student boredom reduction"*, *"Indigenous education Papua"*, and *"Gamification efficacy"*.
- ✓ Secondary Data (Case Study): Participatory observational data and in-depth interviews with 2 teachers and 10 students at [Pseudonym] State Elementary School, Nabire Regency, Papua. The focus of the observation is the classroom dynamics before and after the intervention of active methods.

c. Data Collection Technique (PRISMA Method)

For the literature study, the researcher utilizes the **PRISMA Flowchart** (Preferred Reporting Items for Systematic Reviews and Meta-Analyses):

- ✓ Identification: Finding 150 relevant articles.
- ✓ Screening: Selecting articles that specifically discuss primary education and motivation.
- ✓ Eligibility: Selecting articles that include empirical data.
- ✓ Inclusion: Selecting 25 core articles as the primary theoretical foundation.

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d. Data Analysis Technique

Data is analyzed using the Interactive Model by Miles, Huberman, and Saldana (2014):

- ✓ Data Condensation: Sorting relevant theories and summarizing teacher interview results regarding student responses.
- ✓ Data Display: Constructing a comparison matrix between Western theories of Active Learning and local practices in Papua.
- ✓ Conclusion Drawing/Verification: Concluding the correlation patterns between physical/mental activity and the reduction of boredom levels, then validating them against developmental psychology theories.

e. Data Trustworthiness (Validity)

Research validity is maintained through Source Triangulation, which involves comparing findings from international literature with local empirical data in Papua. This ensures that the proposed solutions are not culturally biased and are applicable in practice.

3. RESULT AND DISCUSSION

1) Analysis and Description of Initial Learning Motivation (Baseline)

Based on the results of questionnaires distributed to 30 fourth-grade students, initial data revealed that student boredom levels were significantly high during class hours following the break.

- ✓ Questionnaire Data: A total of 65% of students responded "Agree" to statement number 1 ("Time feels very long when the teacher is explaining," see Questionnaire Table below). This indicates the presence of time distortion caused by a lack of cognitive stimulation.
- ✓ Interview Data: The classroom teacher confirmed this, stating: "After 10:00 AM, the children's concentration drops drastically. They start doodling in their books or disturbing their seatmates because they are saturated with just listening to me talk."

This research was conducted at [Pseudonym] State Elementary School located in the Nabire District, Papua. Initial observations conducted during the first two weeks showed a high prevalence of off-task behavior among fourth-grade students, particularly between 10:00 AM and 12:00 PM WIT (Eastern Indonesia Time).

From the 30 students observed, the following baseline data was found:

- ✓ 70% of students exhibited physical signs of boredom (yawning, resting their heads on the desk, blank stares) after 15 minutes of lecturing.
- ✓ Only 3 students (10%) were active in raising their hands to ask questions or answer the teacher.
- ✓ The independent task completion rate was low, with only 40% of students submitting assignments on time with complete answers.

Pre-cycle interviews with the teacher revealed that a dense curriculum and a lack of teaching aids forced the use of one-way, teacher-centered methods to meet material targets, despite the realization that this was boring for the students.

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2) Implementation of Innovative Learning Models

The intervention was carried out in two learning cycles using an Active Learning approach contextualized with local culture (Ethno-pedagogy):

Cycle I: "Math Noken" Gamification

In this cycle, the teacher attempted to stimulate learning for mixed arithmetic operations by replacing the whiteboard with a physical game. Students were divided into small groups. Each group was given a "Noken" (a traditional Papuan woven bag) and small stones or seashells to serve as counting manipulatives.

- ✓ Mechanism: The teacher provided "story problems" about buying and selling transactions at the *Karang Tumaritis* Market (a local market in Nabire). Groups competed to place the correct number of stones into the Noken according to the answer.

Cycle II: "Science Detective" Outdoor Learning

For the Science material on Ecosystems, the class was moved to the lush backyard of the school.

- ✓ Mechanism**:** Students took on the role of "Detectives." They were provided with visual worksheets to directly identify biotic components (ants, grass, birds) and abiotic components (stones, soil, sunlight).

3) Quantitative Data Analysis

After implementing the innovations for 4 weeks, a re-measurement was conducted using a motivation questionnaire and observation sheets. The comparative data follows: RESEARCH INSTRUMENT EXAMPLE: BOREDOM AND LEARNING MOTIVATION QUESTIONNAIRE (For Elementary Students).

Instructions:

Hello, friends! Below are several statements about your learning atmosphere in class. Please choose the answer that best fits how you feel by placing a checkmark ($\checkmark$) in the available column.

- ✓ SA: Strongly Agree (Very happy/Very often) 😄
- ✓ A: Agree (Happy/Often) 🙂
- ✓ D: Disagree (Sad/Rarely) 😕
- ✓ SD: Strongly Disagree (Very Bored/Never) 😡

Table 1. Questionnaire Table

No.	Pernyataan	SS	S	TS	STS
A.	**Indikator Kebosanan (Boredom)**				
1	Saya merasa waktu terasa sangat lama saat guru menjelaskan pelajaran.				

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No.	Pernyataan	SS	S	TS	STS
2	Saya sering merasa mengantuk saat mendengarkan guru berbicara di depan kelas.				
3	Saya lebih suka menggambar atau melamun daripada memperhatikan pelajaran.				
4	Pelajaran di kelas terasa sama saja setiap hari dan tidak seru.				
B	**Indikator Motivasi Belajar**				
5	Saya merasa semangat jika guru mengajak bermain *game* atau kuis di kelas.				
6	Saya senang jika disuruh bekerja kelompok bersama teman-teman.				
7	Saya ingin tahu lebih banyak tentang materi yang diajarkan hari ini.				
8	Saya tetap berusaha mengerjakan tugas meskipun soalnya sulit.				
C	**Indikator Pembelajaran Aktif**				
9	Saya senang saat belajar sambil bergerak atau jalan-jalan di kelas.				
10	Guru sering menggunakan gambar, video, atau alat peraga yang menarik.				

Scoring Rubric

To process the data above, you may use a Likert scale with the following weighted values:

Positive Statements (Items 5, 6, 7, 8, 9, 10):

- ✓ SA (Strongly Agree) = 4
- ✓ A (Agree) = 3
- ✓ D (Disagree) = 2
- ✓ SD (Strongly Disagree) = 1

Negative/Boredom Statements (Items 1, 2, 3, 4):

- ✓ SA (Strongly Agree) = 1
- ✓ A (Agree) = 2

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- ✓ D (Disagree) = 3
- ✓ SD (Strongly Disagree) = 4

(Note: A high score on negative statements indicates that the student is "Not Bored")

Table 2. Comparison of Student Boredom Levels (Scale 1–4) (Data derived from the average questionnaire results of 30 students)

Indikator Kebosanan	Skor Rata-rata Awal (Pre-Test)	Skor Rata-rata Akhir (Post-Test)	Penurunan (%)	Kategori Perubahan
Persepsi waktu berjalan lambat	3.65 (Sangat Tinggi)	1.80 (Rendah)	50.6%	Signifikan
Keinginan meninggalkan kelas	3.40 (Tinggi)	1.50 (Rendah)	55.8%	Signifikan
Mengantuk saat pelajaran	3.20 (Tinggi)	1.20 (Sangat Rendah)	62.5%	Sangat Signifikan
Rata-Rata Total	**3.41**	**1.50**	**56%**	**Efektif**

Data Analysis Procedures

Once the data is collected, you can calculate the average scores as follows:

- ✓ **Score > 3.0**: High learning motivation and low boredom levels (The innovation is successful).
- ✓ **Score 2.0 – 3.0**: Learning conditions are relatively stable but require new variations.
- ✓ **Score < 2.0**: Students are experiencing acute boredom and require an immediate change in the learning model.

Interpretation: Table 1 shows a drastic decrease in boredom indicators. The most significant decrease occurred in the physical aspect (sleepiness), proving that physical activity within the active learning model is effective in maintaining student alertness.

Table 3. Recapitulation of Classroom Participation Observations

Aspek Pengamatan	Metode Ceramah (*Baseline*)	Metode Aktif (Inovasi)	Delta (Kenaikan)
Siswa bertanya sukarela	3 Siswa	18 Siswa	+500%
Siswa menyelesaikan tugas	12 Siswa	28 Siswa	+133%
Interaksi antar siswa (Diskusi)	Pasif / Gaduh	Aktif / Terarah	-
Fokus visual pada materi	< 5 Menit	> 20 Menit	+300%

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To strengthen the research data (data triangulation), the author needs to listen to the perspective of the educators using the interview method. These interview guidelines are designed to explore the extent to which teachers understand the issue of student boredom and what obstacles they face in implementing active learning models.

4) Teacher Interview Guidelines

Topic: Teacher Strategies in Overcoming Boredom and Increasing Student Learning Motivation.

Educator Identity:

- ✓ Teacher's Name:
- ✓ Homeroom Teacher/Subject:
- ✓ Teaching Experience (Duration):
- ✓ Interview Date:

Core Question List

a) Problem Identification (Student Boredom)

(1). In your opinion, what are the most visible signs when students begin to feel bored during the learning process in class?

(2). What is the average attention span of students before they start losing focus (becoming noisy, daydreaming, or sleepy)?

(3). Which materials or subjects are usually considered the most boring by students? Why is that?

b) Implementation of Active Learning Models

(4). Are you familiar with or have you implemented learning models such as Game-Based Learning, Project-Based Learning, or Discovery Learning? (5). How often do you use learning media (such as videos, physical teaching aids, or digital applications) in a week? (6). How do students react when you try a teaching method that is different from the usual (for example, learning outside the classroom or role-playing)?

c) Analysis of Constraints and Solutions

(7). What are the main obstacles you face when you want to implement active learning models? (Example: limited time, lack of facilities, or complicated preparation). (8). How do you spontaneously revive student enthusiasm when the classroom atmosphere starts to feel "cold" or non-conducive? (9). Is there specific support from the school (the principal) in facilitating innovative teaching methods in the classroom?

d) Expectations and Follow-up

(10). What changes do you hope for most to create a more dynamic and enjoyable classroom environment in the future?

5). In-depth Discussion

Deconstructing Boredom through "Flow Experience"

The data findings above align with the Flow Theory by Csikszentmihalyi. In the initial condition, students experienced boredom because of low challenges (only listening) while their energy was high. The "Math Noken" innovation balances cognitive challenges (counting) with

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physical activity (running and inserting stones). This balance creates a "Flow" zone, where students are so immersed in learning activities that they do not realize time is passing. This addresses the first indicator in Table 1 regarding time perception.

The Role of Ethno-Pedagogy in Increasing Learning Value

Based on Control-Value Theory (Pekrun, 2016), motivation grows if students feel the material is valuable. The use of Noken and the Karang Tumaritis Market case study are not merely decorations, but cognitive bridges. In a post-action interview, a student (S-05) stated: *"I am happy to study like this because I now know how to count money when helping Mama sell betel nuts (pinang)."* This statement confirms that contextualizing material changes student perception from "learning for report card grades" to "learning for life." This cultural relevance is often absent in national standard textbooks.

Social Dynamics and Collaboration

The lecture method in conventional classrooms often isolates students (sitting individually). In contrast, Game-Based Learning forces social interaction. In Papua, the culture of gathering and mutual cooperation (*gotong royong*) is very strong. The group learning model accommodates this social capital. Smarter students naturally help their friends who have difficulty counting stones so that their group wins. This is a real manifestation of Vygotsky's Zone of Proximal Development (ZPD), where peer-tutoring occurs organically without teacher coercion.

Constraints and Solutions in the Field

Although the results show a positive trend, field implementation faced real challenges:

- ✓ Classroom Management (Noise Level): The class became very rowdy during the games, which briefly disturbed the adjacent classroom.
  - Teacher's Solution: Implementing "Tepuk Diam" (Silence Clap) or hand signal codes as a signal to lower the volume without dampening student enthusiasm.
- ✓ Logistical Preparation: Preparing stones and nokens is time-consuming.
  - Solution: The teacher empowered students to bring natural materials from their respective homes, which actually increased the students' sense of ownership toward their learning media.

4. CONCLUSION

Based on an in-depth analysis of the literature and the results of the case study at an Elementary School in Nabire Regency, Papua, this research concludes three strategic points:

- ✓ Transformation of the Learning Paradigm: Boredom among elementary students is not caused by cognitive inability, but rather by the dissonance (mismatch) between a child's psychological need for physical activity and static teaching methods (lectures). Innovations in active learning models (Game-Based Learning and Outdoor Learning) are empirically proven to reduce boredom indicators by up to 56% and significantly increase active student participation.

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- ✓ Effectiveness of Ethno-Pedagogy: In the context of 3T regions like Papua, active learning reaches its peak effectiveness when combined with local wisdom. The use of familiar media such as Noken, river stones, and traditional market simulations successfully bridges the gap in students' understanding of abstract concepts. This proves that cultural relevance is the primary key to awakening intrinsic motivation.
- ✓ Cognitive and Kinesthetic Balance: The application of active learning creates a "Flow Zone," where cognitive challenges and physical movement go hand in hand. This balance not only maintains brain alertness but also strengthens students' long-term memory retention of the subject matter.

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